

BYZANTINE MUSIC FORMULAE



St. Anthony's Greek Orthodox Monastery

BYZANTINE MUSIC
FORMULÆ



Version 2.0

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Cover graphic is taken from an 1815 Athonite manuscript depicting protopsaltes of the eighteenth century. From top left to right: Petros Byzantios, Daniel Protopsaltis, Ioannis of Trebizond, and Iakovos Protopsaltis.

This entire collection of formulae is available online at:
<http://www.stanthonysmonastery.org/music/Formula.html>



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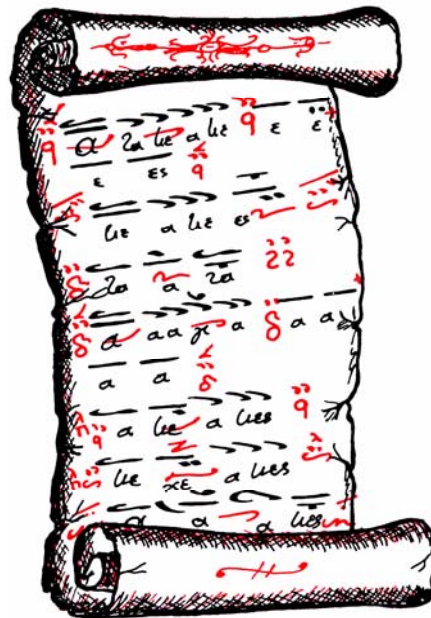
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Introduction



Composing Byzantine music in a traditional manner is a great challenge, because it requires not only inspiration, but also two technical prerequisites: 1) knowing which musical gestures or "formulae" are permitted for a particular syllabic pattern, and 2) knowing how to group these formulae together in a given mode. For as the musicologists Egon Wellesz and Gregorios Stathis have pointed out, "The task of a composer of Greek Orthodox church music has always been not to invent as many original melodies as possible, but to 'compose' a new melody from old and well-known formulae and cadences, or to write a variation on a given melody."¹ These formulae are a priceless treasure of Orthodox liturgical chant, because they were devised by hymnographers who over the centuries perfected the art of clothing liturgical texts with a melody that highlights their meaning in a way that aids prayer.

Unfortunately, the rules governing these formulae have never been codified thoroughly. As a result, composers who are only partially familiar with these rules frequently write music that departs from traditional melodic lines. This is a serious defect not only ideologically (in that such compositions can not be considered a valid continuation of the tradition of Orthodox chant—which, as the musicologist Dimitri Conomos has pointed out, is "the only music in world history that has a continuous 1500-year unbroken melodic tradition.") but also aesthetically, because—to quote Conomos again—"these age-old chants, especially preserved on Mount Athos, bear a relevance and a beauty that is unmatched by other, later productions." Besides, melodies that break these rules usually sound awkward even to the untrained ear due to a lack of balance between words and melody. This book presents these rules in an organized manner that facilitates traditional composition.

¹ 'An Introduction to Byzantine Music,' *Blackfriars*, 23 (1942), p. 377, as quoted by Gregory Stathis in *Studies in Eastern Chant*, Vol. IV, Miloš Velimirović, ed., St. Vladimir's Seminary Press, 1979, p. 192f.

Introduction

This book contains more than 10,000 Byzantine music formulae. Because of the completeness of these lists, one may determine if a new composition breaks the formulaic rules by checking if its melodic phrases exist in these lists. One may also use these lists to compose a Byzantine melody for a liturgical text in any language. The "workshop" demonstrates how to use these lists in order to compose a melody for a sample liturgical text in English. By studying these lists, a chanter can quickly develop the invaluable skill of being able to invent on the spot a valid Byzantine melody in any mode for any text in any language.

Classification of Modes

Each of the eight modes can be subdivided into several categories based on the ratio of notes to syllables and on the tempo of a particular genre. Chrysanthos of Madytos, one of the three teachers, wrote that the "forms of psalmody belong to four melodic genera: the old sticheraric, the new sticheraric, papadic, and heirmologic."² Georgios Hatzitheodorou however,³ teaches that there are actually eight such subdivisions:

- 1) the concise, syllabic heirmologic melody (e.g., the brief version of the *katavasia Χριστὸς Γεννᾶται*)
- 2) the "new" concise sticheraric melody (e.g., the brief versions of *Κύριε ἐκέκραξα* found in back of the *Ἀναστασιματᾶριον*)
- 3) the slow heirmologic melody (e.g., the slow version of the *katavasia Χριστὸς Γεννᾶται*)
- 4) the "new" slow sticheraric melody (e.g., the slow versions of *Κύριε ἐκέκραξα* found in the *Ἀναστασιματᾶριον*)⁴ These melodies are considered "new" because they constitute a genre of music that was perfected in the eighteenth century.
- 5) the "old" sticheraric melody (e.g., the very slow version of the *doxasticon Ἀναστάσεως ἡμέρα* by Chrysaphes the New). These melodies are considered "old" because they were composed between the twelfth and sixteenth centuries.
- 6) the papadic melody (e.g., *cherubic and communion hymns*)⁵

² Χρυσάνθου τοῦ ἐκ Μαδυτῶν, *Εἰσαγωγή εἰς τὸ Θεωρητικὸν καὶ Πρακτικὸν τῆς Ἐκκλησιαστικῆς Μουσικῆς*, ἐν Παρισίοις, 1821, σελ. 179, §402.

³ Χατζηθεωδόρου, Γεώργιος Ι., *Θεωρητικὸν Βυζαντινῆς Μουσικῆς - Μέρος Δεύτερον - Θεωρητικόν*, Ἐκδόσεις «Πολυχρονάκης», Κρήτη, 2004, σελ. 68-70.

⁴ A further subdivision could be made for the more elaborate sticheraric melodies such as those found in the 11 Eothina Doxastica of the *Ἀναστασιματᾶριον* and in the *Ἀθωνιάδα* published by Petros Philanthidis in 1906.

⁵ Gregorios Stathis clarifies that there are two other forms of papadic melodies: the melody of the *Kontakion* (or *Oikematarion*) and the melody of the *Kratematarion* (e.g., the old *Anoixantaria*, verses of the *Polyeleos*, etc.) Vid. Στάθης Γρηγόριος, *Οἱ Ἀναγραμματισμοὶ καὶ τὰ Μαθήματα τῆς Βυζαντινῆς Μελωποιᾶς*, Ἰδρυμα Βυζαντινῆς Μουσικολογίας, Μελέται 3, Ἀθήνα, 1979, σελ. 46.

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- 7) the kalophonic heirmologic melody (e.g., the very slow version of Λίθον ὄν ἀπεδοκίμασαν on p. 336 in volume IV of the series *Μουσικὸς Πανδέκτης*)
- 8) the ekphonic melody (e.g., the melodies used for intoning the gospel, epistle readings, and the petitions of the priest and deacon)

The vast majority of troparia chanted today are the heirmologic melodies that comprise subdivisions 1 and 2. The next most frequent kind of troparia in contemporary usage is the sticheraric melodies of subdivision 4. (See footnote 6 below for a list of these troparia.) Less frequently used are the papadic melodies in subdivision 6 and the slow herimological melodies in subdivision 3. The very slow melodies of subdivisions 5 and 7 are rarely chanted today. The

⁶ In contemporary Greek Orthodox practice, the following troparia are chanted with a sticheraric melody:

- 1) The Κύριε ἐκέκραξα (Lord, I have cried) of Vespers chanted every Saturday and every feast day.
- 2) The Ἑσπέρια and Ἀπόστιχα troparia chanted every Saturday—i.e., the troparia following "Lord, I have cried" and the troparia preceding Νῦν ἀπολύεις (the prayer of St. Symeon). Note that the *Ἀναστασιματάριον* (the book with music for the resurrectional hymns of the Octoechos) has two versions for each of these melodies: a sticheraric version and a heirmologic version. In current practice, the Aposticha are almost always chanted according to the heirmologic melody, whereas the Esperia are usually chanted according to the sticheraric melody.
- 3) The Saturday evening Doxasticon of the Esperia (also known as the first Dogmatikon Theotokion) and the Saturday evening Doxasticon of the Aposticha (also known as the second theotokion). Although the *Anastasimatarion* has heirmologic versions of the Dogmatikon Theotokion, in most places it is rarely used. On the contrary though, the second theotokion is almost always chanted heirmologically according to contemporary usage. According to some Athonite rubrics however, the sticheraric version of the second theotokion is chanted when it is not immediately preceded by a doxasticon.
- 4) The Πᾶσα Πνοή (Let every breath) of the Αἶνοι (the Praises), which is chanted near the end of Orthros every Sunday and every feast day. The *Anastasimatarion* does have heirmologic versions of this troparion as well, but those brief versions are used only in a weekday Orthros in which a major saint is not commemorated.
- 5) The resurrectional troparia for the Praises chanted every Sunday morning. Again, the *Anastasimatarion* provides both sticheraric and heirmologic versions of these troparia. In contemporary usage, the heirmologic versions are preferred, although practices vary. In some places on Mt. Athos, the sticheraric versions are chanted for first, second, plagal first, and plagal second modes, while the heirmologic versions are chanted for the remaining modes.
- 6) The eleven Eothina Doxastica.
- 7) The Esperia troparia of the Twelve Great Feasts, except for the feasts of the Entry of the Theotokos, the Annunciation, and the Dormition, in which the Esperia troparia are prosomoia (which can however be chanted in the slow heirmologic style).
- 8) The Aposticha troparia of the Twelve Great Feasts, except for the feasts of the Exaltation of the Cross, the Entry of the Theotokos, and the Meeting of our Lord.
- 9) The Doxasticon of the Esperia, Aposticha, and Praises for every saint's feast day that has such doxastica.
- 10) All troparia of the Liti except for the Theotokion of the Liti, which sometimes is heirmologic.
- 11) The idiomela of Orthros that are chanted on feast days after the fiftieth psalm.
- 12) Various troparia from the Divine Liturgy, such as the slow Trisagion, the slow Alleluias, and some versions of the Anaphora, *It is Truly Right*, Communion hymns, psalm verses, etc.

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melodies of section 8 are usually intoned according to oral tradition rather than from written music.

Each of these subdivisions has its own rules of composition that determine which melodic gestures are permitted for a particular syllabic pattern. Our lists contain the musical formulae used in the heirmologic melodies of subdivisions 1 and 2, and the sticheraric melodies of subdivision 4. We chose to codify only these formulae since they cover the vast majority of troparia in current usage.⁷

Limitations of These Lists

One slight drawback of our lists of formulae is that they are not inclusive of every single possible melodic formula. Nevertheless, they do include 100% of all commonly used formulae and at least 90% of the less common formulae. In the rare event that no formula or combination of formulae in our lists provides a satisfactory solution, a chanter with moderate experience should be able without difficulty to combine his knowledge with these lists in order to find an acceptable solution.

Another limitation of these lists is that they were compiled only from Byzantine music in Greek. There is a considerable amount of Byzantine music written in Slavonic, Romanian, Arabic, and more recently also in Western European languages including English, French, and Spanish. However, most of these compositions are merely adaptations of original Greek melodies, and some of them depart considerably from the style of the original. Therefore, we considered them to be secondary sources and excluded them from our compilation. Even though we have relied solely on Greek sources of Byzantine music, our experience has shown that our lists of formulae contain more than enough variety necessary for composing new melodies in English. To see many compositions made by relying on our lists of formulae, see our Vespers book at: <http://www.stanthonysmonastery.org/music/Vespers.htm>

Sticheraric melodies (i.e., the "new, slow sticheraric melodies" of subdivision 4 consist of two kinds of formulae: formulae that are purely sticheraric and formulae that are heirmologic. The purely sticheraric formulae have two or more syllables in them that are held for more than one beat, whereas the heirmologic formulae have at most one syllable that lasts for two beats. These heirmologic formulae are also named "bridges" or "fillers" since they are used to connect two sticheraric formulae. There are hundreds of possible bridges allowable for each mode. We have not included a list of all such bridges in the sticheraric lists of formulae, since the building

⁷ Dr. Jessica Suchy-Pilalis has also compiled a list of heirmologic formulae in Western notation, but her work is unpublished.

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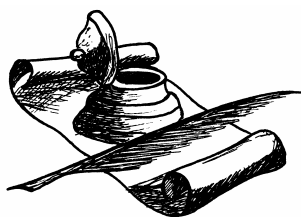
blocks to construct such a bridge are found in the heirmologic lists. Nevertheless, we have included a sampling to serve as a reminder of what bridges are common for that particular mode .

Another minor drawback of these lists is that they do not delineate which patterns of formulae are acceptable. For example, a sticheraric melody in third mode frequently begins with a phrase ending on KE, followed by a cadence on PA, and then two consecutive cadences on KE, etc. It is expected that the composer will already have a general notion of these melodic movements and will be able choose formulae accordingly. It is also expected of the composer to know when to select a formula from the section entitled "Fthoras" in order to color a certain word or phrase according to its meaning.

One other aspect that is left to the composer's discretion is the choice of how many notes to use per syllable on average. An astute observer will notice that based on this ratio of notes to syllables, one can classify sticheraric melodies into three sub-categories:

- 1) sticheraric melodies for idiomela,
- 2) sticheraric melodies for doxastica, and
- 3) sticheraric melodies for doxastica of special feast days.

Melodies for idiomela will typically have a smaller ratio of notes to syllables than melodies for doxastica do. Composers accomplished this by inserting between the sticheraric formulae heirmologic bridges more frequently. They would also accomplish this by increasing the length of these bridges. Some sticheraric compositions can be found with such bridges consisting of as many as eighteen consecutive syllables, each having a single note. On the other side of the spectrum, the doxastica of special feast days tend to have more notes per syllable than the doxastica of regular days, because composers would make their melodies more elaborate by using some of the lengthy "old" sticheraric formulae (which we have included in a separate section in each list of formulae).





Workshop: How to Compose Byzantine Music Using the Lists of Formulae

The following pages comprise a little "workshop" that demonstrates how to use the lists of Byzantine music formulae* to compose the melody for a sticheraric hymn in first mode.

We will take a hymn from the *Festal Menaion* in first mode. On page 137 in the *Lity* of the Universal Exaltation of the Cross (Sept. 14) is the following hymn (which was not translated into English using any particular meter):

"Prefiguring Thy Cross, O Christ, Jacob the Patriarch, when he gave the blessing to his descendants, laid his hands crosswise upon their heads. And today as we exalt Thy Cross, O Saviour, we cry: Give victory to Thine Orthodox people[,] as Thou once gavest it to Constantine."

The first step is to break done the hymn into binary code, where "1" is an accented syllable and "0" is an unaccented syllable, while preserving the punctuation:

010001, 01, 100100, 00101000010, 101100101. 001000101, 010, 01: 01000010010, 0001000100.

Notice that after the word "people" a comma was added even though the original text did not have a comma there. This was done in order to separate that long sentence ("Give victory to Thine Orthodox people as Thou once gavest it to Constantine") into two smaller pieces. The comma was added in a place in the sentence where one would naturally pause when reading it out loud.

The next step is to break the hymn into smaller phrases:

* These lists are available online at: <http://www.stanthonysmonastery.org/music/Formula.html>

010001, 01,
100100,
00101000010,
101100101.
001000101,
010, 01:
01000010010,
0001000100.

Notice that wherever there was a punctuation mark in the original text, a line break has been inserted, so that the composition can be tackled piece-by-piece. The two brief phrases "O Christ" and "we cry" were not put on separate lines, since they are too brief. Instead, they were attached to the previous phrases, because this is how the words would be grouped if one were to read them out loud.

For easier reference, I will number each of the phrases in this hymn as follows:

- 1) 010001, 01,
- 2) 100100,
- 3) 00101000010,
- 4) 101100101.
- 5) 001000101,
- 6) 010, 01:
- 7) 01000010010,
- 8) 0001000100.

Phrase #1 begins with a four-syllable word "prefiguring" which has the pattern: 0100. Since most sticheraric troparia in first mode start with a musical phrase that has a cadence on PA, we should look for a match to this pattern in section C (on p. 36). There are seven matches to this pattern: six for 0100 and two for 010X. There are also five formulas with the pattern 100, which can also be used by simply inserting a filler note before them. Any of these will do fine, but since the melody found in the first instance of 100 is a common way to begin a troparion, let's select that one and insert an ison before it as a filler note.

IMPORTANT COMMENT #1:

The primary attribute of a phrase that determines its melody is the pattern of accents found in its last syllables. Therefore, a composer can use "filler notes" at the beginning of a formula given here in order to create a melody for a phrase that has more syllables than provided in the formula

The rest of this phrase has a syllabic pattern 0101. Typically troparia in this mode stay around PA in the beginning, so let's find another formula ending on PA. The third entry on page 37 section C (XXX1) matches our pattern. So if we use it, the melody we have so far is as follows:

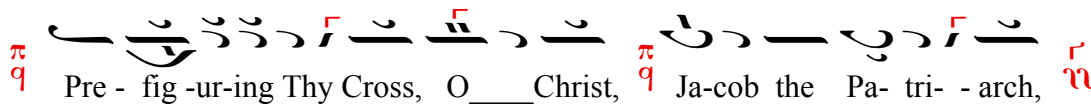


The next phrase (#2) should be grouped together with phrase #3 due to the meaning of their words. Therefore, phrase #2 should not end of Pa (which is used for first mode cadences associated with a period in the lyrics) but on Ga, which is a medial cadence for first mode. So we will look for something that matches the binary code 100100 in section G, since this is the section with melodies ending on Ga that are accented on the third to last syllable. Although there isn't an entry for 100100, there are several for 100, 10X, 0100, and 010X, all of which can be applied for our phrase, simply by adding filler notes before them. If we choose the third formula given for 0100, the pattern for our filler notes will be 10 (for the word "Jacob"). Instead of just adding two isons for filler notes, it would be better to use filler notes that would emphasize the first syllable of "Jacob." These "filler notes" may also be called "heirmologic bridges" because they consist of syllabic melodies (i.e. melodies with one note per syllable) similar to heirmologic melodies. They are called "bridges" because they are used to join the sticheraric formulas of a hymn.

IMPORTANT COMMENT #2:

When composing a melody for a heirmologic bridge, accentuated syllables are usually written with a psefistón, a petastē, or as an oligon followed by an ison.

According to the rules of Byzantine music orthography,* in melodies with one note per syllable, a petastē is used when followed by only one descending note, whereas a psefistón is used when followed by two or more descending notes. Bearing this in mind, we can use a petastē followed by an apóstrophos for the two syllables of the word "Jacob." Afterwards, in order to end up at the right pitch for the formula of 0100 we chose, the petastē will have to be a jump of three. So adding all this, we now have:



* We have compiled more than 100 of these rules and have posted them at: <http://www.stanthonysmonastery.org/music/ByzOrthography.pdf> (25 pages, 260 Kb)

In order to choose a melody for the next phrase (#3), we must first decide if it should end on Ga or Pa. Since the next phrase (#4) ends with a period, we know that we will have to end on Pa then. So to avoid ending on Pa twice in a row, let's end phrase #3 on Ga. Since the last word in phrase #3 is accented on the second to last syllable, we will have to use a formula from section F. Another option would be to use a formula from section I (since this also has cadences on Ga). Because all melodies in section F go to high Nee, they are usually reserved for words that have something to do with spatial or spiritual height. But the words for our phrase are "when he gave the blessing to his descendants," which has nothing particularly lofty about it. So we will use a formula from section F.

Although section F doesn't have a formula that suits our needs exactly (remember, we're looking for something to match "00101000010") there is a formula for the pattern X010. This is good enough, since as we said (in "Important Comment #1") all that really matters is the final few syllables of a phrase. All we need to do now is to add some filler notes at the beginning to cover the first seven syllables of this phrase. Although this might seem quite a large number of syllables to use as a herimologic bridge, it really isn't.

IMPORTANT COMMENT #3:

If we examine the sticheraric melodies found in *Mousike Kypsele* for troparia of the Lity, we will find that sometimes more than a dozen consecutive syllables are given one note each.

To create a melody for these seven syllables, it is necessary to know what the dominant notes are in the mode at hand. In sticheraric first mode, Pa and Ga are the primary dominant notes. Since we are already at Ga, our syllabic melody should play around Ga. And as we stated in "Important Comment #2," we want to create a melody such that the accentuated syllables of the phrase will be a psefistón, a petastē, or an oligon followed by an ison. So following these guidelines, we can easily come up with a little melody, and then attach to it the X010 formula we chose, resulting in the following melody:

Pre - fig - ur - ing Thy Cross, O ___ Christ, ρ Ja - cob the Pa - tri - - arch, ρ
 when he gave the bless - ing to his _____ de - - scend - - ants ρ

As we already mentioned, we will want to end the next phrase (#4) on Pa since it ends with a period. Therefore, we will look in section A for a formula that will take us from Ga to Pa that matches our syllabic pattern: 101100101. Upon examining the formulas of this mode that lead the melody from Ga to Pa, we can see that there is a tremendous amount of freedom regarding placement of accentuated syllables, as witnessed by the

numerous "X's" in the binary code. As a result, we have several melodies to choose from. In particular, we could use the melodies for 100001, XX0X0XX, 1X0X0XX, 01X0X0XX, 1010000XX, 10010X, 0100100, or 00100100. I personally think that the melody of XX0X0XX on page 42 fits nicely, so let's use it. But since our syllabic pattern has two extra syllables in the front, we will have to invent a heirmologic bridge to fill the gap. Since our extra syllables have an accentuation pattern "10" (for the words "laid his") we can use an ison over a petastē for the accentuated syllable "laid," and then use an apóstrophos for the word "his." Then, to join this bridge we constructed with the 1X0X0XX we chose, it is necessary to change the first ison in this formula into an oligon.

IMPORTANT COMMENT #4: It is the absolute pitch of the first character in a formula that is important rather than its intervallic jump. For example, a formula beginning with a martyria of Ga and an ison can be used as a formula from Pa by replacing the ison with a jump up of two.

So pasting the words into this formula and adding it to what we already have, provides the following:

π
 ρ Pre - fig - ur - ing Thy_ Cross, O ___ Christ, π Ja - cob the Pa - tri - - arch, ρ
 when he gave the bless - ing to his ___ de - - scend - - ants ρ laid his hands_
 ___ cross - - - wise up - - on their ___ heads. π
 ρ

Notice that the syllable "on" of the word "upon" is an accentuated syllable, but it was placed in a formula that does not accentuate it.

IMPORTANT COMMENT #5: There is usually nothing wrong with putting an accented syllable in a place where the melodic formula would normally call for an unaccented syllable. However, doing the opposite is a mistake that sticks out like a sore thumb, i.e., placing an unaccented syllable in place where the melodic formula calls for an accented syllable.

Workshop

To continue, the next phrase is: "And today as we exalt Thy Cross." Since words like "exalt," "heaven," etc., are frequently emphasized by using a melody that goes high, we can try to do this by using a formula from section I on page 53 that goes to high Nee for the word "exalt." The words "exalt Thy Cross" have the binary code 0100. So we can use the first formula in section I (which is 100) if we just add an ison before it. But in order to use this formula which begins on Ga, the previous words "And today as we" must take us from Pa to Ga. So looking in section G on page 48 for a formula that matches our syllabic pattern (00100), we see that there is none with this pattern. However, there are several with the pattern 0100. We can easily use one of these by simply inserting an ison at the beginning of it. The question is, which one should we choose? Notice that the first one is not a sticheraric formula but a heirmologic bridge (i.e., it has one beat per syllable). Since we are composing music for a troparion of the Lity (as opposed to some fancy doxastikon), we don't want it to be too lengthy. Therefore, we should be using heirmologic bridges whenever we have a choice. So we will use that heirmologic bridge, which gives us the following::

π ₉ Pre - fig - ur-ing Thy_Cross, O___ Christ, π ₉ Ja - cob the Pa- tri- - arch, π ₉
 when he gave the bless-ing to his_____ de - - scend - - ants π ₉ laid his hands_
 _____ cross - - - wise up - - on their_____ heads. π ₉ And to - day
 as we ex - alt___Thy__ Cross, π ₉

But now that we put those pieces together for that last phrase, those three isons in a row don't sound very elegant. So let's discard that idea for those last two pieces (for the words: "And today as we" and "exalt Thy Cross") and choose instead a formula from section G that goes directly from Pa to Ga. Although there is no formula that is a perfect match for our syllabic pattern (001000101), the last formula in the section of formulas accented on the third to last syllable (on page 49) has the code: 100100100010X. At first glance, these two codes appear quite different, but since it is the ending of each code that is most important, we can see that they will match perfectly if we merely delete the first four syllables of the formula and use minimal creativity to change the pitch of the fifth syllable from Ga to Pa so that the transition is smoother. So pasting the words into this formula gives us the following:

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Pre - fig - ur-ing Thy_Cross, O ___ Christ, Ja - cob the Pa- tri- - arch,

 when he gave the bless-ing to his _____ de - - scend - - ants laid his hands_

 _____ cross - - - wise up - - on their _____ heads. And to - day

 as we ex - alt ___Thy_Cross,

The next phrase ("O Sa-viour, we cry:") ends with a colon. This means that we don't want to end the phrase at Ga (which is only for temporary medial cadences) but at Pa. So we will look for a phrase that takes us from Ga to Pa that matches our code: 01001. Unfortunately, there is no formula in section D in the subsection with formulas from Ga to Pa (on page 42) that ends with 1001 (or even 1000, which would have sufficed). However, we can borrow a formula from the first part of section D that has formulas from Pa to Pa (on page 41), as long as we change a note or two in the beginning to make the transition smooth. The formula at the bottom of page 41 (010XX) is a perfect match to our code. But since its first note is a Pa, we can change it to a Vou so that there is not a sudden jump down of two from where we are. We are allowed to tinker with the initial Pa of this formula, because when a formula begins with an ison, that ison is usually superfluous.

IMPORTANT COMMENT #6: When a formula begins with an unaccented ison, that ison may be removed to create a new formula.

So plugging the text into this formula gives us:

Pre - fig - ur-ing Thy_Cross, O ___ Christ, Ja - cob the Pa- tri- - arch,

 when he gave the bless-ing to his _____ de - - scend - - ants laid his hands_

 _____ cross - - - wise up - - on their _____ heads. And to - day

 as we ex - alt ___Thy_Cross,

_____ cross - - - wise up - - on their _____ heads. π ρ And to - day

as we ex - alt Thy_Cross, ρ O Sa - viour, we _____ cry: π ρ

This worked just fine, except for one small detail: the rhythm is "trisemos" (in Western notation, this would be a measure with 3:4 time) between these last two formulas, i.e., from the word "Cross" to "Saviour." Although it is not unheard of to join sticheraric formulas in this manner, composers often avoid doing so.

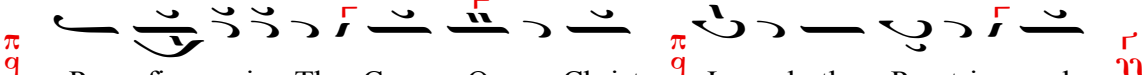


IMPORTANT COMMENT #7: In order to avoid a trisemos rhythm between formulas, either the klásma of the last character in the former formula is removed (or replaced by a diplē), or a gorgón is added to the first character in the latter formula.

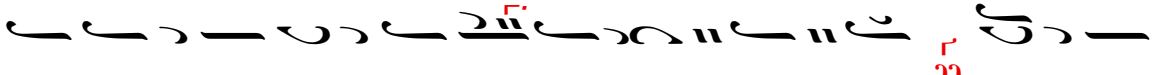

In our case, adding a gorgón to the apóstrophos would sound appropriate.

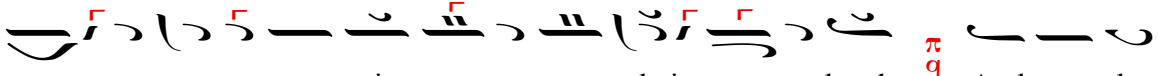
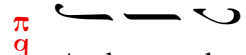
The next phrase (#7) could end either on Ga or Pa. Since sticheraric melodies in first mode frequently have two consecutive cadences on Pa, let's end this phrase on Pa again. So looking in section B for a match to our phrase (that has the binary code: 01000010010), we see that there four options for the syllabic pattern 010010. This is exactly what we need, since as we have said, the important thing is to match the final syllables of a phrase. I myself like the sound of the third option (at the bottom of page 32), so I will choose that one. The only problem is that these 010010 formulas don't have enough syllables in the beginning to match our 01000010010 phrase. So we can break up this phrase into two pieces, based on the meaning of the words in it. In particular, we can put the words "Give victory" in the first half, and "to Thine Orthodox people" in the second half. As we just said, the second half of the phrase (which has the pattern 0010010) is already taken care of by the melody we chose at the bottom of page 32 with the code 010010. Our extra unaccented syllable can be accounted for by simply attaching an ison to the beginning of that melodic formula. As for the first half of the phrase (which has the pattern 0100), we will look in section C, since we have a phrase accented on the third to last syllable that starts and ends on Pa. We see on page 36 that we have six formulas to choose from (not including the 100 and 010X formulas on this page which we could also use). The first two 0100 formulas are heirmologic bridges because they have one beat per syllable, while the other 0100 formulas have two or more syllables that are held for two beats. In this particular place in our troparion, we don't want a melody that has an ending that sounds like a final cadence, since the meaning of these words of our 0100 phrase ("Give victory") needs to bind seamlessly with the next phrase ("to


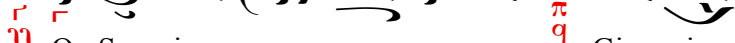
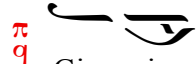
Workshop



Thine Orthodox people"). And since this is just a simple troparion for the Lity, we want to use heirmologic bridges wherever possible. Therefore, the most appropriate of these 0100 formulas will be one of the first two, which are simple heirmologic bridges. So if we choose the first one and add these fomulas to our hymn along with the words, we now have:


 Pre - fig - ur-ing Thy_Cross, O___ Christ,  Ja - cob the Pa- tri- - arch, 


 when he gave the bless-ing to his_____ de - - scend - - ants  laid his hands_


 _____ cross - - - wise up - - on their_____ heads.  And to - day


 as we ex - alt__Thy_Cross,  O Sa - viour, we_____ cry:  Give vic -


 to- ry to Thine Or - - tho-dox__ peo - - - - ple, 

Since there is a "trisemos" rhythm between the words "cry" and "victory," we could add a gorgon on "Give" or remove the klásma on "cry" in order to avoid this rhythm. However, doing so would make the break between the phrases "we cry" and "Give victory" less pronounced. This would be detrimental in this situation, because these phrases are separated not just by a comma (as there was between "Cross" and "O") but a colon, which denotes a separation between two independent clauses. Therefore, we should not diminish the break between these phrases, and so we will the leave the trisemos rhythm as it is.

Now we have finished everything except for the last phrase. The final cadences of sticheraric first mode almost always ascend to Di before ending on Pa. That is why the list of formulas of this mode has two separate sections for final cadences: a section with melodies ending on Di, and a section for the final ending on Pa. So in order to match our pattern (0001000100), we will try to build a melody having this pattern by combining a formula that takes us from Pa to Dee (in section N) with a formula that takes us from Dee down to Pa (section O). Ideally, we should break our 0001000100 phrase into two pieces such that the resulting pieces are independent units, grammatically speaking. So it would make sense to make the first piece: "as Thou once gavest it" (000100) and the second piece: "to Constantine" (0100). However, the formulaic rules won't let us do this, because there are no semi-final cadences on Di that end with the pattern "100". There are two that

Workshop

end with "101" (at the bottom of page 65) but using either of these will unduly emphasize the word "it". We can't break it up as "as Thou once gavest it to" (0001000) and "Constantine" (100) because there are no formulas in section O that have only three syllables to match our "100" phrase. So instead, we will have to break up the words as follows: "as Thou once gavest" (00010) and "it to Constantine" (00100).

Section N has only two melodies that match our syllabic pattern of 00010 (at the top of page 68). I don't particularly like either of them for our words, because they both seem to give too much emphasis on the word "gavest" by dragging out that accented syllable for four beats.

Another option is to use a formula from section M. Even though these are labelled as formulas with melodies from *Ga* to Di, while we want a formula with a melody from *Pa* to Di, we can still adapt it. As I mentioned in "Important Comment #4," all we need to do is to increase the intervallic jump of the first character by two, and then we are free to use it. So we can take the formula for 00010 in section M (on page 65), and change its first ison into a jump up of two, and it will work just fine.

And now to find a melody for the final four syllables of our troparion, we need to find a match for our pattern of 00100 in section O. So we could either use the formula for 0XX0X or any of the three for 001XX. Theoretically, any of these would be alright, but applying the formulas with a jump down of three would make the break between the words "gavest" and "it" too abrupt, so let's use the one that gradually descends with three apóstrophoses.

So now, we just need to add the ison and a nice-looking drop cap (available online at: <http://www.stanthonysmonastery.org/music/ByzDropCaps.zip>), and we have the final product (on the following page):

Workshop



π
9



(□) (M) (Δ↓) (□)
re - fig - ur - ing Thy_Cross, O Christ, π 9 Ja - cob the Pa - tri - arch, π 9

when he gave the bless - ing to his de - - scend - - ants π 9 laid his hands

(M) (□)
_____ cross - - - wise up - - on their _____ heads. π 9 And to - day

as we ex - alt Thy_Cross, π 9 O Sa - viour, we _____ cry: π 9 Give vic -

(M) (□)
to - ry to Thine Or - - tho - dox _____ peo - - - - ple, π 9 as Thou once gav -

est it _____ to Con - - - - stan - - - - tine. π 9

Voilà! With a minor effort that required only minimal creativity, we were able to set this hymn nicely to Byzantine music. The following page is a transcription of this melody in Western notation.



PREFIGURING THY CROSS

Sticheraric
First Mode

Andante ♩=96


 The musical score is written in a single system with six staves. It begins with a treble clef and a key signature of one flat (B-flat). The tempo is marked 'Andante' with a quarter note equal to 96 beats per minute. The score includes various musical notations such as slurs, accents, and dynamic markings. Above the first staff, there are red markings: 'D' above the first measure, 'Un.' above the second measure, 'G↓' above the third measure, and 'D' above the fourth measure. Above the fifth staff, there are red markings: 'Un.' above the second measure and 'D' above the third measure. Above the sixth staff, there are red markings: 'Un. D' above the second measure. The lyrics are written below the notes, with hyphens indicating syllables that span across multiple notes.

Pre - fig - ur - ing Thy Cross, O Christ,
 Ja - cob the Pa - tri - arch, when he gave the bless - ing to his
 de - scend - ants laid his hands cross - wise up - on their
 heads. And to - day as we ex - alt Thy Cross, O Sa - viour,
 we cry: Give vic - to - ry to Thine Or - tho - dox peo - ple,
 as Thou once gav - est it to Con - stan - tine.



First Mode



BYZANTINE MUSIC FORMULAE

First Mode - Sticheraric

Contents*

<u>Medial Cadences on Pa</u>	
A) Accented on Last Syllable	27
B) Accented on Second to Last Syllable	30
C) Accented on Third to Last Syllable	36
D) Accented on Fourth to Last Syllable	41
<u>Medial Cadences on Ga</u>	
E) Accented on Last Syllable	43
F) Accented on Second to Last Syllable.....	45
G) Accented on Third to Last Syllable.....	48
H) Accented on Fourth to Last Syllable.....	51
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I) Ga - High Nee - Ga	53
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L) Old (slow) Sticheraric Formulae.....	56
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P) Final Cadence for Theotokia.....	70

* The Byzantine music formulae herein were extracted from sticheraric melodies found in the *Zoe Anastasimatarion* (14th edition, 2002), the three-volume set of *Mousike Kypsele* (1883 edition), the *Doxastarion* of Konstantinos Protopsaltis (1844 edition), and the *Athonias* (1906 edition) by Petros Philanthidis.

Key:

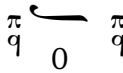
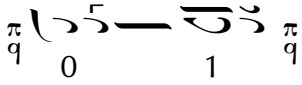
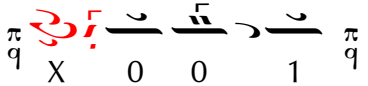

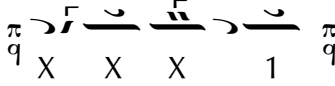
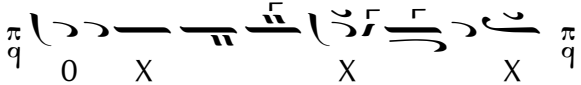
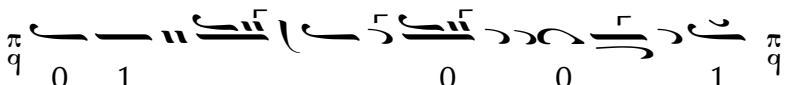
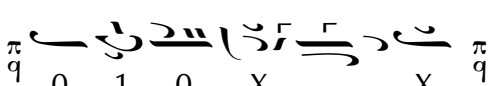
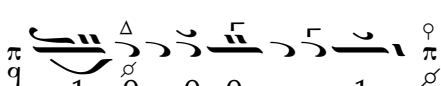
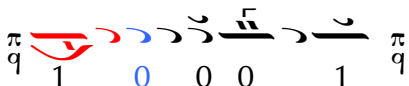


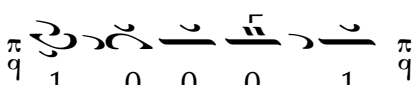


1 = accented syllable
0 = unaccented syllable
X = syllable that may be either accented or unaccented

Variations of the same formula are indicated in color

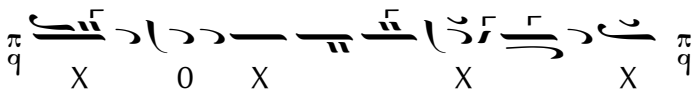
Medial Cadences on Pa


A) Accented on Last Syllable

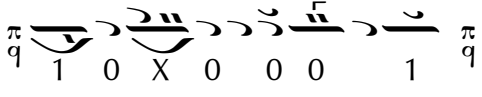
Pa - Pa

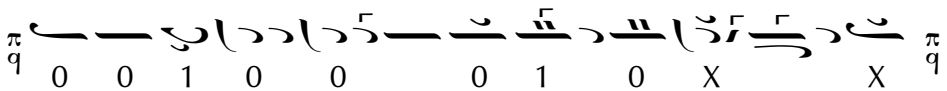
0			
01			
X001			
XXX1			
OXXX			
01001			
010XX			
10001			
			
			
			

First Mode - Sticheraric

X0XXX 

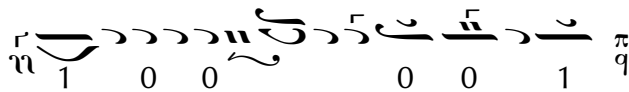
010XXX 


10X0001 

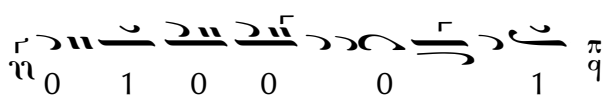
00100010XX 

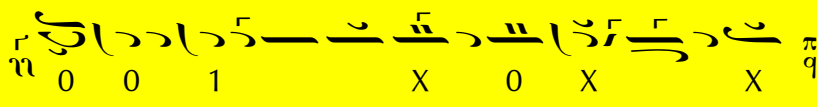
Ga - Pa


The highlighted formulae may be accentuated either on the last or second to last syllable. However, these formulae are used only occasionally words accented on the last syllable. Since such instances sound as if the melody incorrectly accentuates the text, these instances have been highlighted in this section.

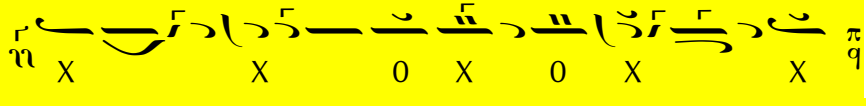
100001 

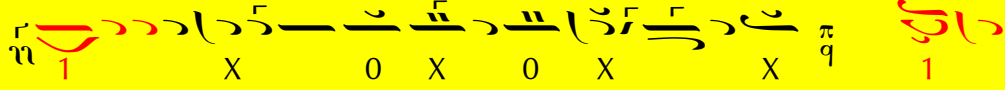
0100XX 

010001 





001X0XX 

0X0X0XX 

XX0X0XX 

1X0X0XX 

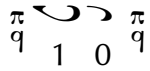
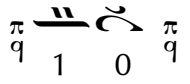
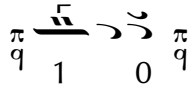
First Mode - Sticheraric

10X0X0XX	 <p>1 0 X 0 X 0 X X</p>
X0X0X0XX	 <p>X 0 X 0 X 0 X X</p>
01X0X0XX	 <p>0 1 X 0 X 0 X X</p>
1010000XX	 <p>1 0 1 0 0 0 0 X X</p>

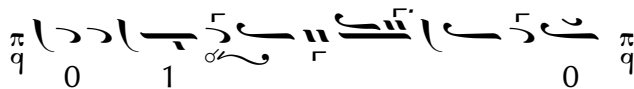
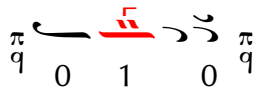
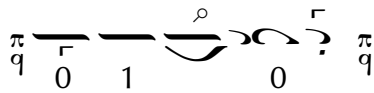
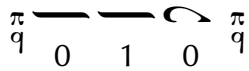
B) Accented on Second to Last Syllable

Pa - Pa

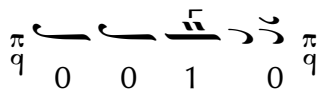
10



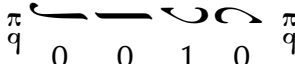
010

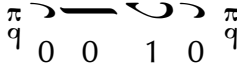


0010




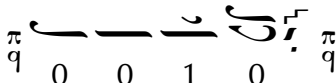
First Mode - Sticheraric


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0 0 1 0

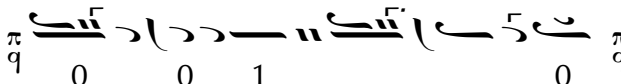
π_q  π_q
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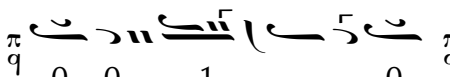
π_q  π_q
0 0 1 0


1

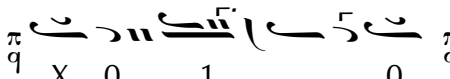
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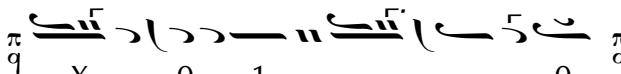
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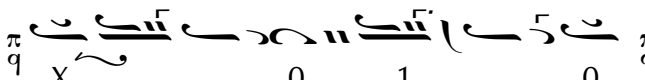
π_q  π_q
0 0 1 0

π_q  π_q
0 0 1 0

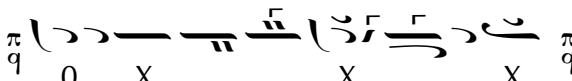
X010

π_q  π_q
X 0 1 0

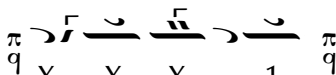
π_q  π_q
X 0 1 0

π_q  π_q
X 0 1 0

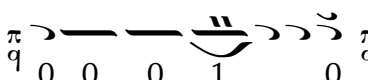
0XXX

π_q  π_q
0 X X X

XXX1

π_q  π_q
X X X 1

00010

π_q  π_q
0 0 0 1 0

First Mode - Sticheraric

π
 $\frac{\pi}{q}$ 0 0 0 1 0 $\frac{\pi}{q}$

π
 $\frac{\pi}{q}$ 0 0 1 0 0 $\frac{\pi}{q}$

10010

π
 $\frac{\pi}{q}$ 1 0 0 1 0 $\frac{\pi}{q}$

010XX

π
 $\frac{\pi}{q}$ 0 1 0 X X $\frac{\pi}{q}$

10XXX

π
 $\frac{\pi}{q}$ 1 0 X X X $\frac{\pi}{q}$

X0XXX

π
 $\frac{\pi}{q}$ X 0 X X X $\frac{\pi}{q}$

000010

π
 $\frac{\pi}{q}$ 0 0 0 0 1 0 $\frac{\pi}{q}$

00X010

π
 $\frac{\pi}{q}$ 0 0 X 0 1 0 $\frac{\pi}{q}$

010XXX

π
 $\frac{\pi}{q}$ 0 1 0 X X X $\frac{\pi}{q}$

010010

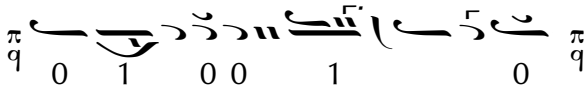
π
 $\frac{\pi}{q}$ 0 1 0 0 1 0 $\frac{\pi}{q}$

π
 $\frac{\pi}{q}$ 0 0

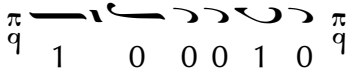
π
 $\frac{\pi}{q}$ 0 1 0 0 1 0 $\frac{\pi}{q}$

π
 $\frac{\pi}{q}$ 0 1 0 0 1 0 $\frac{\pi}{q}$

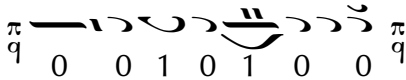
First Mode - Sticheraric

π

 π
 0 1 0 0 1 0

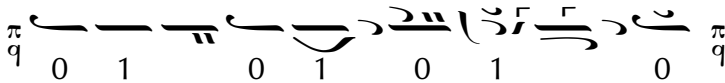
100010

π

 π
 1 0 0 0 1 0

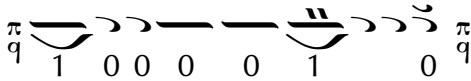
0010100

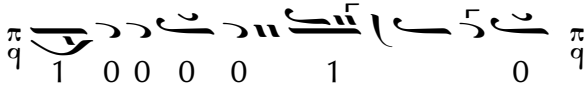
π

 π
 0 0 1 0 1 0 0

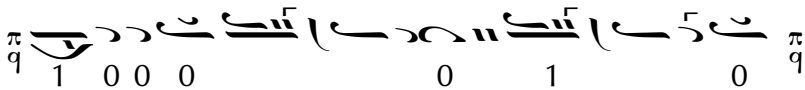
0101010

π

 π
 0 1 0 1 0 1 0

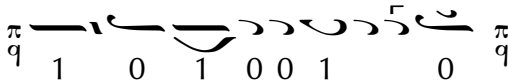
1000010

π

 π
 1 0 0 0 0 1 0


π

 π
 1 0 0 0 0 1 0

π

 π
 1 0 0 0 0 1 0

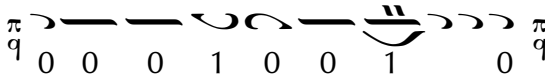
1010010

π

 π
 1 0 1 0 0 1 0

X010010

π

 π
 X 0 1 0 0 1 0

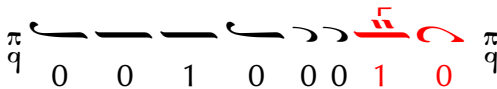
00010010

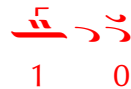
π

 π
 0 0 0 1 0 0 1 0

π

 π
 0 0 0 1 0 0 1 0

00100010

π

 π
 0 0 1 0 0 0 1 0


 1 0

First Mode - Sticheraric

01000010 π
 $\frac{\pi}{q}$ 0 1 0 0 0 0 1 0 $\frac{\pi}{q}$

10000010 π
 $\frac{\pi}{q}$ 1 0 0 0 0 0 1 0 $\frac{\pi}{q}$

10010010 π
 $\frac{\pi}{q}$ 1 0 0 1 0 0 1 0 $\frac{\pi}{q}$

010000010 π
 $\frac{\pi}{q}$ 0 1 0 0 0 0 0 1 0 $\frac{\pi}{q}$

010010010 π
 $\frac{\pi}{q}$ 0 1 0 0 1 0 0 1 0 $\frac{\pi}{q}$

010100010 π
 $\frac{\pi}{q}$ 0 1 0 1 0 0 0 1 0 $\frac{\pi}{q}$

0010010010 π
 $\frac{\pi}{q}$ 0 0 1 0 0 1 0 0 1 0 $\frac{\pi}{q}$

1010000010 π
 $\frac{\pi}{q}$ 1 0 1 0 0 0 0 0 1 0 $\frac{\pi}{q}$

01010000010 π
 $\frac{\pi}{q}$ 0 1 0 1 0 0 0 0 0 1 0 $\frac{\pi}{q}$

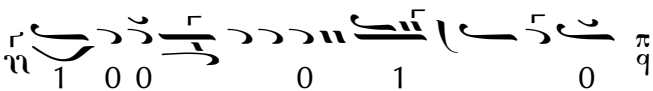
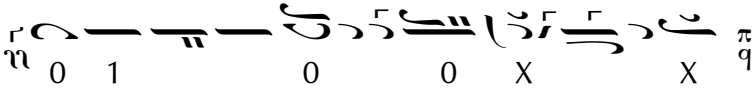
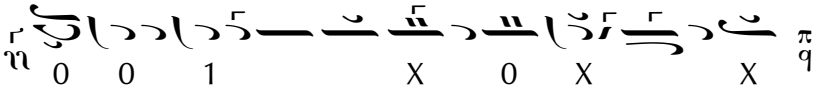
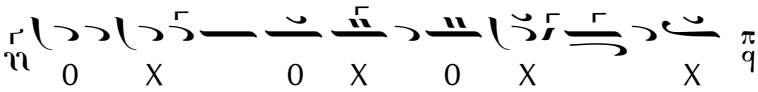
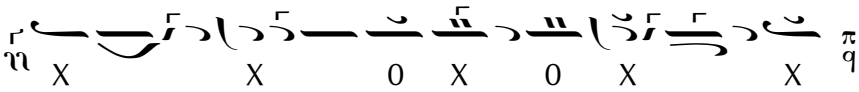
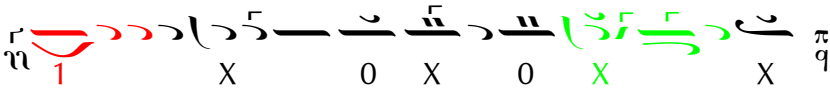

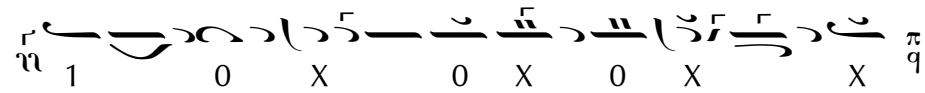
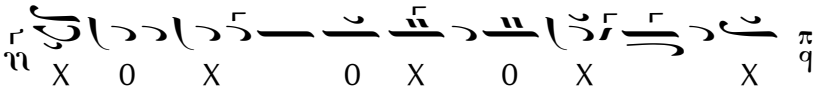
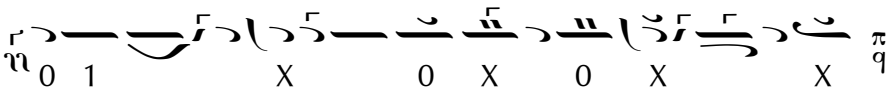
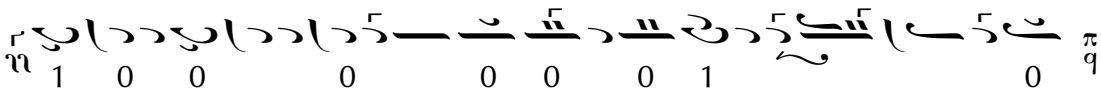
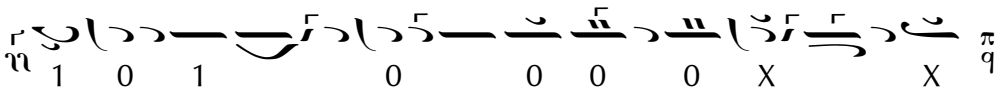
010001000010 π
 $\frac{\pi}{q}$ 0 1 0 0 0 1 0 0 0 0 1 0 $\frac{\pi}{q}$

Ga - Pa

10 π
 $\frac{\pi}{q}$ 1 0 $\frac{\pi}{q}$

010 π
 $\frac{\pi}{q}$ 0 1 0 $\frac{\pi}{q}$ 0 $\frac{\pi}{q}$

First Mode - Sticheraric

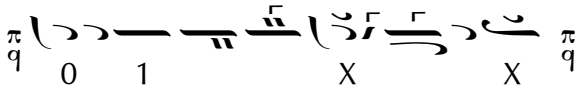
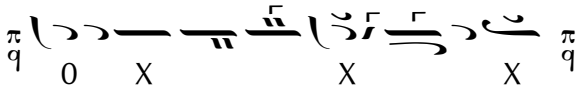
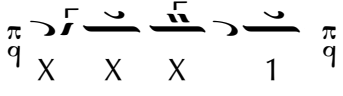
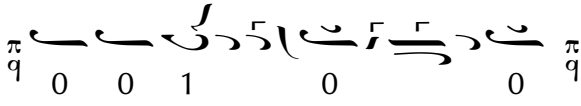
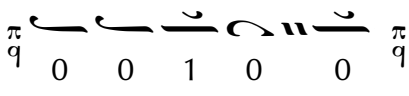
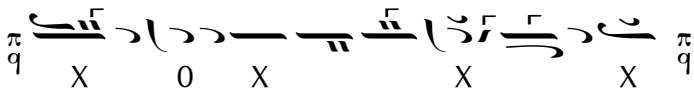
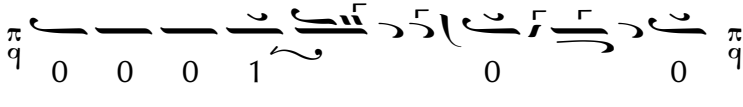
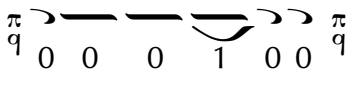
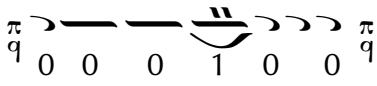
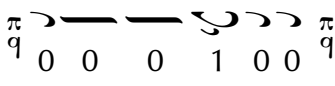
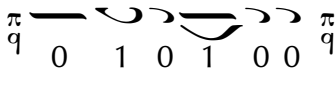
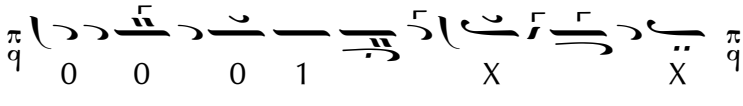

100010	
0100XX	
001X0XX	
0X0X0XX	
XX0X0XX	
1X0X0XX	
	
10X0X0XX	
X0X0X0XX	
01X0X0XX	
100000010	
1010000XX	

C) Accented on Third to Last Syllable

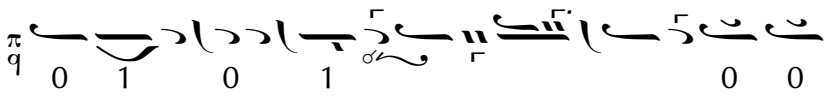
Pa - Pa


100		
0100		
010X		

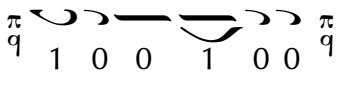
First Mode - Sticheraric

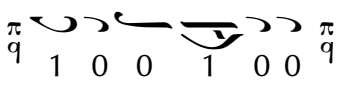
01XX	π_q  π_q
0XXX	π_q  π_q
XXX1	π_q  π_q
00100	π_q  π_q
	π_q  π_q
X0XXX	π_q  π_q
000100	π_q  π_q
	π_q  π_q
	π_q  π_q
	π_q  π_q
	π_q  π_q
0001XX	π_q  π_q
010XXX	π_q  π_q

First Mode - Sticheraric

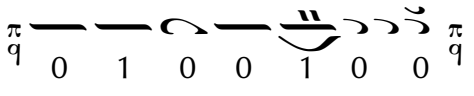
010100 π_q  π_q
 0 1 0 1 0 0

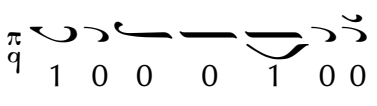
0101XX π_q  π_q
 0 1 0 1 X X

100100 π_q  π_q
 1 0 0 1 0 0

π_q  π_q
 1 0 0 1 0 0

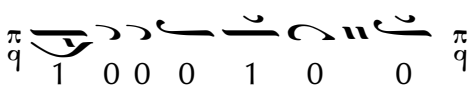
0100100 π_q  π_q
 0 1 0 0 1 0 0


π_q  π_q
 0 1 0 0 1 0 0

π_q  π_q
 1 0 0 0 1 0 0

1000100 π_q  π_q
 1 0 0 0 1 0 0

π_q  π_q
 1 0 0 0 1 0 0

π_q  π_q
 1 0 0 0 1 0 0

00010100 π_q  π_q
 0 0 0 1 0 1 0 0

01000100 π_q  π_q
 0 1 0 0 0 1 0 0

First Mode - Sticheraric

0100010X	π q 0 1 0 0 0 1 0 X π q
000100100	π q 0 0 0 1 0 0 1 0 0 π q
0X0100100	π q 0 X 0 1 0 0 1 0 0 π q
001000100	π q 0 0 1 0 0 0 1 0 0 π q
100000100	π q 1 0 0 0 0 0 1 0 0 π q
	π q 1 0 0 0 0 0 1 0 0 π q
0001000100	π q 0 0 0 1 0 0 0 1 0 0 π q
0100000100	π q 0 1 0 0 0 0 0 1 0 0 π q
0101000100	π q 0 1 0 1 0 0 0 1 0 0 π q
00100100100	π q 0 0 1 0 0 1 0 0 1 0 0 π q
01010000100	π q 0 1 0 1 0 0 0 0 1 0 0 π q
10100000100	π q 1 0 1 0 0 0 0 0 1 0 0 π q
100100100	π q 1 0 0 1 0 0 1 0 0 0 0 π q

First Mode - Sticheraric

10100010100

10100100100

01000010100

010100000100

Ga - Pa

X00

0010X

01010X

10010X

00100100

0001010100

First Mode - Sticheraric

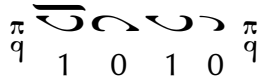
D) Accented on Fourth to Last Syllable

Pa - Pa

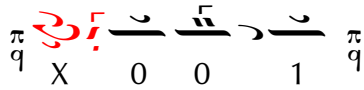
1000



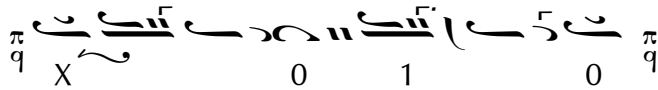
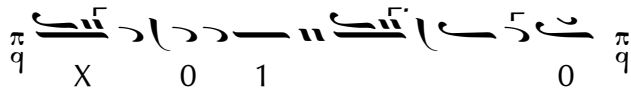
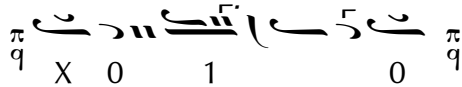
1010



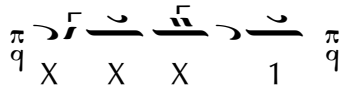
X001



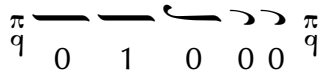
X010



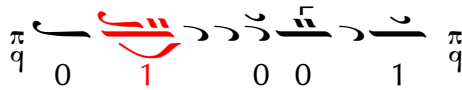
XXX1



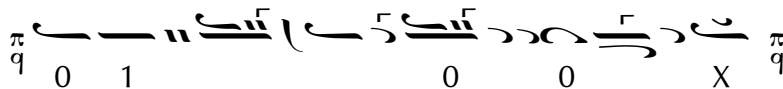
01000



01001



0100X



010XX



First Mode - Sticheraric

00X010 π_q 0 0 X 0 1 0 π_q

101000 π_q 1 0 1 0 0 0 π_q 0101000 π_q 0 1 0 1 0 0 0 π_q

01010XX π_q 0 1 0 1 0 X X π_q

10001010 π_q 1 0 0 0 1 0 1 0 π_q

00010001010 π_q 0 0 0 1 0 0 0 1 0 1 0 π_q

Ga - Pa

001X0XX π_q 0 0 1 X 0 X X π_q

0X0X0XX π_q 0 X 0 X 0 X X π_q

XX0X0XX π_q X X 0 X 0 X X π_q

1X0X0XX π_q 1 X 0 X 0 X X π_q

10X0X0XX π_q 1 0 X 0 X 0 X X π_q

X0X0X0XX π_q X 0 X 0 X 0 X X π_q

01X0X0XX π_q 0 1 X 0 X 0 X X π_q

Medial Cadences on Ga

Note: the initial martyria of these formulae is usually arbitrary. In other words, a formula that begins with a martyria of Ga and an apostrophos can be replaced by a martyria of Pa with an oligon, and vice versa.

E) Accented on Last Syllable

Pa - Ga

- 01 $\pi \begin{matrix} \overline{\text{q}} \\ 0 \end{matrix} \overline{\text{r}} \text{ } \overline{\text{q}} \begin{matrix} \text{r} \\ 1 \end{matrix} \text{ } \overline{\text{r}}$
- 001 $\pi \begin{matrix} \text{r} \\ 0 \end{matrix} \overline{\text{r}} \overline{\text{q}} \begin{matrix} \text{r} \\ 0 \end{matrix} \text{ } \overline{\text{q}} \begin{matrix} \text{r} \\ 1 \end{matrix} \text{ } \overline{\text{r}} \Delta$
- 0001 $\pi \overline{\text{q}} \overline{\text{r}} \overline{\text{q}} \overline{\text{r}} \overline{\text{q}} \overline{\text{r}} \overline{\text{q}} \begin{matrix} \text{r} \\ 1 \end{matrix} \text{ } \overline{\text{r}}$
- 000001 $\pi \overline{\text{q}} \overline{\text{r}} \overline{\text{q}} \overline{\text{r}} \overline{\text{q}} \overline{\text{r}} \overline{\text{q}} \overline{\text{r}} \overline{\text{q}} \overline{\text{r}} \overline{\text{q}} \begin{matrix} \text{r} \\ 1 \end{matrix} \text{ } \overline{\text{r}}$
- 00010001 $\pi \overline{\text{q}} \overline{\text{r}} \overline{\text{q}} \overline{\text{r}} \overline{\text{q}} \overline{\text{r}} \overline{\text{q}} \overline{\text{r}} \overline{\text{q}} \overline{\text{r}} \overline{\text{q}} \overline{\text{r}} \overline{\text{q}} \overline{\text{r}} \overline{\text{q}} \overline{\text{r}} \overline{\text{q}} \begin{matrix} \text{r} \\ 1 \end{matrix} \text{ } \overline{\text{r}}$
- 10010001 $\pi \overline{\text{q}} \overline{\text{r}} \overline{\text{q}} \overline{\text{r}} \overline{\text{q}} \overline{\text{r}} \overline{\text{q}} \overline{\text{r}} \overline{\text{q}} \overline{\text{r}} \overline{\text{q}} \overline{\text{r}} \overline{\text{q}} \overline{\text{r}} \overline{\text{q}} \overline{\text{r}} \overline{\text{q}} \begin{matrix} \text{r} \\ 1 \end{matrix} \text{ } \overline{\text{r}}$
- 001000001 $\pi \overline{\text{q}} \overline{\text{r}} \overline{\text{q}} \overline{\text{r}} \overline{\text{q}} \overline{\text{r}} \overline{\text{q}} \overline{\text{r}} \overline{\text{q}} \overline{\text{r}} \overline{\text{q}} \overline{\text{r}} \overline{\text{q}} \overline{\text{r}} \overline{\text{q}} \overline{\text{r}} \overline{\text{q}} \overline{\text{r}} \overline{\text{q}} \begin{matrix} \text{r} \\ 1 \end{matrix} \text{ } \overline{\text{r}}$
- 100010001 $\pi \overline{\text{q}} \overline{\text{r}} \overline{\text{q}} \overline{\text{r}} \overline{\text{q}} \overline{\text{r}} \overline{\text{q}} \overline{\text{r}} \overline{\text{q}} \overline{\text{r}} \overline{\text{q}} \overline{\text{r}} \overline{\text{q}} \overline{\text{r}} \overline{\text{q}} \overline{\text{r}} \overline{\text{q}} \overline{\text{r}} \overline{\text{q}} \begin{matrix} \text{r} \\ 1 \end{matrix} \text{ } \overline{\text{r}}$

Ga - Ga

- 101 $\overline{\text{r}} \overline{\text{q}} \begin{matrix} \text{r} \\ 1 \end{matrix} \text{ } \overline{\text{r}} \overline{\text{q}} \begin{matrix} \text{r} \\ 0 \end{matrix} \text{ } \overline{\text{r}} \overline{\text{q}} \begin{matrix} \text{r} \\ 1 \end{matrix} \text{ } \overline{\text{r}}$

First Mode - Sticheraric

10001 1 0 0 0 1

00001 0 0 0 0 1

0 0 0 0 1

010001 0 1 0 0 0 1

0 1 0 0 0 1

0 1 0 0 0 1

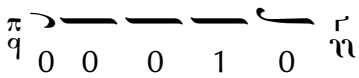
1

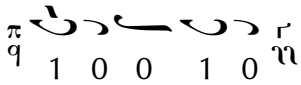
First Mode - Sticheraric

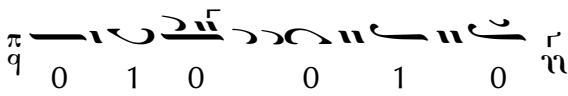
F) Accented on Second to Last Syllable

Pa - Ga

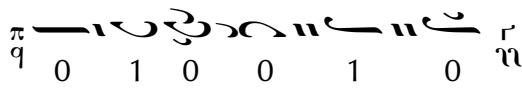
010 π_q  π_q 

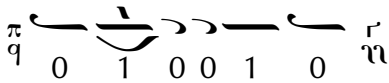
00010 π_q 

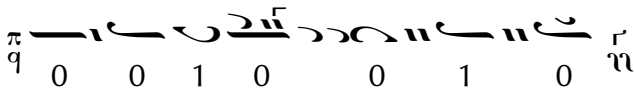
10010 π_q 

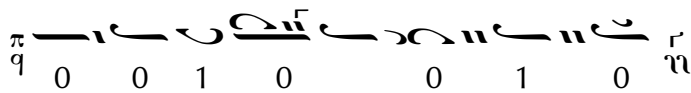
010010 π_q 

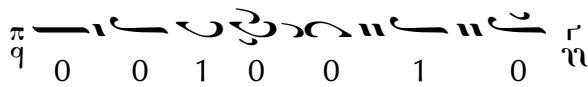
π_q 

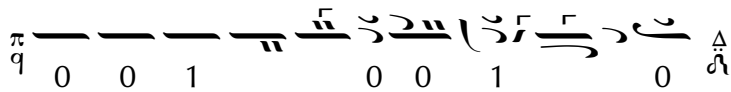
π_q 

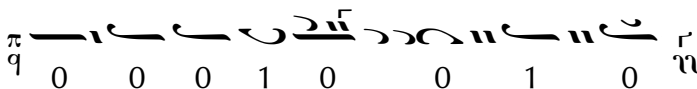
010010 π_q 

0010010 π_q 

π_q 

π_q 

π_q 

00010010 π_q 

First Mode - Sticheraric

π
 η 0 0 0 1 0 0 1 0 η

π
 η 0 0 0 1 0 0 1 0 η

π
 η 0 0 0 1 0 0 1 0 η

0010000010

π
 η 0 0 1 0 0 0 0 1 0 η

10100100010

π
 η 1 0 1 0 0 1 0 0 0 1 0 η

Ga - Ga

010

η 0 1 0 η

η 0 1 0 η

1010

η 1 0 1 0 η

X010

η X 0 1 0 η

10010

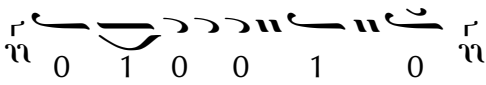
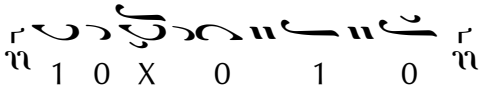
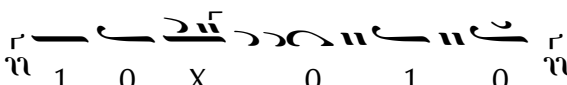
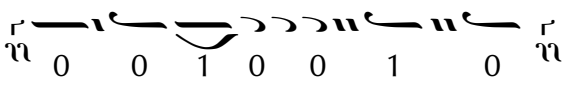
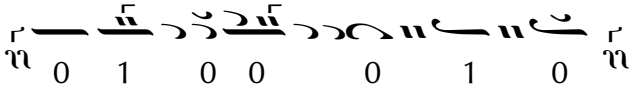
η 1 0 0 1 0 η

η 1 0 0 1 0 η

η 0

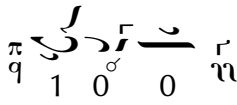
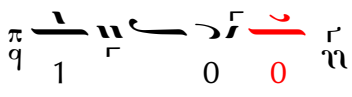
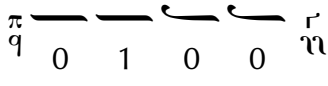
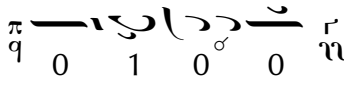
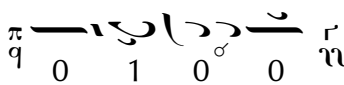
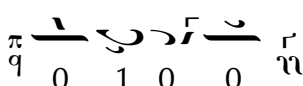
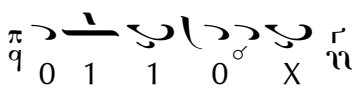
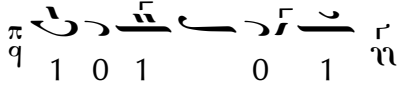
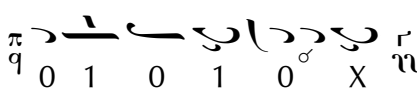
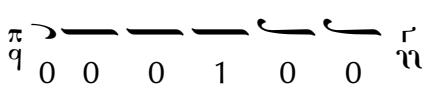
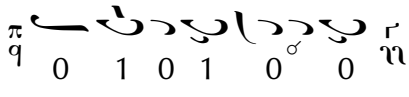
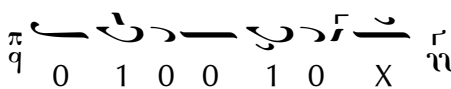
η 1 0 0 1 0 Δ

First Mode - Sticheraric

010010	 <p>0 1 0 0 1 0</p>
10X010	 <p>1 0 X 0 1 0</p>
	 <p>1 0 X 0 1 0</p>
0010010	 <p>0 0 1 0 0 1 0</p>
0100010	 <p>0 1 0 0 0 1 0</p>

G) Accented on Third to Last Syllable

Pa - Ga

100	
	
0100	
	
	
	
0110X	
10101	
01010X	
000100	
010100	
010010X	

0

First Mode - Sticheraric

π
 $\overset{\circ}{q}$ 0 1 0 0 1 0 X $\overset{\circ}{n}$

1000100

π
 $\overset{\circ}{q}$ 1 0 0 0 1 0 0 $\overset{\circ}{n}$

0010010X

π
 $\overset{\circ}{q}$ 0 0 1 0 0 1 0 X $\overset{\circ}{n}$

0101010X

π
 $\overset{\circ}{q}$ 0 1 0 1 0 1 0 X $\overset{\circ}{n}$

0100010X

π
 $\overset{\circ}{q}$ 0 1 0 0 0 1 0 X $\overset{\circ}{n}$

π
 $\overset{\circ}{q}$ 0 1 0 0 0 1 0 X $\overset{\circ}{n}$

π
 $\overset{\circ}{q}$ 0 1 0 0 0 1 0 X $\overset{\circ}{n}$

0000X0100

π
 $\overset{\circ}{q}$ 0 0 0 0 X 0 1 0 0 $\overset{\circ}{n}$

100100100

π
 $\overset{\circ}{q}$ 1 0 0 1 0 0 1 0 0 $\overset{\circ}{n}$

001000010X

π
 $\overset{\circ}{q}$ 0 0 1 0 0 0 0 1 0 X $\overset{\circ}{n}$

00010010010X

π
 $\overset{\circ}{q}$ 0 0 0 1 0 0 1 0 0 1 0 X $\overset{\circ}{n}$

100100100010X

π
 $\overset{\circ}{q}$ 1 0 0 1 0 0 1 0 0 0 1 0 X $\overset{\circ}{n}$

Ga - Ga

First Mode - Sticheraric

100 ḥ̣ 1 0 0 ḥ̣

ḥ̣ 1 0 0 ḥ̣

ḥ̣ 1 0 0 ḥ̣

101 ḥ̣ 1 0 1 ḥ̣

ḥ̣ 1

10X ḥ̣ 1 0 X ḥ̣

010X ḥ̣ 0 1 0 X ḥ̣

ḥ̣ 0 1 0 X ḥ̣

ḥ̣ 0 1 0 0 ḥ̣

ḥ̣ 1

0010X ḥ̣ 0 0 1 0 X ḥ̣

First Mode - Sticheraric

H) Accented on Fourth to Last Syllable

Pa - Ga

100X π_q 1 0 0 X π_q

001001 π_q 0 0 1 0 0 1 π_q

0101010 π_q 0 1 0 1 0 1 0 π_q

010X010 π_q 0 1 0 X 0 1 0 π_q

π_q 0 1 0 X 0 1 0 π_q

100X010 π_q 1 0 0 X 0 1 0 π_q

0010X010 π_q 0 0 1 0 X 0 1 0 π_q

π_q 0 0 1 0 X 0 1 0 π_q

01001001 π_q 0 1 0 0 1 0 0 1 π_q

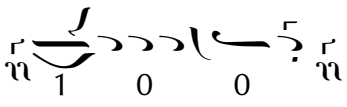
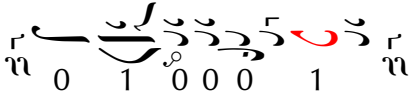
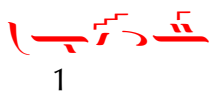
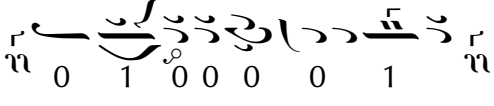

Ga - Ga

100X π_q 1 0 0 X π_q

First Mode - Sticheraric

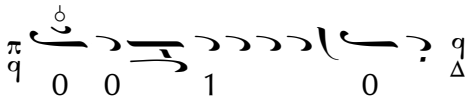
1010	
X010	
01001	
00100X	
10X010	

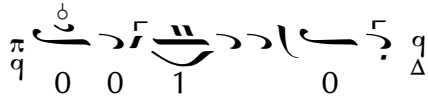
I) Ga - High Nee - Ga

100		
010001		
0100001		
0100010		


First Mode - Sticheraric

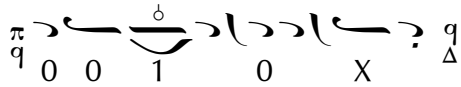
J) Medial Cadences on Low Di


0010  π
 q
 0 0 1 0 Δ

 π
 q
 0 0 1 0 Δ

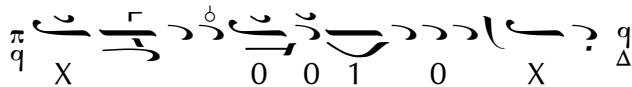
0010X  π
 q
 0 0 1 0 X Δ

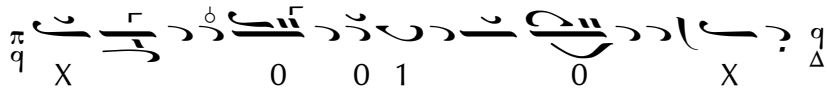
 π
 q
 0 0 1 0 X Δ

 π
 q
 0 0 1 0 X Δ

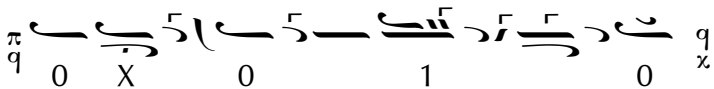
X0010X  π
 q
 X 0 0 1 0 X Δ

 X 0

 π
 q
 X 0 0 1 0 X Δ

 π
 q
 X 0 0 1 0 X Δ

Cadences on Low Ke:

0X010  π
 q
 0 X 0 1 0 x

First Mode - Sticheraric

K) Formulae with Fthoras

010

0010

01XX

00100

10001

010010

100010

0100100

1000100

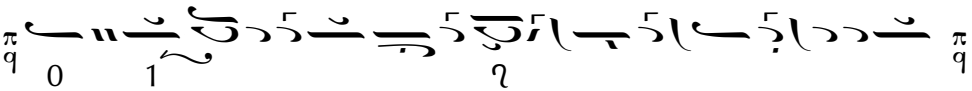
0100100


First Mode - Sticheraric

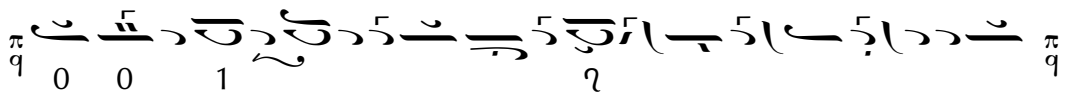
L) Old (slow) Sticheraric Formulae

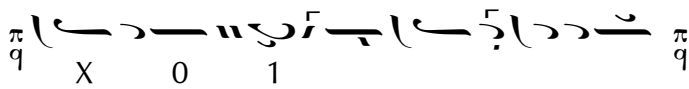
(Syllables after a cross are repeated syllables)

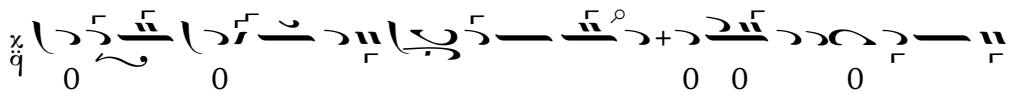
Accented on last syllable:

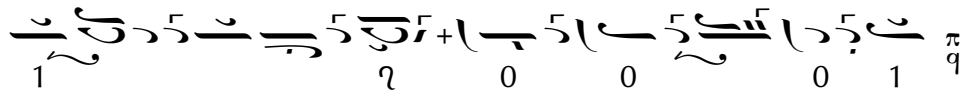
01 π_q  π_q

001 π_q  π_q

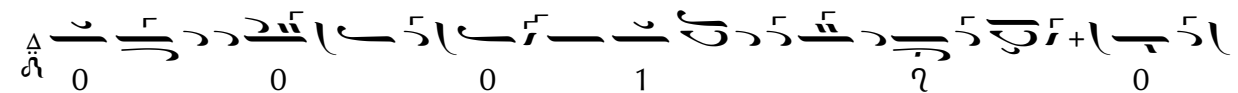
001 π_q  π_q

X01 π_q  π_q

0001 π_q  π_q

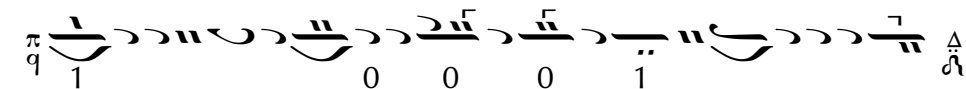
 π_q

0001

Δ  Δ

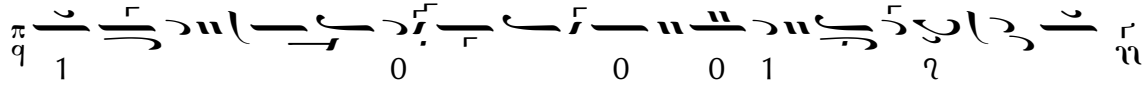
 π_q

10001

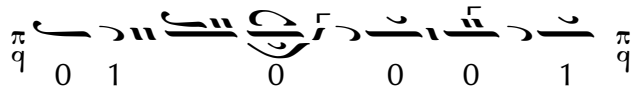
π_q  Δ

First Mode - Sticheraric

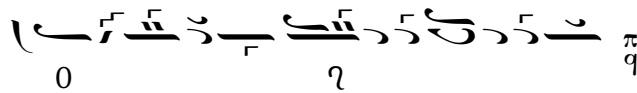
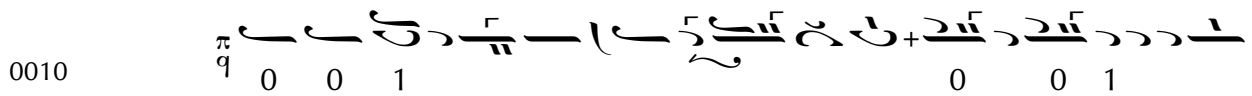
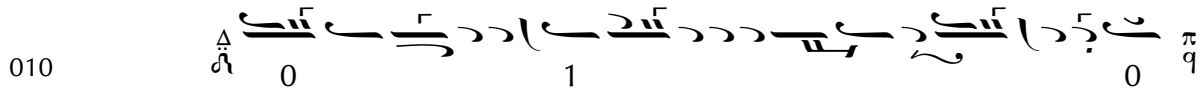
10001



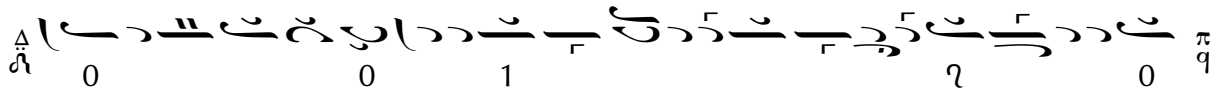
010001



Accented on second to last syllable:



0010



X010

First Mode - Sticheraric

π_q 0 1 0

π_q

00010

0 π_q

0000010 Δ

Accented on third to last syllable:

100

100 π_q

0100 π_q

0100 0 π_q

0100

First Mode - Sticheraric

π_9 0 1 2 0

π_9 2 0 1 0 0

0100 π_9 0 1 0 2 0 π_9

0100 π_9 0 1 0 2 0 π_9

0100 π_9 0 1 0 2 0 π_9

0100 π_9 0 1 0 0 π_9

0100 π_9 0 1 0 0 π_9

1

0100 π_9 0 1 0 2 0 π_9

1

0100

π_9 0 1 0 0 2 π_9

First Mode - Sticheraric

010X

Δ
 δ 0 1 2 0 X $\frac{\pi}{9}$

00100

Δ
 δ 0 0 1 0 0 $\frac{\pi}{9}$

00100

$\frac{\pi}{9}$ 0 0 1 0 2 0 $\frac{\pi}{9}$

10100

$\frac{\pi}{9}$ 1 0 1 0 0 0 $\frac{\pi}{9}$

10100

$\frac{\pi}{9}$ 1 0 1 0 0 1 0 0 $\frac{\pi}{9}$

000100

First Mode - Sticheraric

π_q

0010100
 π_q

0100100

0100100

0100100

First Mode - Sticheraric

0100100

1000100

000100

First Mode - Sticheraric

$\overset{\Gamma}{\eta} \quad 0 \quad 0 \quad 0 \quad 1 \quad \dots \quad \overset{\Gamma}{\eta} \quad ?$

$0 \quad 0 \quad 0 \quad 1 \quad \dots \quad ? \quad 0$

$\dots \quad ? \quad 0 \quad 0 \quad 0 \quad 1 \quad \dots \quad 0 \quad 0 \quad \overset{\pi}{\eta}$

Accented on fourth to last syllable:

1010

 $\overset{\Gamma}{\eta} \quad 1 \quad \dots \quad 0 \quad 1 \quad \dots \quad 0 \quad \overset{\pi}{\eta}$

$\overset{\Delta}{\eta} \quad 1 \quad \dots \quad 0$

X010

 $\overset{\pi}{\eta} \quad X \quad \dots \quad 0 \quad 1$

$\dots \quad 0 \quad \overset{\pi}{\eta}$

01001

 $\overset{\pi}{\eta} \quad 0 \quad 1 \quad 0 \quad \dots \quad 0 \quad 1 \quad \overset{\pi}{\eta}$

01001

 $\overset{\pi}{\eta} \quad 0 \quad 1 \quad \dots \quad 0 \quad 1 \quad \overset{\pi}{\eta}$

01001

 $\overset{\Gamma}{\eta} \quad 0 \quad 0 \quad 1 \quad \dots \quad 0 \quad 0 \quad 1 \quad \overset{\Gamma}{\eta}$

01010

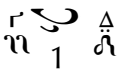
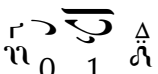
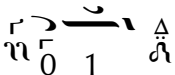
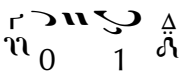
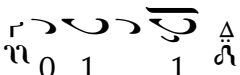
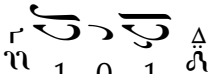
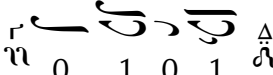
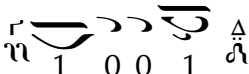
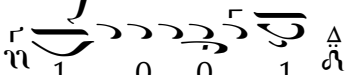
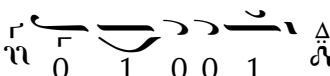
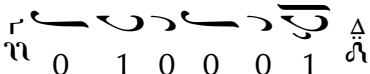
 $\overset{\Gamma}{\eta} \quad 0 \quad 1 \quad 0 \quad 1 \quad \dots \quad 0 \quad \overset{\pi}{\eta}$

M) Semi-Final Formulae


Ga - Di

(these formulae are immediately followed by the formulae in section O)

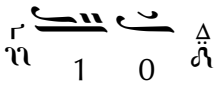
Accented on last syllable:

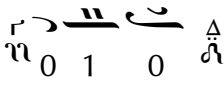
1	
01	
	
	
011	
101	
0101	
1001	
	
01001	
010001	

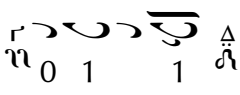
First Mode - Sticheraric

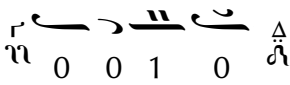
001001 

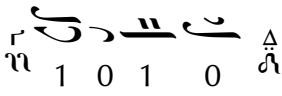
Accented on second to last syllable:

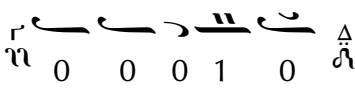
10 

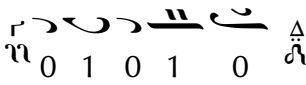
010 

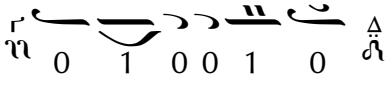
011 

0010 

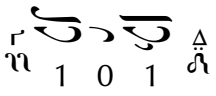
1010 

00010 


01010 


010010 

Accented on third to last syllable:


101 

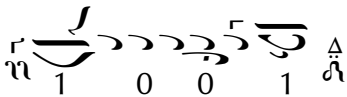
First Mode - Sticheraric

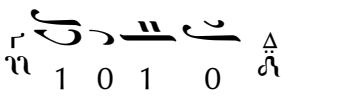
0101 

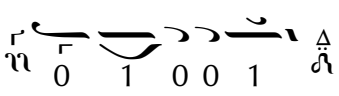
010101 

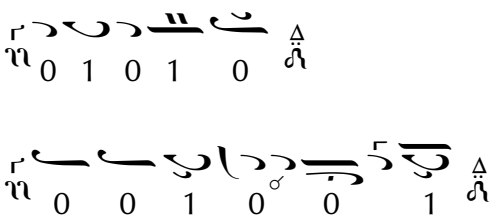
Accented on fourth to last syllable:

1001 

1010 

01001 

01010 

001001 

N) Semi-Final Formulae

Pa - Di

(these formulae are immediately followed by the formulae in section O)

Accented on last syllable:

1	$\pi \overset{\Delta}{\underset{1}{\text{q}}} \overset{\Delta}{\text{a}}$
001	$\pi \overset{\Delta}{\underset{0}{\text{q}}} \overset{\Delta}{\underset{0}{\text{r}}} \overset{\Delta}{\underset{1}{\text{a}}} \overset{\Delta}{\text{a}}$
	$\pi \overset{\Delta}{\underset{0}{\text{q}}} \overset{\Delta}{\text{r}} \overset{\Delta}{\underset{1}{\text{a}}} \overset{\Delta}{\text{a}}$
	$\pi \overset{\Delta}{\underset{0}{\text{q}}} \overset{\Delta}{\text{r}} \overset{\Delta}{\underset{0}{\text{a}}} \overset{\Delta}{\text{a}}$
0001	$\pi \overset{\Delta}{\underset{0}{\text{q}}} \overset{\Delta}{\text{r}} \overset{\Delta}{\text{a}} \overset{\Delta}{\underset{1}{\text{a}}} \overset{\Delta}{\text{a}}$
1001	$\pi \overset{\Delta}{\underset{1}{\text{q}}} \overset{\Delta}{\text{r}} \overset{\Delta}{\text{a}} \overset{\Delta}{\underset{1}{\text{a}}} \overset{\Delta}{\text{a}}$

Accented on second to last syllable:

010	$\pi \overset{\Delta}{\underset{0}{\text{q}}} \overset{\Delta}{\text{r}} \overset{\Delta}{\text{a}} \overset{\Delta}{\text{r}} \overset{\Delta}{\underset{0}{\text{a}}} \overset{\Delta}{\text{a}}$
0010	$\pi \overset{\Delta}{\underset{0}{\text{q}}} \overset{\Delta}{\text{r}} \overset{\Delta}{\text{a}} \overset{\Delta}{\text{r}} \overset{\Delta}{\text{a}} \overset{\Delta}{\underset{0}{\text{a}}} \overset{\Delta}{\text{a}}$
	$\pi \overset{\Delta}{\underset{0}{\text{q}}} \overset{\Delta}{\text{r}} \overset{\Delta}{\text{a}} \overset{\Delta}{\text{r}} \overset{\Delta}{\text{a}} \overset{\Delta}{\text{r}} \overset{\Delta}{\underset{0}{\text{a}}} \overset{\Delta}{\text{a}}$
10010	$\pi \overset{\Delta}{\underset{1}{\text{q}}} \overset{\Delta}{\text{r}} \overset{\Delta}{\text{a}} \overset{\Delta}{\text{r}} \overset{\Delta}{\text{a}} \overset{\Delta}{\text{r}} \overset{\Delta}{\underset{0}{\text{a}}} \overset{\Delta}{\text{a}}$

First Mode - Sticheraric

00010 π
 $\overset{\curvearrowright}{\text{q}}$ 0 0 0 1 $\overline{\text{—}}$ $\overset{\curvearrowright}{\text{—}}$ $\overset{\Delta}{\text{q}}$

π
 $\overset{\curvearrowright}{\text{q}}$ 0 0 0 1 $\overline{\text{—}}$ $\overset{\curvearrowright}{\text{—}}$ $\overset{\Delta}{\text{q}}$

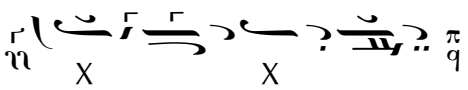
010010 π
 $\overset{\curvearrowright}{\text{q}}$ 0 1 0 0 1 0 $\overset{\Delta}{\text{q}}$

100010 π
 $\overset{\curvearrowright}{\text{q}}$ 1 0 0 0 1 0 $\overset{\Delta}{\text{q}}$

Accented on fourth to last syllable:

1001 π
 $\overset{\curvearrowright}{\text{q}}$ 1 0 0 1 $\overset{\Delta}{\text{q}}$

P) Final Cadence for Theotokia

XX 

BYZANTINE MUSIC FORMULAE

First Mode - Heirmologic

Contents^{*}

A) Medial Cadences on Di.....	72
B) Medial Cadences on Ke.....	80
C) Medial Cadences on Ga.....	81
D) Medial Cadences on Pa.....	83
E) Formulae with Fthores.....	86
F) Ending Formulae.....	87
G) Endings for Theotokia.....	90

Key:

1 = accented syllable

0 = unaccented syllable

X = syllable that may be either
accented or unaccented

Variations of the same formula
are indicated in color

* The Byzantine music formulae herein were extracted from heirmologic melodies found in the *Zoe Anastasimatarion* (14th edition, 2002).

A) Medial Cadences on Di

Accented on last syllable:

00 $\overset{\Delta}{\underset{\text{di}}{\text{di}}} \text{---} \overset{\Delta}{\underset{\text{di}}{\text{di}}}$

$\overset{\chi}{\underset{\text{di}}{\text{di}}} \text{---} \overset{\epsilon}{\underset{\text{di}}{\text{di}}} \overset{\chi}{\text{---}}$

01 $\overset{\Delta}{\underset{\text{di}}{\text{di}}} \text{---} \overset{\Delta}{\underset{\text{di}}{\text{di}}}$

$\overset{\Delta}{\underset{\text{di}}{\text{di}}} \text{---} \overset{\epsilon}{\underset{\text{di}}{\text{di}}} \overset{\chi}{\text{---}}$

001 $\overset{\Delta}{\underset{\text{di}}{\text{di}}} \text{---} \overset{\Delta}{\underset{\text{di}}{\text{di}}}$

$\overset{\pi}{\underset{\text{di}}{\text{di}}} \text{---} \overset{\Delta}{\underset{\text{di}}{\text{di}}}$

00101 $\overset{\Delta}{\underset{\text{di}}{\text{di}}} \text{---} \overset{\Delta}{\underset{\text{di}}{\text{di}}}$

10001 $\overset{\Delta}{\underset{\text{di}}{\text{di}}} \text{---} \overset{\Delta}{\underset{\text{di}}{\text{di}}}$

$\overset{\Delta}{\underset{\text{di}}{\text{di}}} \text{---} \overset{\Delta}{\underset{\text{di}}{\text{di}}}$

$\overset{\Delta}{\underset{\text{di}}{\text{di}}} \text{---} \overset{\Delta}{\underset{\text{di}}{\text{di}}}$

X0001 $\overset{\Delta}{\underset{\text{di}}{\text{di}}} \text{---} \overset{\Delta}{\underset{\text{di}}{\text{di}}}$

1000X $\overset{\Delta}{\underset{\text{di}}{\text{di}}} \text{---} \overset{\Delta}{\underset{\text{di}}{\text{di}}}$

First Mode - Heirmologic

000001

010001

100001

Accented on second to last syllable:

10

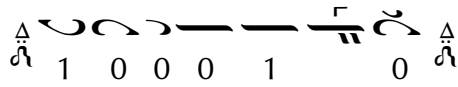
010

0010

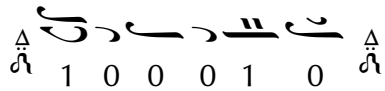
First Mode - Heirmologic

	π	—	—	—	—	Δ	
	q	0	0	1	0	q	
	π	—	—	—	—	Δ	
	n	0	0	1	0	n	
00010	Δ	—	—	—	—	Δ	
	q	0	0	0	1	q	
	π	—	—	—	—	Δ	
	q	0	0	0	1	q	
	Δ	—	—	—	—	Δ	
	n	0	0	0	1	n	
	π	—	—	—	—	Δ	
	n	0	0	0	1	n	
10010	Δ	—	—	—	—	Δ	
	q	1	0	0	1	q	
	π	—	—	—	—	Δ	
	n	1	0	0	1	n	
	Δ	—	—	—	—	Δ	
	q	1	0	0	1	q	
	π	—	—	—	—	Δ	
	n	1	0	0	1	n	
000010	Δ	—	—	—	—	Δ	
	q	0	0	0	0	1	q
	π	—	—	—	—	Δ	
	n	0	1	0	0	1	n
010010	Δ	—	—	—	—	Δ	
	q	0	1	0	0	1	q
	π	—	—	—	—	Δ	
	n	0	1	0	0	1	n
100010	Δ	—	—	—	—	Δ	
	q	1	0	0	0	1	q
	π	—	—	—	—	Δ	
	n	1	0	0	0	1	n

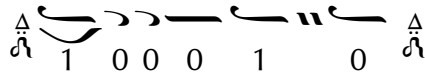
First Mode - Heirmologic



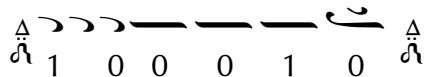
 1 0 0 0 1 0



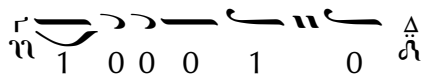
 1 0 0 0 1 0



 1 0 0 0 1 0

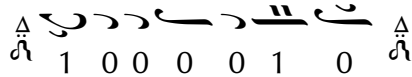


 1 0 0 0 1 0



 1 0 0 0 1 0

1000010



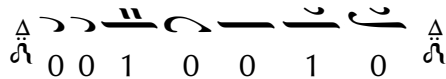
 1 0 0 0 0 1 0

0010010



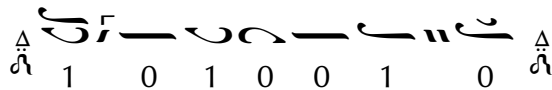
 0 0 1 0 0 1 0

0010010



 0 0 1 0 0 1 0

1010010



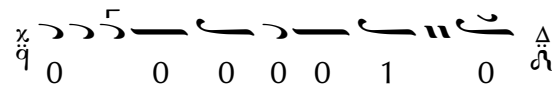
 1 0 1 0 0 1 0

10X0010



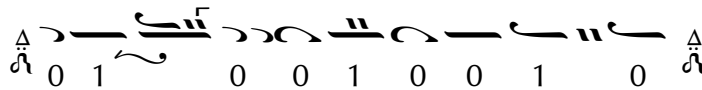
 1 0 X 0 0 1 0

0000010



 0 0 0 0 0 1 0

010010010

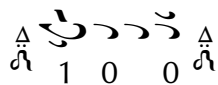


 0 1 0 0 1 0 0 1 0

(The purple notes in this formula are orthographically incorrect, however this combination is frequent in the Zoe Anastasimatarion)

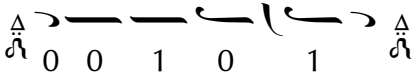
Accented on third to last syllable:

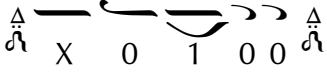
100





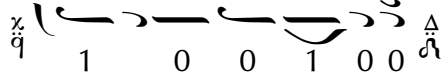
 1 0 0

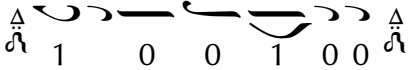
First Mode - Heirmologic

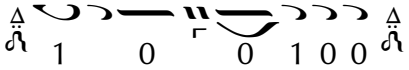
00101 

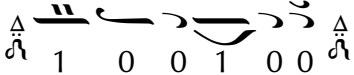
X0100 

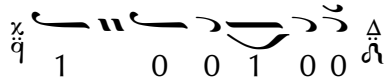
000100 




100100 

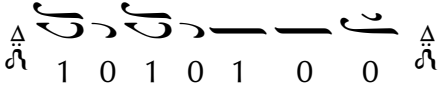





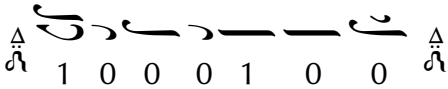




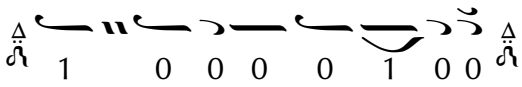



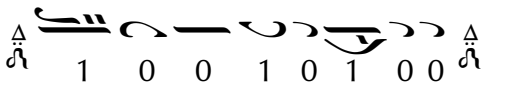
1010100 

0100100 

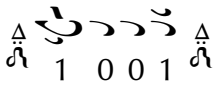
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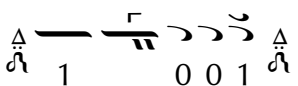
First Mode - Heirmologic

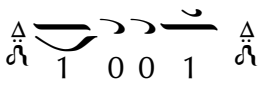
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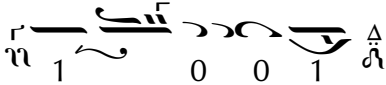
10010100 

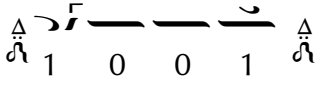
Accented on fourth to last syllable:

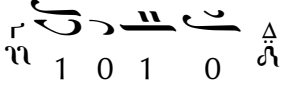
1001 

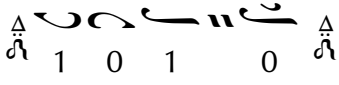


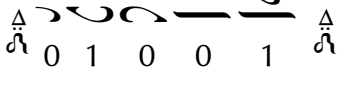


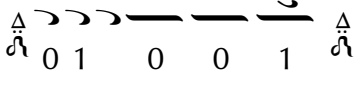


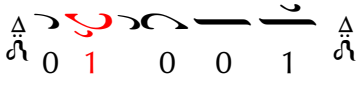


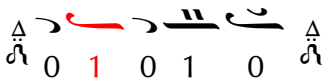
1010 



01001 



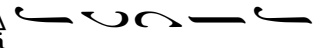



01010 






First Mode - Heirmologic

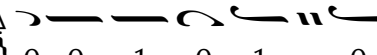
$\overset{\Delta}{\underset{\delta}{\mathcal{A}}}$  $\overset{\Delta}{\underset{\delta}{\mathcal{A}}}$
 0 1 0 1 0

$\overset{\Delta}{\underset{\delta}{\mathcal{A}}}$  $\overset{\Delta}{\underset{\delta}{\mathcal{A}}}$
 0 1 0 1 0

001001

$\overset{\pi}{\underset{\eta}{\mathcal{A}}}$  $\overset{\Delta}{\underset{\delta}{\mathcal{A}}}$
 0 0 1 0 0 1

001010

$\overset{\Delta}{\underset{\delta}{\mathcal{A}}}$  $\overset{\Delta}{\underset{\delta}{\mathcal{A}}}$
 0 0 1 0 1 0

B) Medial Cadences on Ke

Accented on last syllable:

001 $\begin{array}{c} \pi \\ \grave{\alpha} \end{array} \overline{0} \overline{0} \overline{1} \begin{array}{c} \acute{\alpha} \\ \grave{\alpha} \end{array}$

1001 $\begin{array}{c} \Delta \\ \acute{\alpha} \end{array} \overline{1} \overline{0} \overline{0} \overline{1} \begin{array}{c} \acute{\alpha} \\ \grave{\alpha} \end{array}$

00001 $\begin{array}{c} \Delta \\ \acute{\alpha} \end{array} \overline{0} \overline{0} \overline{0} \overline{0} \overline{1} \begin{array}{c} \acute{\alpha} \\ \grave{\alpha} \end{array}$

Accented on second to last syllable:

10 $\begin{array}{c} \Delta \\ \acute{\alpha} \end{array} \overline{1} \overline{0} \begin{array}{c} \acute{\alpha} \\ \grave{\alpha} \end{array}$

010 $\begin{array}{c} \pi \\ \grave{\alpha} \end{array} \overline{0} \overline{1} \overline{0} \begin{array}{c} \acute{\alpha} \\ \grave{\alpha} \end{array}$

0010 $\begin{array}{c} \pi \\ \grave{\alpha} \end{array} \overline{0} \overline{0} \overline{1} \overline{0} \begin{array}{c} \acute{\alpha} \\ \grave{\alpha} \end{array}$

D) Medial Cadences on Pa

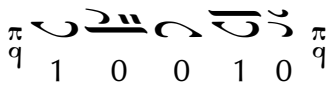
Accented on last syllable:

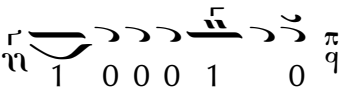
01	$\begin{array}{c} \pi \\ \text{q} \end{array} \overbrace{\quad} \quad \pi \\ \text{0} \quad \text{1} \quad \text{q}$
001	$\begin{array}{c} \Delta \\ \text{d} \end{array} \overbrace{\quad} \overbrace{\quad} \quad \pi \\ \text{0} \quad \text{0} \quad \text{1} \quad \text{q}$
010001	$\begin{array}{c} \Gamma \\ \text{u} \end{array} \overbrace{\quad} \overbrace{\quad} \overbrace{\quad} \overbrace{\quad} \quad \pi \\ \text{0} \quad \text{1} \quad \quad \text{0} \quad \text{0} \quad \text{0} \quad \text{1} \quad \text{q}$
0010001	$\begin{array}{c} \Delta \\ \text{d} \end{array} \overbrace{\quad} \overbrace{\quad} \overbrace{\quad} \overbrace{\quad} \overbrace{\quad} \quad \pi \\ \text{0} \quad \quad \text{0} \quad \text{1} \quad \quad \text{0} \quad \text{0} \quad \text{0} \quad \text{1} \quad \text{q}$
10010001	$\begin{array}{c} \Delta \\ \text{d} \end{array} \overbrace{\quad} \overbrace{\quad} \overbrace{\quad} \overbrace{\quad} \overbrace{\quad} \overbrace{\quad} \quad \pi \\ \text{1} \quad \quad \text{0} \quad \text{0} \quad \text{1} \quad \quad \text{0} \quad \text{0} \quad \text{0} \quad \text{1} \quad \text{q}$

Accented on second to last syllable:

010	$\begin{array}{c} \Delta \\ \text{d} \end{array} \overbrace{\quad} \overbrace{\quad} \quad \pi \\ \text{0} \quad \text{1} \quad \quad \text{0} \quad \text{q}$	
	$\begin{array}{c} \Delta \\ \text{d} \end{array} \overbrace{\quad} \overbrace{\quad} \quad \pi \\ \text{0} \quad \text{1} \quad \quad \text{0} \quad \text{q}$	$\overbrace{\quad} \overbrace{\quad} \quad \pi \\ \text{1}$
	$\begin{array}{c} \Gamma \\ \text{u} \end{array} \overbrace{\quad} \overbrace{\quad} \quad \pi \\ \text{0} \quad \text{1} \quad \quad \text{0} \quad \text{q}$	
0010	$\begin{array}{c} \Gamma \\ \text{u} \end{array} \overbrace{\quad} \overbrace{\quad} \overbrace{\quad} \quad \pi \\ \text{0} \quad \text{0} \quad \text{1} \quad \quad \text{0} \quad \text{q}$	
00010	$\begin{array}{c} \pi \\ \text{q} \end{array} \overbrace{\quad} \overbrace{\quad} \overbrace{\quad} \overbrace{\quad} \quad \pi \\ \text{0} \quad \quad \text{0} \quad \text{0} \quad \text{1} \quad \text{0} \quad \text{q}$	
0X010	$\begin{array}{c} \pi \\ \text{q} \end{array} \overbrace{\quad} \overbrace{\quad} \overbrace{\quad} \overbrace{\quad} \quad \pi \\ \text{0} \quad \quad \text{X} \quad \text{0} \quad \text{1} \quad \text{0} \quad \text{q}$	

First Mode - Heirmologic

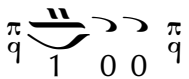
10010 

100010 

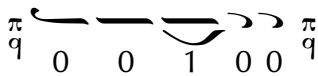
Accented on third to last syllable:

100 

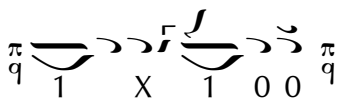


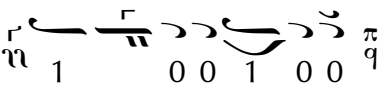


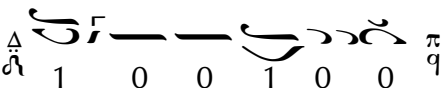
0100 

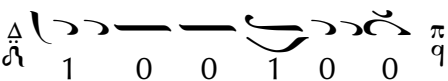
00100 

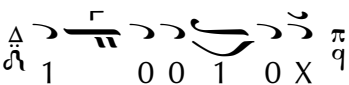
10100 

1X100 

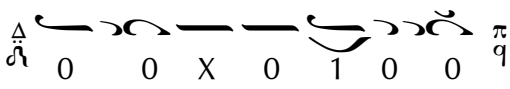
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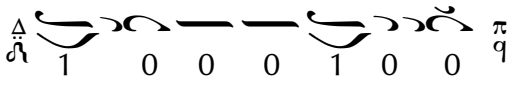


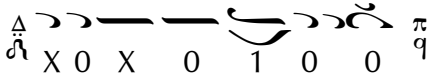


10010X 

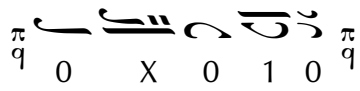
First Mode - Heirmologic

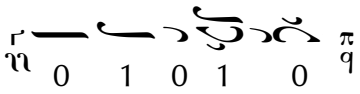
00X0100 $\overset{\Delta}{\underset{\delta}{\mathfrak{A}}}$  π
 0 0 X 0 1 0 0

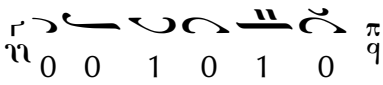
1000100 $\overset{\Delta}{\underset{\delta}{\mathfrak{A}}}$  π
 1 0 0 0 1 0 0

X0X0100 $\overset{\Delta}{\underset{\delta}{\mathfrak{A}}}$  π
 X 0 X 0 1 0 0

Accented on fourth to last syllable:

0X010 $\overset{\pi}{\underset{\delta}{\mathfrak{A}}}$  π
 0 X 0 1 0

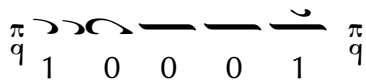
01010 $\overset{\pi}{\underset{\delta}{\mathfrak{A}}}$  π
 0 1 0 1 0

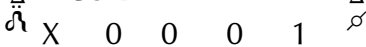
001010 $\overset{\pi}{\underset{\delta}{\mathfrak{A}}}$  π
 0 0 1 0 1 0

E) Formulae with Fthores

Accented on last syllable:

10001 



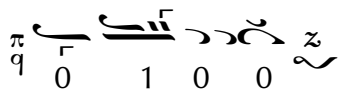
X0001 

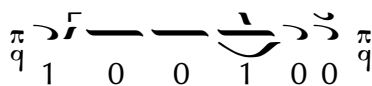
100001 

Accented on second to last syllable:

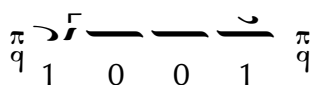
0100010 

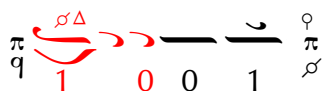
Accented on third to last syllable:

0100 

100100 

Accented on fourth to last syllable:

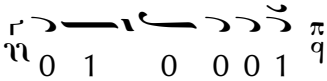
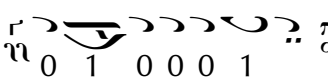
1001 

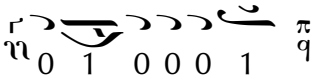


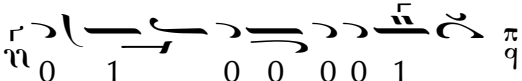


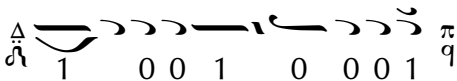
F) Ending Formulae

Accented on last syllable:

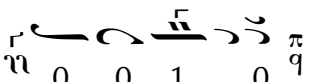
010001  

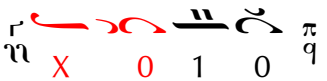



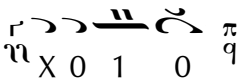
0100001 

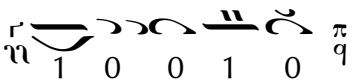
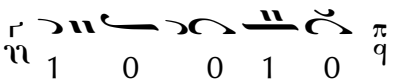
10010001 

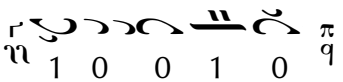
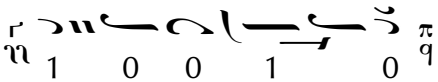
Accented on second to last syllable:

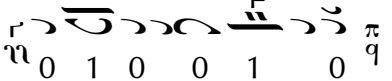
0010 

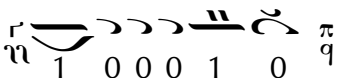
X010  




10010  

010010 


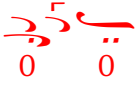
100010 

First Mode - Heirmologic

0100010 

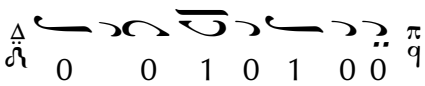
Accented on third to last syllable:


0100  


00100  

100100  

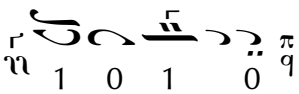


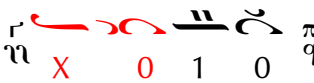
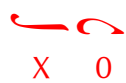
0010100 

1000100 

1010100 

Accented on fourth to last syllable:

1010 

X010  

First Mode - Heirmologic

01001

001001

10X010

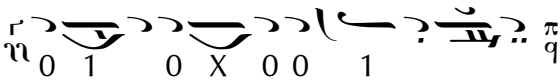
1001001

G) Endings for Theotokia*

Accented on last syllable:


(Also use formulae ending in 100)


From Ga


010X001 

Accented on second to last syllable:

From Ga

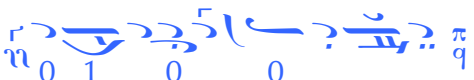
10010 


010010 

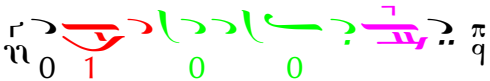
10100010 

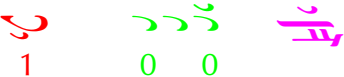
Accented on third to last syllable:

From Ga

0100 

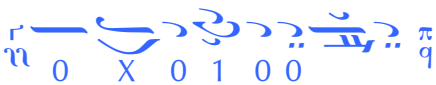






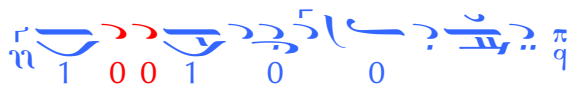
* The formulae in blue in this section are from the Athonite oral tradition, as represented in the book *Παρακλητικῆς, Μουσικὸν Ἐγκόλπιον, Πλάγιοι Ἦχοι, Ἱεροθέου Ἱερομονάχου, ἐκδόσεις Ἱ.Μ. Φιλοθέου, Ἅγιον Ὄρος, 2004.*

First Mode - Heirmologic

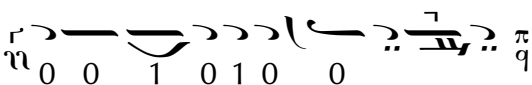
0X0100 


100100 







0010100 


0100100 

From Di

100100 

Accented on fourth to last syllable:

From Ga

0101001 



Second Mode



BYZANTINE MUSIC FORMULÆ

Second Mode - Sticheraric

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Key:

1 = accented syllable
0 = unaccented syllable
X = syllable that may be either
 accented or unaccented

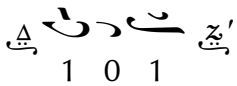


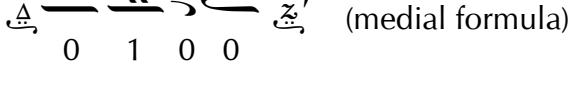
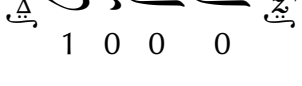
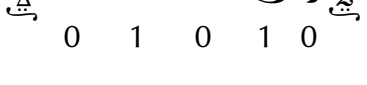
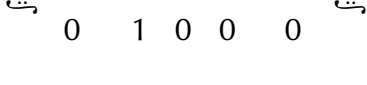
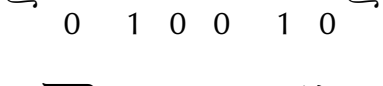
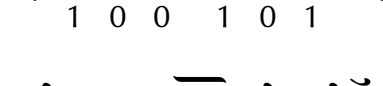
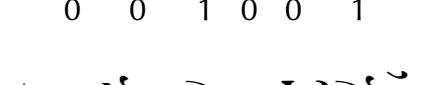

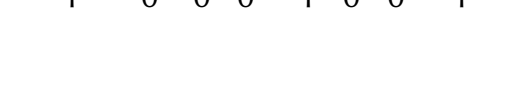
Variations of the same formula
are indicated in color

* The Byzantine music formulae herein were extracted from sticheraric melodies found in the *Zoe Anastasimatarion* (14th edition, 2002) Volume I of *Mousike Kypsele* (1883 edition), and the two-volume *Athonias* (1906 edition) by Petros Philanthidis.

A) Initial Formulae: Di - Zo

(These formulae may also be used as medial formulae)

The following formulae are followed by the formulae on next page

101	
X010	
0100	
	 (medial formula)
1000	
01010	
01000	
010010	
100101	
001001	
1000101	
10001001	

Second Mode - Sticheraric

B) Semi-initial Formulae: Zo - Di

(to be preceded by any of the formulae in section A or E)

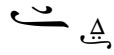
010		
010X		
0100		
00100		
100100		
0100100		

C) Medial Formulae ending on Di

(Most of these may also be used as initial formulae)

Note that most of these formulae from Di can also be used as formulae from Vou simply by changing the first character. For example, the first note in the third entry can be changed from an elaphron to an ison if the initial martyria is changed from Di to Vou.

Also note that when a cadence ends on Di with a klasma, the klasma may be replaced by kentemata or by an antikenoma with an aple. So the cadence:



may be written as:



or as:



in order to flow more smoothly into the next formula.

Accented on last syllable:

01 0 1

101 1 0 1

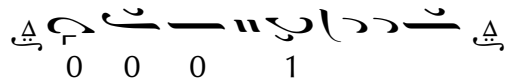
001 0 0 1

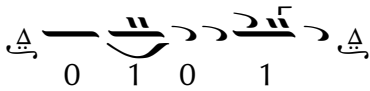
X01

0X01 0 X 0 1

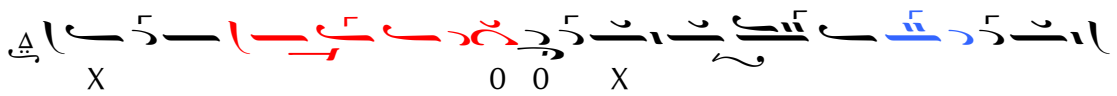
Second Mode - Sticheraric

0001  0 0 0 1

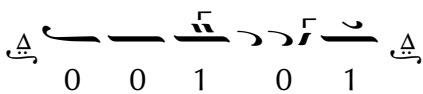
 0 0 0 1

0101  0 1 0 1

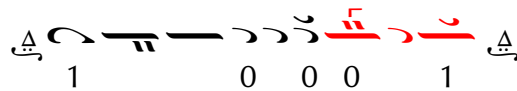
X001

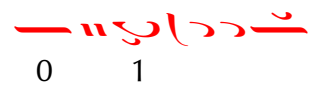
 X 0 0 X

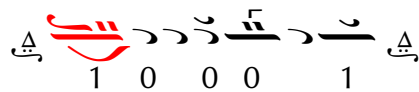
 0

00101  0 0 1 0 1

10001  1 0 0 0 1

 1 0 0 0 1

 0 1

 1 0 0 0 1

 1

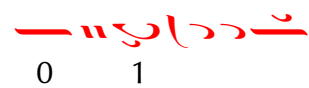
 1 0 0 0 1

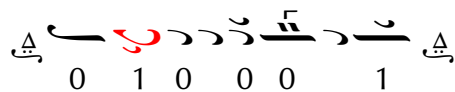
 1 0 0

100001  1 0 0 0 0 1

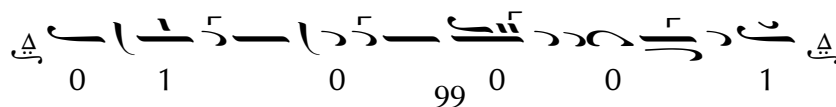
 1 0 0

010001  0 1 0 0 0 1

 0 1

 0 1 0 0 0 1

 1

 0 1 0 0 0 1

99

Second Mode - Sticheraric

01X001			

Accented on second to last syllable:

10		
010		

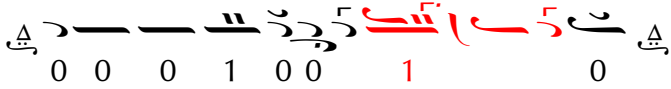
Second Mode - Sticheraric


	 0 1 0	 1
	 0 1 0	 1
0010	 0 0 1 0	
00010	 0 0 0 1 0	 1 0
	 0 0 0 1 0	
10010	 1 0 0 1 0	 1 0
	 1 0 0 1 0	
	 1 0 0 1 0	 0
00X010	 0 0 X 0 1 0	
00X010	 0 0 X 0 1 0	 1
	 0 0 1 0 1 0	 1
010010	 0 1 0 0 1 0	
	 0 1 0 0 1 0	 0 1 1
	 0 1 0 0 1 0	

Second Mode - Sticheraric


100010	 1 0 0 0 1 0	 1 0
	 1 0 0 0 1 0	 1 0
	 1 0 0 0 1 0	
	 1 0 0 0 1 0	
10X010	 1 0 X 0 1 0	 0
100X010	 1 0 0 X 0 1 0	 1 0 0 X 0 1 0
	 1 0 0 X 0 1 0	 1 0 0 X 0 1 0
0010010	 0 0 1 0 0 1 0	 1 0
	 0 0 1 0 0 1 0	
1000010	 1 0 0 0 0 1 0	
00100010	 0 0 1 0 0 0 1 0	 1 0
	 0 0 1 0 0 0 1 0	
01000010	 0 1 0 0 0 0 1 0	

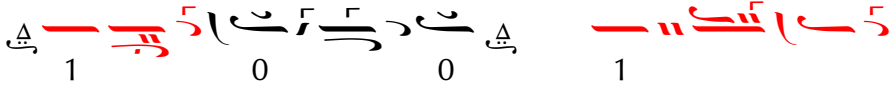
Second Mode - Sticheraric

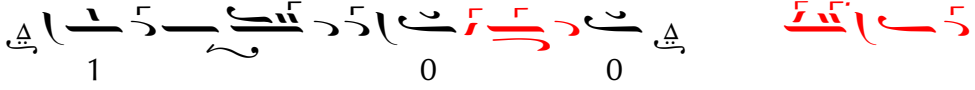
00010010 

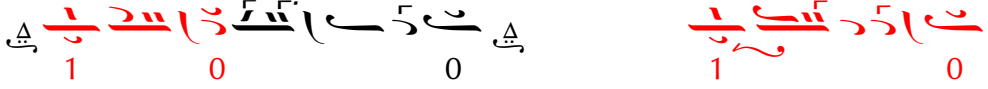
00100X010 


Accented on third to last syllable:

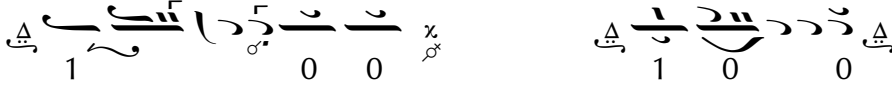
100 

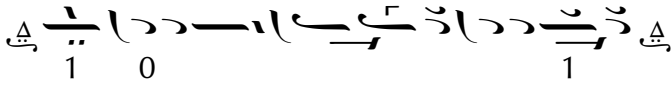


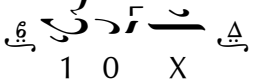










101 

10X 

10X





Second Mode - Sticheraric

0X01	 0 X 0 1	 0 1
0100	 0 1 0 0	 0 0
	 0 1 0 0	 1 0 0
	 0 1 0 1	
10100	 1 0 1 0 0	
	 1 0 1 0 0	
	 1 0 1 0 0	
	 1 0 1 0 0	 1
	 1 0 1 0 0	 1 0
	 1 0 1 0 0	
	 1 0 1 0 0	
00100	 0 0 1 0 0	 1

Second Mode - Sticheraric

000100	 0 0 0 1 0 0	 1
100100	 1 0 0 1 0 X	 1 0 1 0
	 1 0 0 1 0 0	
	 1 0 0 1 0 0	
010100	 0 1 0 1 0 0	
	 0 1 0 1 0 0	
	 0 1 0 1 0 0	
X000100	 X 0 0 0 1 0 0	
0100100	 0 1 0 0 1 0 0	
	 0 1 0 0 1 0 0	
	 0 1 0 0 1 0 0	
1010100	 1 0 1 0 1 0 0	
1000100	 1 0 0 0 1 0 0	
1000101	 1 0 0 0 1 0 1	

Second Mode - Sticheraric

1000100

100100

Accented on fourth to last syllable:

1000

1001

1X01

1010

1010

1010

1010

X00X

1010

Second Mode - Sticheraric

01001	 0 1 0 0 1	 0 1
	 0 1 0 0 1	 1 0
	 0 1 0 0 1	 0 1
	 0 1 0 0 1	 1
	 0 1 0 0 1	
	 0 1 0 0 1	 1 0
01010	 0 1 0 1 0	 1 0
	 0 1 0 1 0	 1
	 0 1 0 1 0	 1
001001	 0 0 1 0 0 1	 0 1
	 0 0 1 0 0 1	 0 1
	 0 0 1 0 0 1	
001010	 0 0 1 0 1 0	
00X010	 0 0 X 0 1 0	

Second Mode - Sticheraric

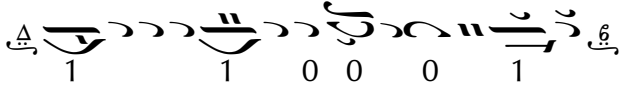
00X010	
101010	
10X010	
100X010	
00100X010	
0101001010	

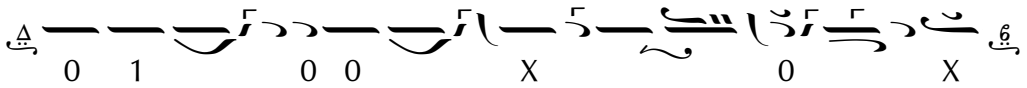
D) Medial Cadences on Vou

Accented on last syllable:

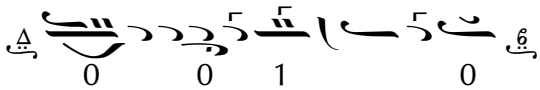
10001	 1 0 0 0 1	 0 0
	 1 0 0 0 1	 0 0
	 1 0 0 0 1	
	 1 0 0 0 1	
010001	 0 1 0 0 0 1	
	 0 1 0 0 0 1	 0 0
	 0 1 0 0 0 1	
	 0 1 0 0 0 1	
	 0 1 0 0 0 1	 0 1
	 0 1 0 0 0 1	
100001	 1 0 0 0 0 1	
	 1 0 0 0 0 1	

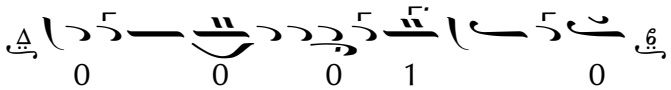
Second Mode - Sticheric

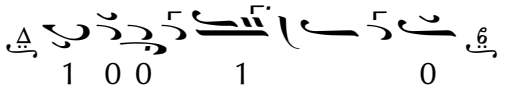
110001 



0100X0X 

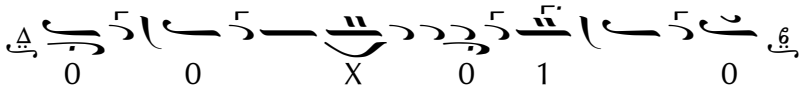
Accented on second to last syllable:

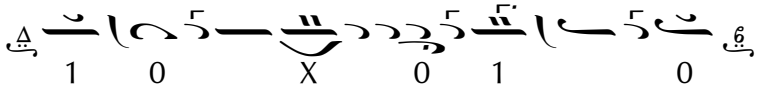
0010 

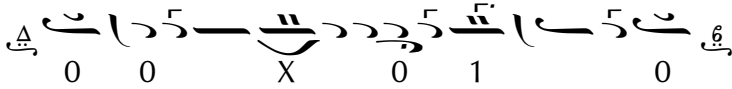
00010 

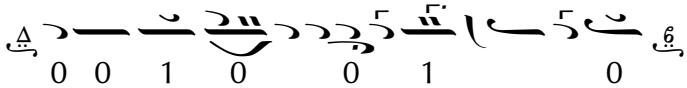
10010 

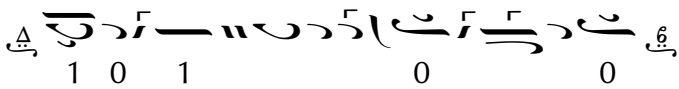
00X010 

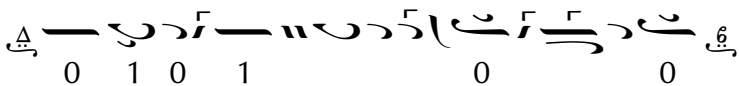
10X010 

00X010 

0010010 

Accented on third to last syllable:

10100 

010100 

Second Mode - Sticheraric

100100

1 0 0 1 0 0 1

0 0 1

0100100

0 1 0 0 1 0 0

0 1 0 0 1 0 0

0 1 0 0 1 0 0

0100X0X

0 1 0 0 X 0 X

0110100

0 1 1 0 1 0 0

1000100

1 0 0 0 1 0 0 1

1 0 0 0 1 0 0

01000100

0 1 0 0 0 1 0 0

0 1 0 0 0 1 0 0

0 1 0 0 1 0 0

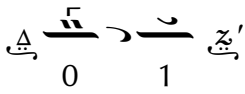

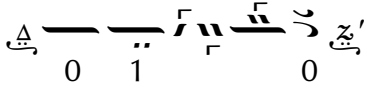
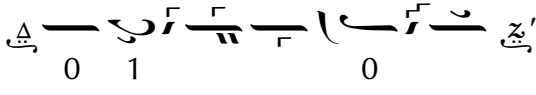
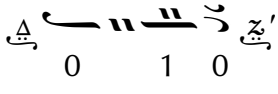
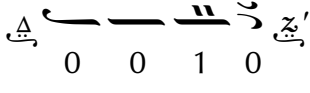
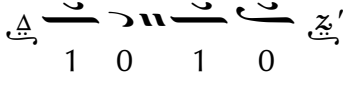
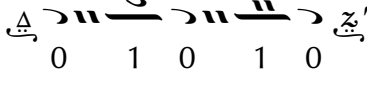
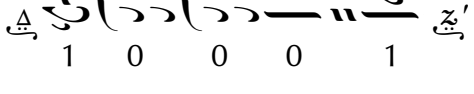
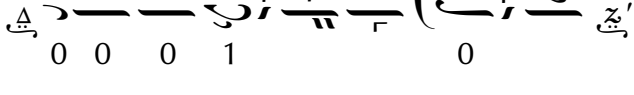
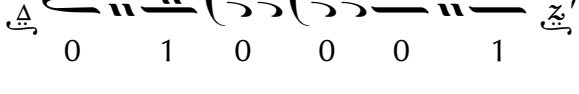

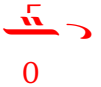
0 1 0 0 0 1 0 0

Second Mode - Sticheraric

Accented on fourth to last syllable:

1001		
	1 0 0 1	
	1 0 0 1	
	1 0 0 1	
00X010		
	0 0 X 0 1 0	
10X010		
	1 0 X 0 1 0	
00X010		
	0 0 X 0 1 0	
1001010		
	1 0 0 1 0 1 0	1
01001001		
	0 1 0 0 1 0 0 1	
	0 1 0 0 1 0 0 1	
010001001		
	0 1 0 0 0 1 0 0 1	
	0 1 0 0 0 1 0 0 1	
	1	

E) Medial Cadences on High Zo

01		
10		
010		
		
		
0010		
1010		
01010		
10001		
00010		
010001		
		

(See section B for formulae from Zo to Di)

F) Low Nee

1) Cadences on Ga:

(usually followed by an ending on Nee or low Zo)


Accented on last syllable:


(use a formula ending in 100)


Accented on second to last syllable:

010	
0010	
00010	
10010	
100010	
0010010	

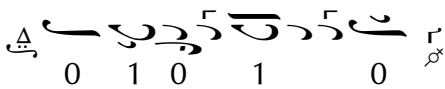
Accented on third to last syllable:

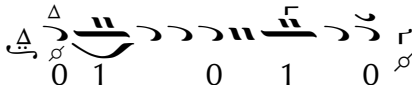
100 

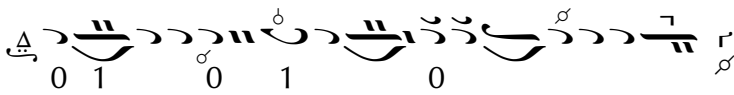
0100100 

00100100 

Accented on fourth to last syllable:

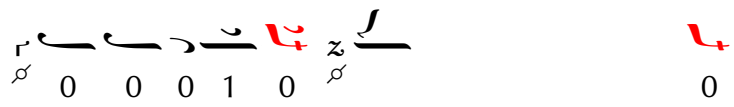
01010 

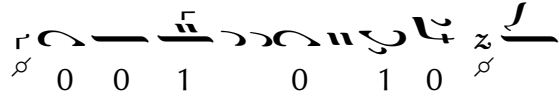
01010 

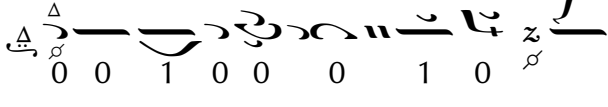
01010 

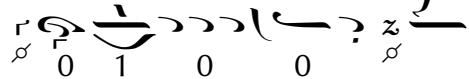
2) Cadences on low Zo:

(to be followed by an ending on Nee on next page)

00010 

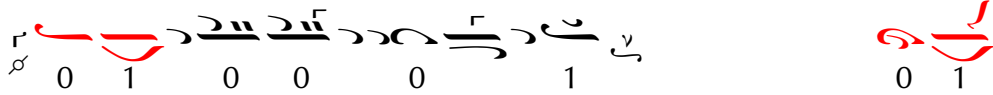
001010 

00100010 

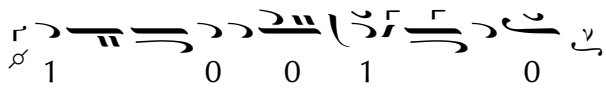
0100  (this formula is not followed by a cadence on Nee)

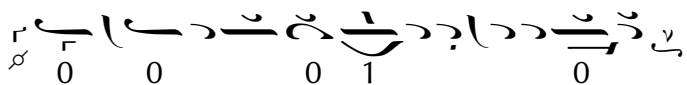
3) Cadences on Nee:

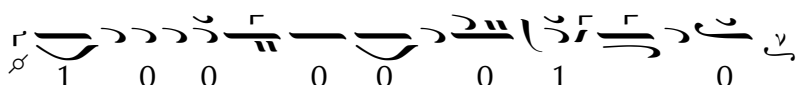
Accented on last syllable:

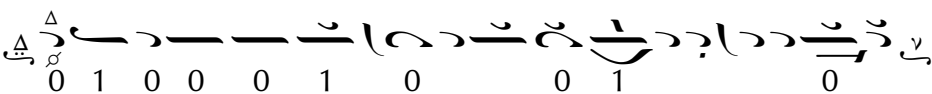
010001 

Accented on second to last syllable:

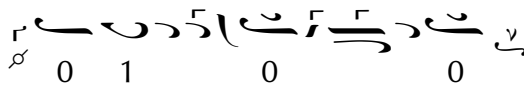
10010 


00010 

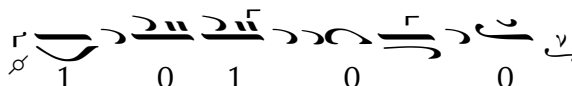
1000010 


0100010010 

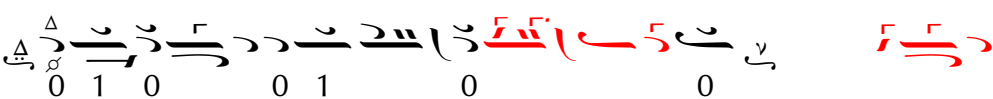
Accented on third to last syllable:

0100 

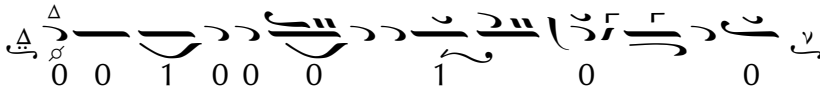
00100 

10100 

0100100 



Second Mode - Sticheraric

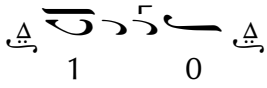
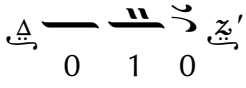


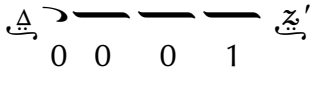


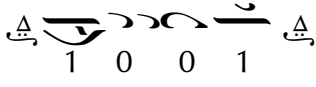
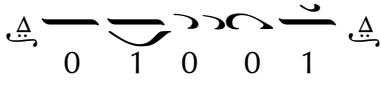
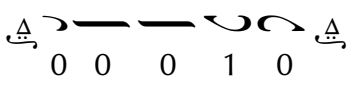
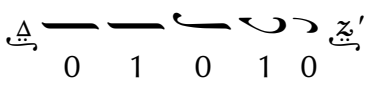
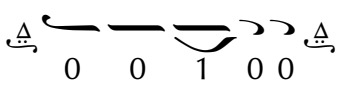

001000100 

010010100 

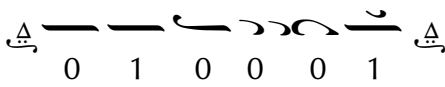
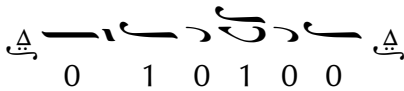
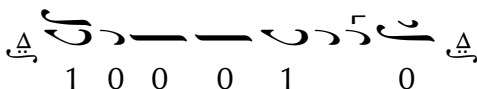
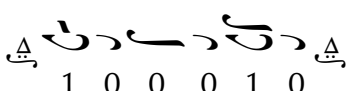
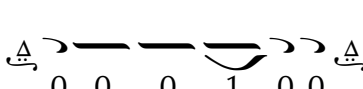
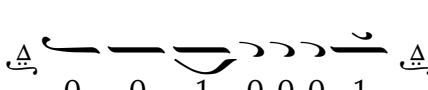
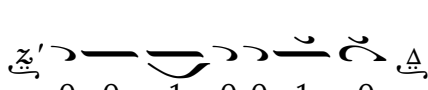

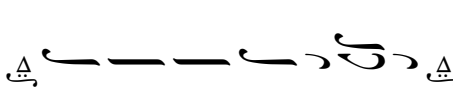
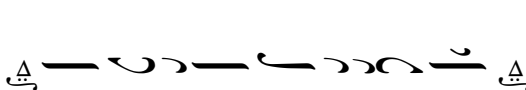
1000101000100 

G) Bridges

The following heirmological bridges represent only a fraction of the dozens of bridges permitted. These were selected simply as a reminder of some typical musical gestures of this mode.

10	
010	
100	
0100	
0001	
0101	
0100	
1001	
01001	
00010	
01010	
00100	
10100	

Second Mode - Sticheraric

010001	
010100	
100010	
	
000100	
0010001	
0010010	
0100010	
0010010	
01010001	

H) Formulae with Fthoras

100	
0010	
0100	
00010	
10001	
01010	
0X100	
10100	

Formulae with fthores ending on high Nee:

(to be followed by an ending on Di in next subsection)

10		010	
0X01			
10001			
10001			

Formulae with fthores Nee-Di:

(to be preceded by an ending on high Nee in previous subsection)

100010

0100010

(1)X01010



0100100

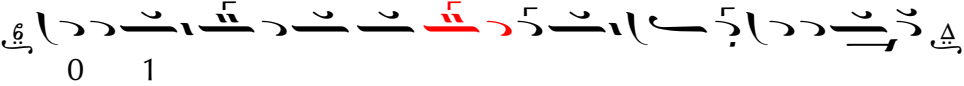

Second Mode - Sticheraric

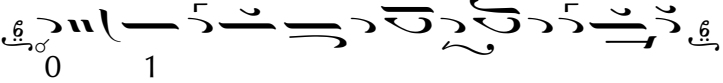
I) Old (slow) Sticheraric Formulae
(Syllables after a cross are repeated syllables)

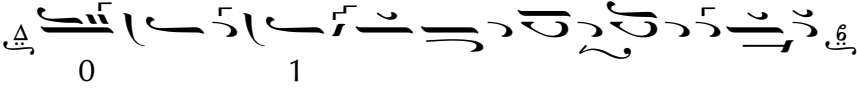
Accented on last syllable:

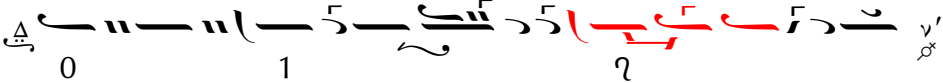
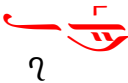
01  

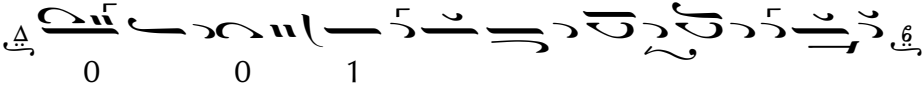
01  

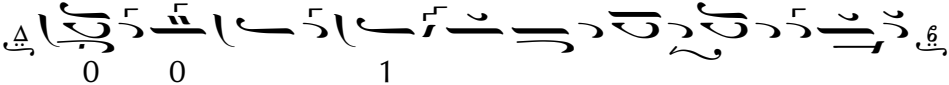
01  

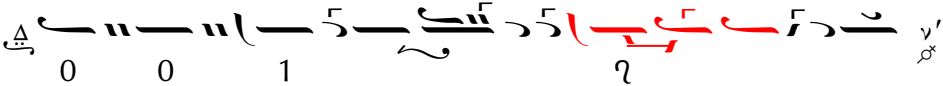
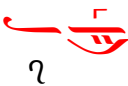
01 

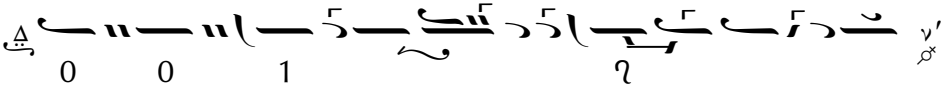
01 

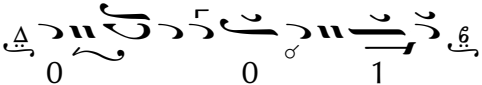
01  

001 

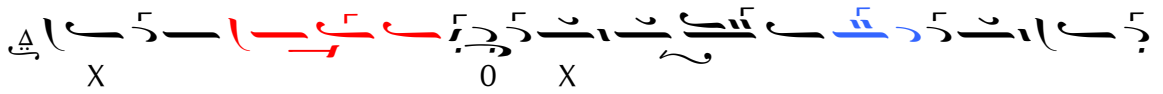
001 

001  

001 


001 

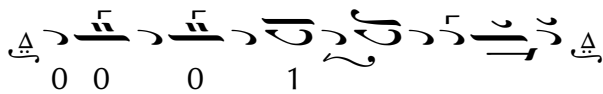
Second Mode - Sticheraric

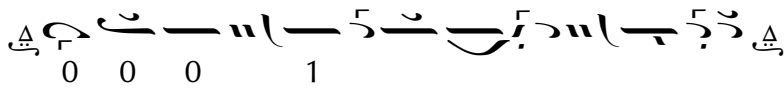
X0X Δ 

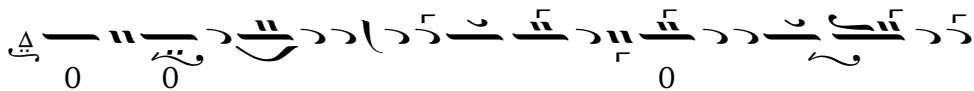


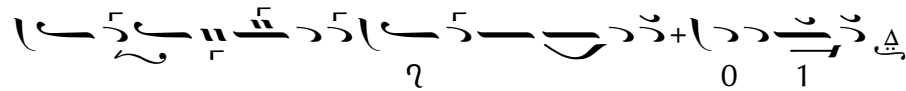
X00X Δ 

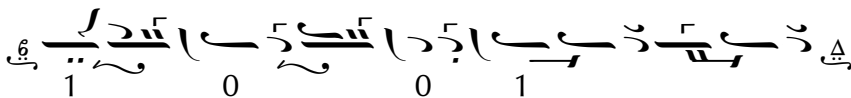


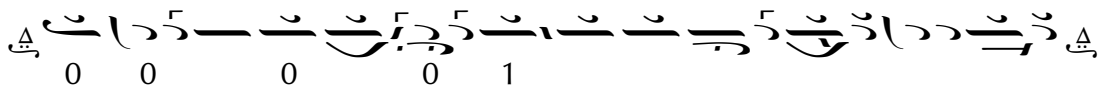
0001 Δ 

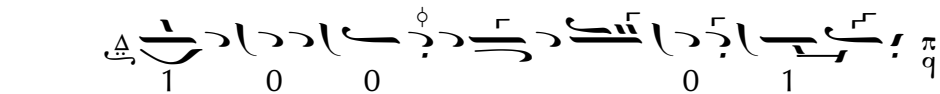
0001 Δ 

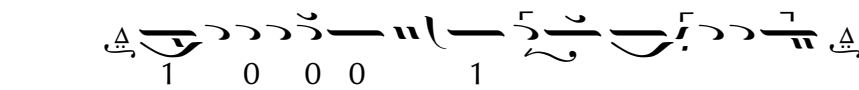
0001 Δ 



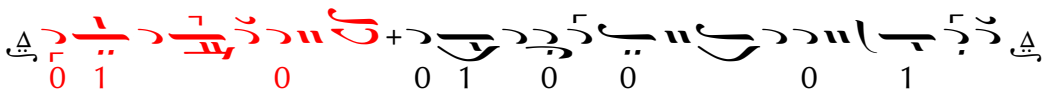
1001 Δ 

00001 Δ 

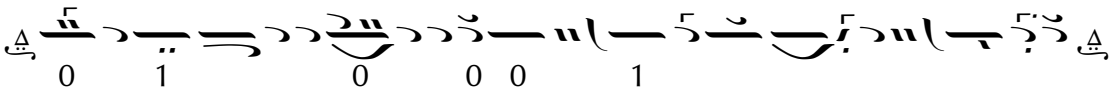
10001 Δ 

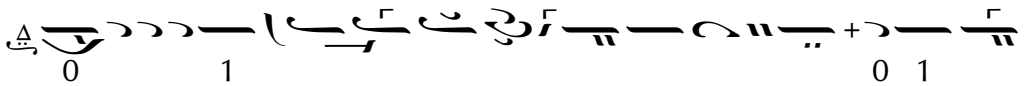
10001 Δ 

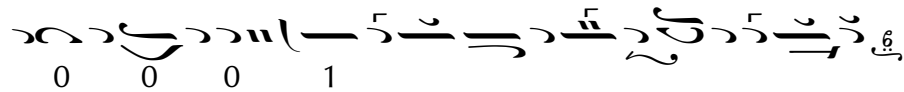
Second Mode - Sticheraric

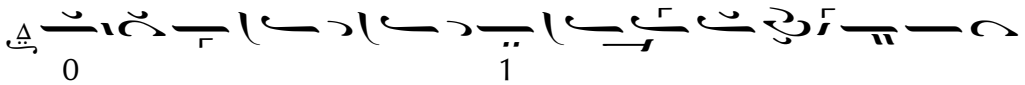
010001 

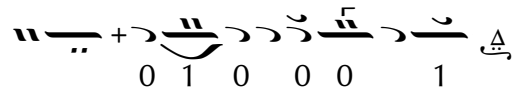


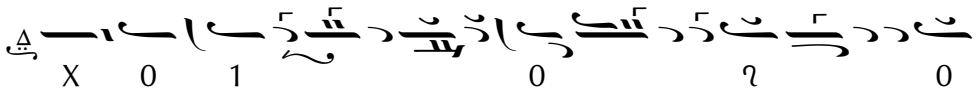
010001 

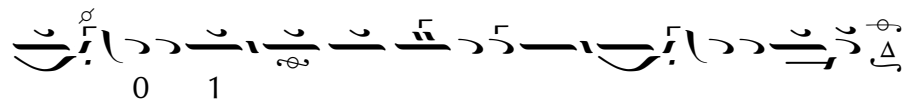
010001 




010001 



X010001 




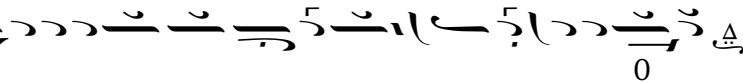
01010001 

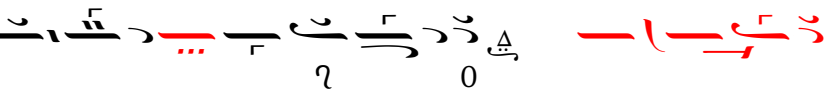


Second Mode - Sticheraric

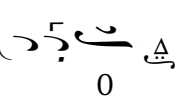
Accented on second to last syllable:

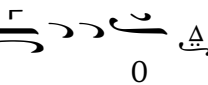
10 Δ 


10 Δ 

10 Δ 

10 Δ 

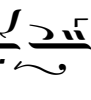
10 Δ 


10 Δ 

010 Δ 

010 Δ 

010 Δ

010 Δ 



Second Mode - Sticheraric

0010 Δ 0 2 0 1

Δ 0

0010 Δ 0 0 1 0

0010 Δ 0 0 1 0

X010 Δ X 2 0 1

2 0 2

X010 Δ X 2 0 1

2 0

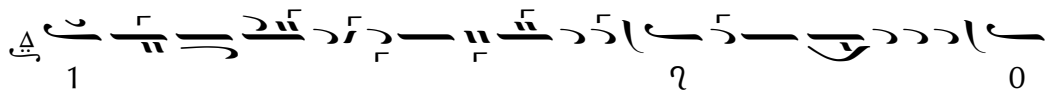
X0110 Δ X 2 0 1

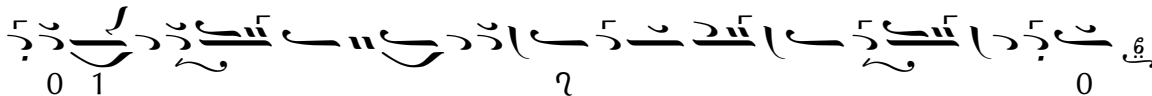
1 0


00010 Δ 0 0 0 1 2 0

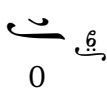
0X010 Δ 0 0 0 1 0

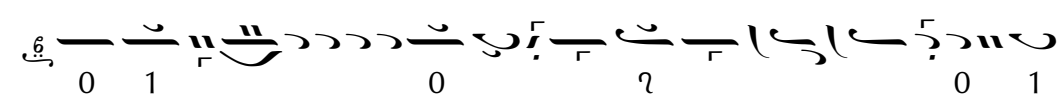
Second Mode - Sticheraric

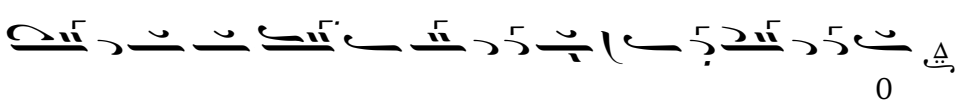
10010 

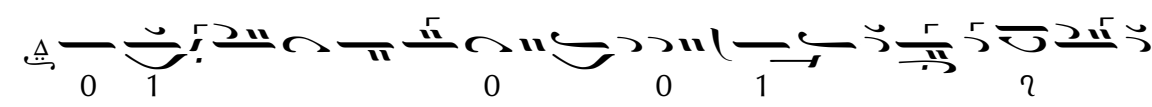


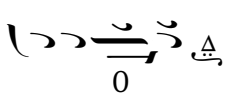
10010 



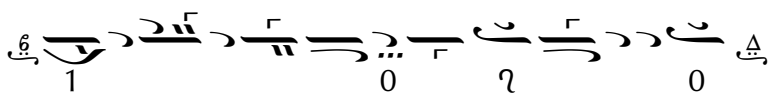
010010 

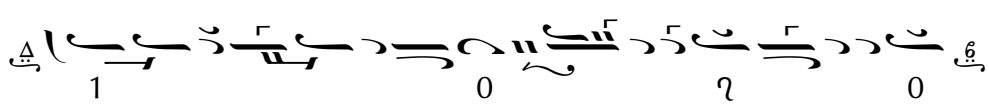


010010 



Accented on third to last syllable:

100 

100 

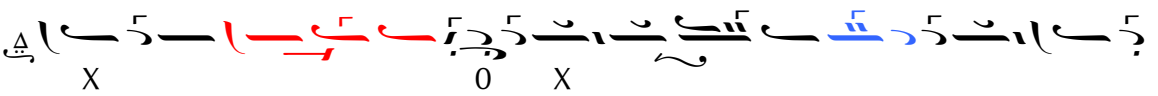
Second Mode - Sticheraric

100 

100 



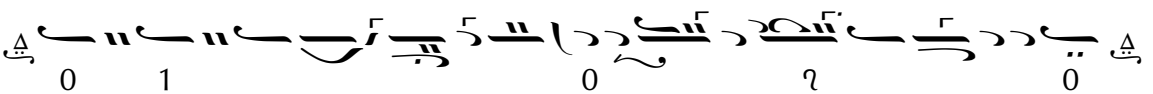

10X 

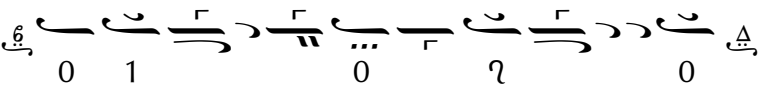
X0X 

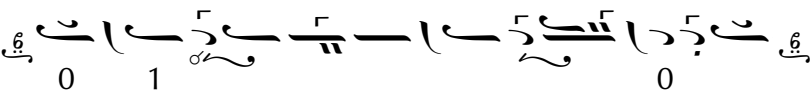


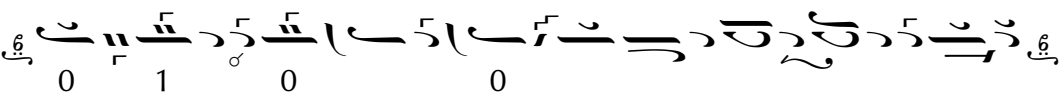

0100 




0100 

0100 

0100 

0100 

Second Mode - Sticheraric

$\overset{\Delta}{\text{1}}$

0101 $\overset{\Delta}{\text{0}}$ $\overset{\Delta}{\text{1}}$ $\overset{\Delta}{\text{0}}$ $\overset{\Delta}{\text{1}}$

$\mu\varepsilon$ $\chi\varepsilon$ 0

$\overset{\Delta}{\text{1}}$

00101 $\overset{\Delta}{\text{0}}$ $\overset{\Delta}{\text{0}}$ $\overset{\Delta}{\text{1}}$ $\overset{\Delta}{\text{0}}$ $\overset{\Delta}{\text{0}}$ $\overset{\Delta}{\text{1}}$ $\overset{\Delta}{\text{0}}$ $\overset{\Delta}{\text{1}}$

$\overset{\Delta}{\text{1}}$

00100 $\overset{\Delta}{\text{0}}$ $\overset{\Delta}{\text{0}}$ $\overset{\Delta}{\text{1}}$ $\overset{\Delta}{\text{0}}$ $\overset{\Delta}{\text{0}}$ $\overset{\Delta}{\text{1}}$

0 0

00100 $\overset{\Delta}{\text{0}}$ $\overset{\Delta}{\text{0}}$ $\overset{\Delta}{\text{1}}$ $\overset{\Delta}{\text{0}}$ $\overset{\Delta}{\text{0}}$ $\overset{\Delta}{\text{1}}$ $\overset{\Delta}{\text{0}}$

0 0

00100 $\overset{\Delta}{\text{0}}$ $\overset{\Delta}{\text{0}}$ $\overset{\Delta}{\text{1}}$ $\overset{\Delta}{\text{0}}$ $\overset{\Delta}{\text{0}}$ $\overset{\Delta}{\text{1}}$

00100 $\overset{\Delta}{\text{0}}$ $\overset{\Delta}{\text{0}}$ $\overset{\Delta}{\text{1}}$ $\overset{\Delta}{\text{0}}$ $\overset{\Delta}{\text{0}}$ $\overset{\Delta}{\text{1}}$ $\overset{\Delta}{\text{0}}$ $\overset{\Delta}{\text{0}}$

Second Mode - Sticheraric

00100 Δ $\frac{0}{0}$ $\frac{0}{0}$ $\frac{1}{1}$ $\frac{0}{0}$ $\frac{0}{0}$ $\frac{1}{1}$

$\frac{0}{0}$ $\frac{0}{0}$ $\frac{1}{1}$ $\frac{0}{0}$ $\frac{0}{0}$

$\frac{0}{0}$ Δ

X0100 Δ $\frac{X}{0}$ $\frac{0}{0}$ $\frac{1}{1}$ $\frac{0}{0}$ $\frac{0}{0}$ $\frac{0}{0}$ $\frac{0}{0}$

01100 Δ $\frac{0}{0}$ $\frac{1}{1}$ $\frac{1}{1}$ $\frac{0}{0}$ $\frac{0}{0}$ $\frac{1}{1}$ $\frac{0}{0}$ $\frac{0}{0}$ Δ

X0110 Δ $\frac{X}{0}$ $\frac{0}{0}$ $\frac{0}{0}$ $\frac{0}{0}$ $\frac{0}{0}$ $\frac{1}{1}$ $\frac{0}{0}$ $\frac{1}{1}$

$\frac{0}{0}$ $\frac{1}{1}$ $\frac{0}{0}$

010100 Δ $\frac{0}{0}$ $\frac{0}{0}$ $\frac{0}{0}$ $\frac{0}{0}$ $\frac{1}{1}$ $\frac{0}{0}$ $\frac{1}{1}$ $\frac{0}{0}$ $\frac{1}{1}$

$\frac{0}{0}$ Δ

100100 Δ $\frac{1}{1}$ $\frac{0}{0}$ $\frac{0}{0}$ $\frac{1}{1}$ $\frac{0}{0}$

$\frac{0}{0}$

100100 Δ $\frac{1}{1}$ $\frac{0}{0}$ $\frac{0}{0}$ $\frac{1}{1}$ $\frac{0}{0}$ $\frac{0}{0}$

Second Mode - Sticheraric

Accented on fourth to last syllable:

X00X

1001

1010

1010

X010

J) Ending Formulae

1) Formulae found only near the end:

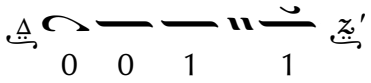
100	
00100	
10100	
0100100	

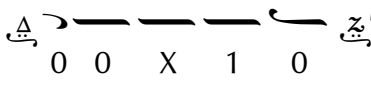
2) Semi-final Cadences


(to be followed by formulae in next section):

01	
001	
010	
0001	
1001	

Second Mode - Sticheraric

0011 

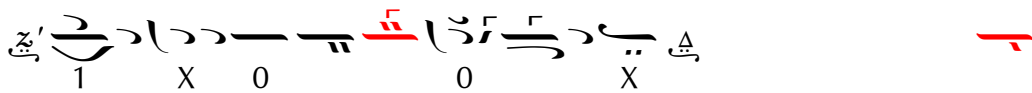
00X10 

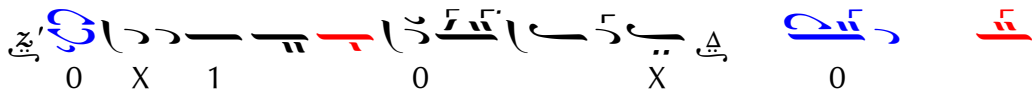
001001 

3) Final Cadences

(usually preceded by previous "semi-final" cadences):

Accented on last syllable:

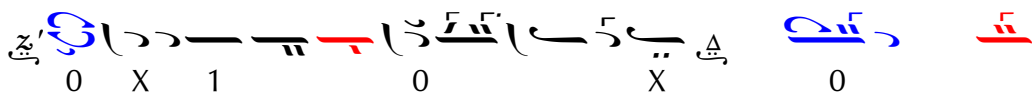
1X00X 

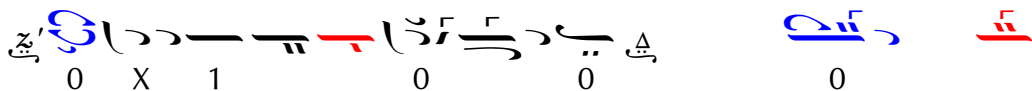
0X10X 

Accented on second to last syllable:

0XX10 

Accented on third to last syllable:

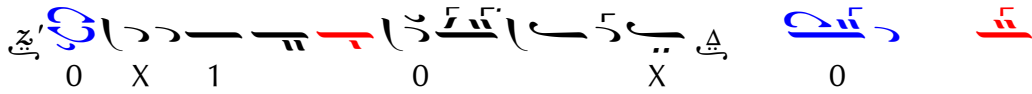
0X10X 

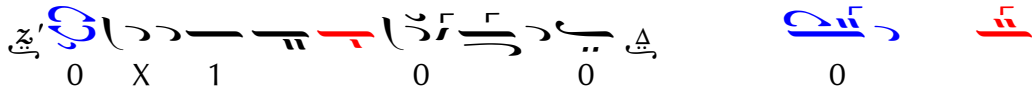
0X100 

Second Mode - Sticheraric

0XX10 

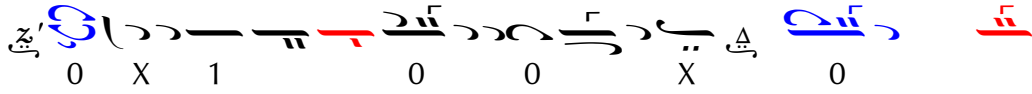
Accented on fourth to last syllable:

0X10X 

0X100 

0XX10 

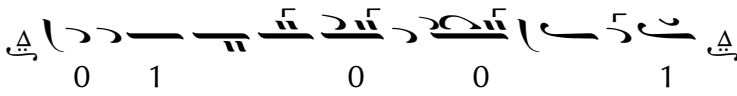
1X00X 

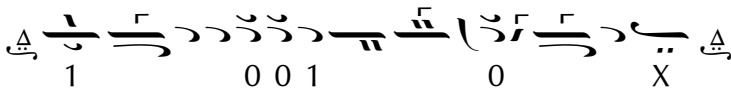
0X100X 


4) Other Final Cadences:

(not preceded by a High Zo "semi-final" cadence):

Accented on last syllable:



01001 

10010X 

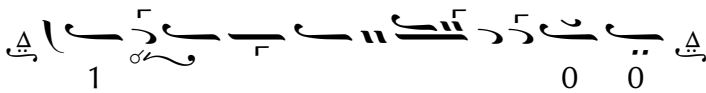
1000101 

Second Mode - Sticheraric

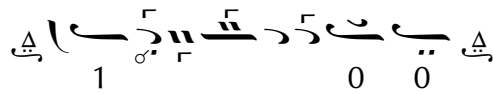
Accented on second to last syllable:


1010  

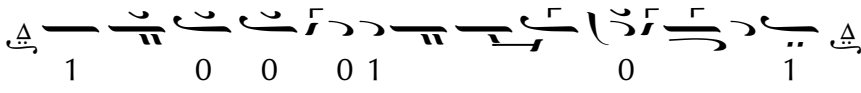
Accented on third to last syllable:

100 





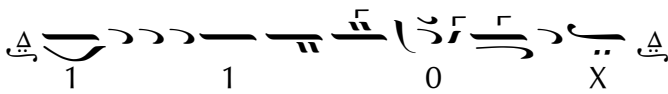


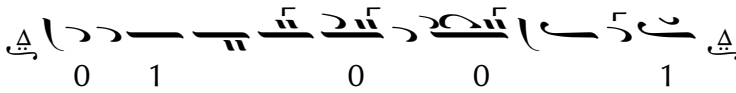
10010X 

1000101 

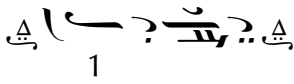
Accented on fourth to last syllable:

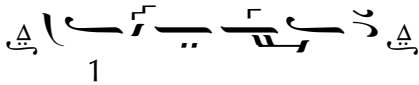
1010  

1100 

01001 

K) Final Cadences for Theotokia

1 

1 

BYZANTINE MUSIC FORMULÆ

Second Mode - Heirmologic (Hard Chromatic)

Contents*

A) Cadences on Pa.....	146
B) Cadences on Di.....	156
C) Formulae with Fthores.....	164
D) Endings for Theotokia	165

Key:

1 = accented syllable
0 = unaccented syllable
X = syllable that may be either
accented or unaccented

Variations of the same formula
are indicated in color

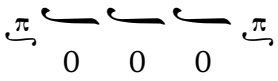
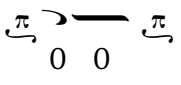
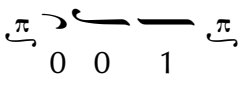
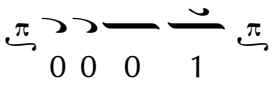
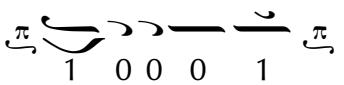
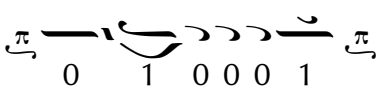
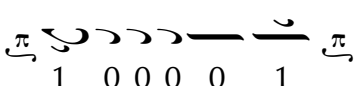
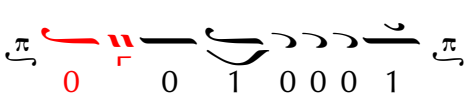

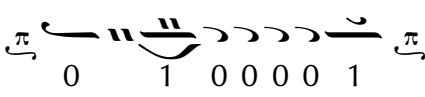
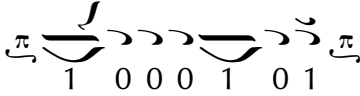
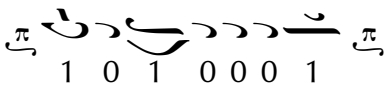
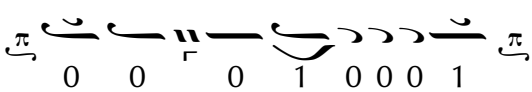
* The Byzantine music formulae herein were extracted from all the heirmologic melodies found in the Zoe *Anastasimatarion* (14th edition, 2002). Note that in the hard chromatic second mode, the troparia of the Stichera, Aposticha, Anabathmoi, Praises, and the Katanyktika troparia never have medial cadences on Ga. However, the melodies for the canons and the doxology have frequent medial cadences on Ga. Those formulae with cadences on Ga have been omitted from this collection.

Second Mode - Heirmologic (Hard Chromatic)

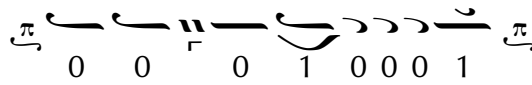
A) Cadences on Pa

Accented on last syllable:

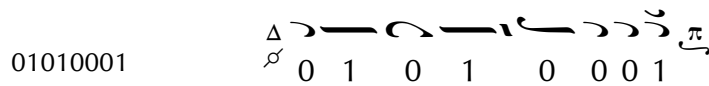
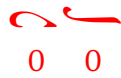
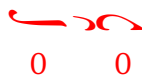
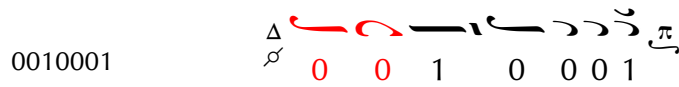
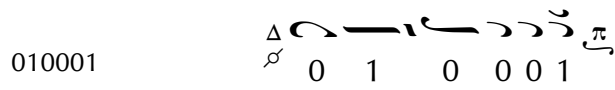
From Pa

0		
00		
001		
0001		
10001		
010001		
100001		
0010001		
0100001		
1000101		
1010001		
00010001		

Second Mode - Heirmologic (Hard Chromatic)

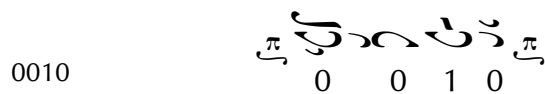
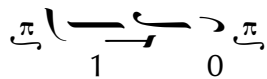


From Di

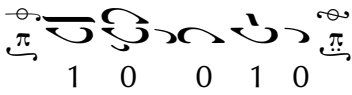


Accented on second to last syllable:

From Pa

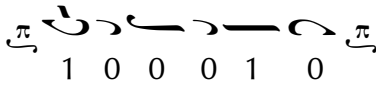


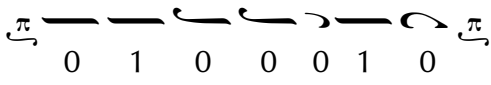
Second Mode - Heirmologic (Hard Chromatic)

10010  Musical notation for the binary sequence 10010, consisting of five notes with stems pointing up and down.

10010  Musical notation for 10010 with the first and second notes highlighted in red.

 Red musical notation for the binary sequence 10, consisting of two notes.

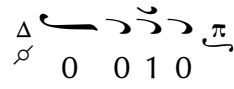
100010  Musical notation for the binary sequence 100010, consisting of six notes.

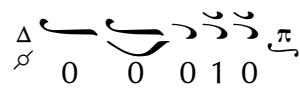
0100010  Musical notation for the binary sequence 0100010, consisting of seven notes.


10100010  Musical notation for the binary sequence 10100010, consisting of eight notes.

From Di

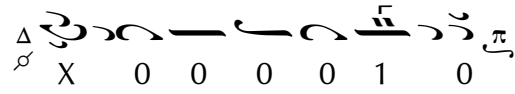
010  Musical notation for the binary sequence 010, consisting of three notes.

0010  Musical notation for the binary sequence 0010, consisting of four notes.

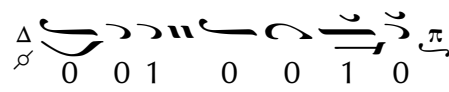
00010  Musical notation for the binary sequence 00010, consisting of five notes.

010010  Musical notation for 010010 with the fourth and fifth notes highlighted in red.

 Red musical notation for the binary sequence 1, consisting of one note.

X000010  Musical notation for the binary sequence X000010, consisting of eight notes, with the first note marked with an 'X'.

0010010  Musical notation for the binary sequence 0010010, consisting of seven notes.

 Musical notation for the binary sequence 0010010, consisting of seven notes.

Second Mode - Heirmologic (Hard Chromatic)

1000010

1 0 0 0 0 1 0

1 0 0 0

0 0

100X010

1 0 0 X 0 1 0

1010010

1 0 1 0 0 1 0

1 0 1 0 0 1 0

X010010

X 0 1 0 0 1 0

1

00100010

0 0 1 0 0 0 1 0

0 0

1000X010

1 0 0 0 X 0 1 0

10010010

1 0 0 1 0 0 1 0

1 0 0

1 0 0 1 0 0 1 0

1000X010

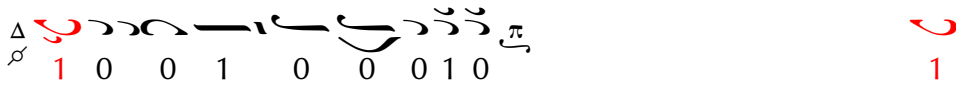
1 0 0 0 X 0 1 0

1 0 0 0 X 0 1 0

1100X010

1 1 0 X 0 1 0


Second Mode - Heirmologic (Hard Chromatic)

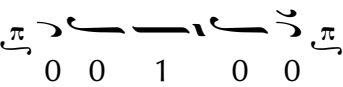
100100010 

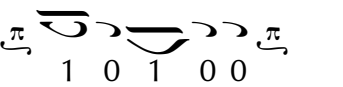
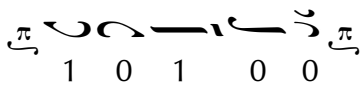
Accented on third to last syllable:

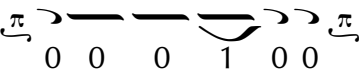
From Pa


100 

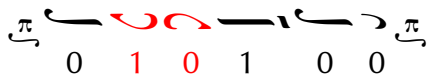

0100 

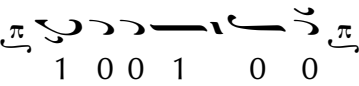
00100 


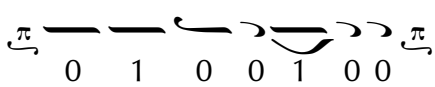
10100  

000100 

010100 

100100 

0100100  

1000100 

Second Mode - Heirmologic (Hard Chromatic)

1000101

1000101

01000100

1 0

10010100

From Di

100

00100

000100

010100

100100

1 0 0 1 0 0

1 0 0 1 0 0

0

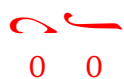
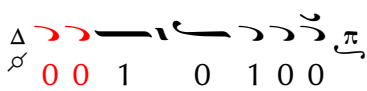
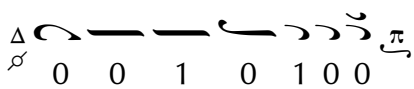
1 0 0 1 0 0

0 1

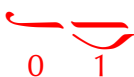
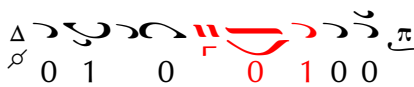
Second Mode - Heirmologic (Hard Chromatic)



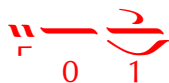
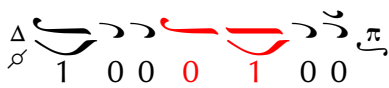
0010100



0100100



1000100

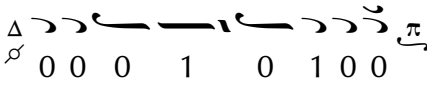


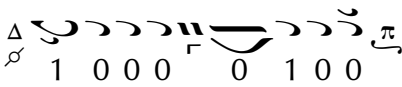
Second Mode - Heirmologic (Hard Chromatic)

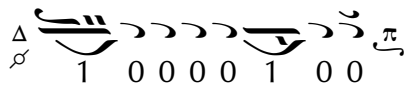
1010100  Δ
 ρ 1 0 1 0 1 0 0 π

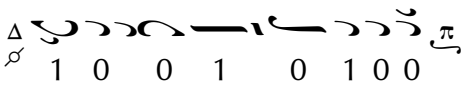
10X0100  Δ
 ρ 1 0 X 0 1 0 0 π

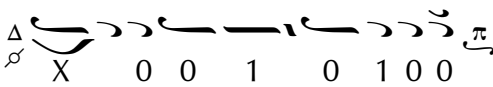
 ρ 0 1 π

00010100  Δ
 ρ 0 0 0 1 0 1 0 0 π

10000100  Δ
 ρ 1 0 0 0 0 1 0 0 π

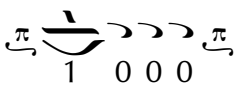
 Δ
 ρ 1 0 0 0 0 1 0 0 π

10010100  Δ
 ρ 1 0 0 1 0 1 0 0 π

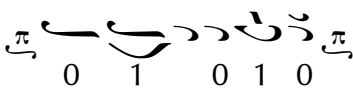
X0010100  Δ
 ρ X 0 0 1 0 1 0 0 π

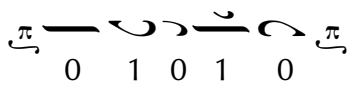
Accented on fourth to last syllable:

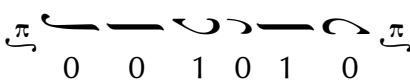
From Pa

1000  π
 ρ 1 0 0 0 π

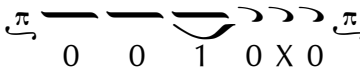
1010  π
 ρ 1 0 1 0 π

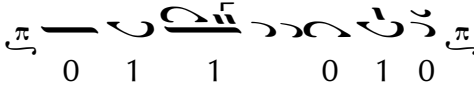
01010  π
 ρ 0 1 0 1 0 π

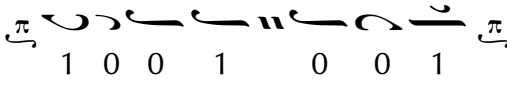
 π
 ρ 0 1 0 1 0 π

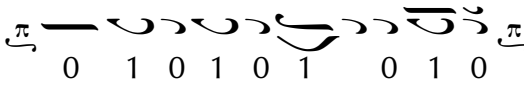
001010  π
 ρ 0 0 1 0 1 0 π

Second Mode - Heirmologic (Hard Chromatic)


0010X0 


011010 

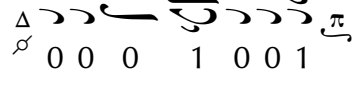
1001001 

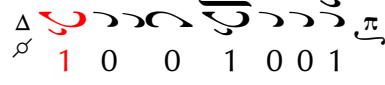
010101010 

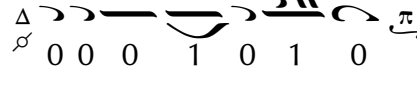
From Di

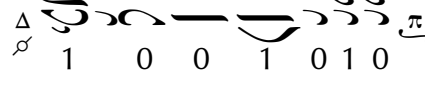
001001 

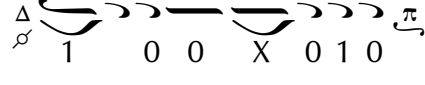
001010 

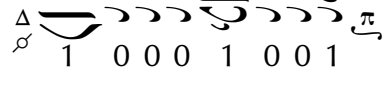
0001001 

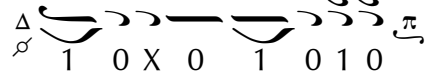
1001001 

0001010 

1001010 

100X010 

10001001 

10X01010 



Second Mode - Heirmologic (Hard Chromatic)

1000X010

Δ
 ρ π
 1 0 0 0 X 0 1 0

Δ
 ρ π
 1 0 0 0 X 0 1 0

Δ
 ρ π
 1 0 0 0 X 0 1 0

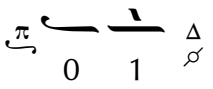
1100X010

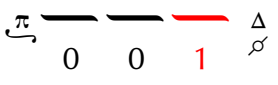

Δ
 ρ π
 1 1 0 X 0 1 0

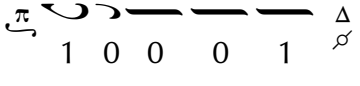
B) Cadences on Di

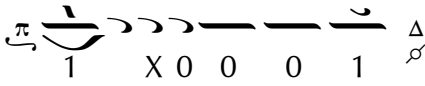
Accented on last syllable:

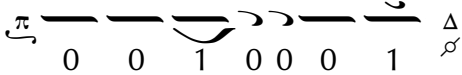
From Pa

01 

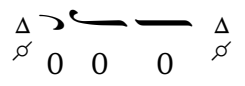
001  

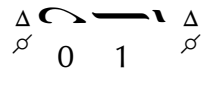
10001 

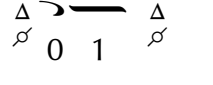
1X0001 


0010001 

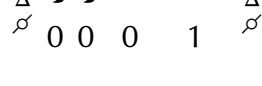
From Di

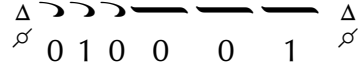
000 

01 

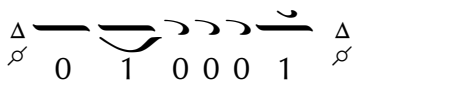


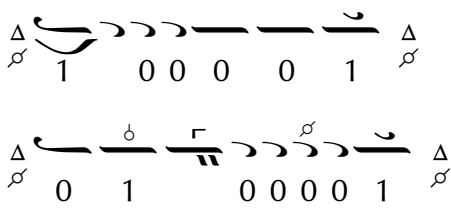
001 

0001 

010001 

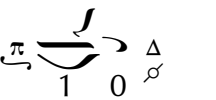
Second Mode - Heirmologic (Hard Chromatic)

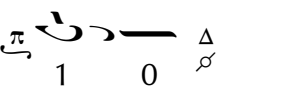

100001 

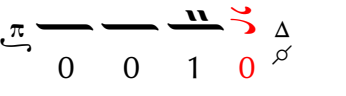
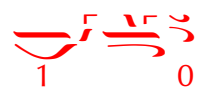
0100001 

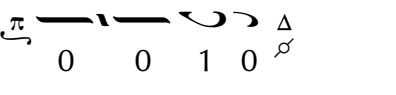
Accented on second to last syllable:

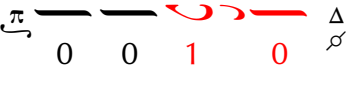

From Pa

10 

0010  

X010  

10010 

Second Mode - Heirmologic (Hard Chromatic)

	π		Δ	
		1 0 0 1 0	ρ	
10X010	π		Δ	
		1 0 X 0 1 0	ρ	
	π		Δ	
		1 0 X 0 1 0	ρ	
		1 0		
		1 0		
0010010	π		Δ	
		0 0 1 0 0 1 0	ρ	1 0
X010010	π		Δ	
		X 0 1 0 0 1 0	ρ	
1000010	π		Δ	
		1 0 0 0 0 1 0	ρ	1 0
	π		Δ	
		1 0 0 0 1 0	ρ	
	π		Δ	
		1 0 0 0 0 1 0	ρ	1 0

From Di

10	Δ		Δ	
	ρ	1 0	ρ	
	Δ		Δ	
	ρ	1 0	ρ	
	Δ		Δ	
	ρ	1 0	ρ	

Second Mode - Heirmologic (Hard Chromatic)

010		
0010		
00010		
10010		
000010		
010010		
0100010		
01000010		

Accented on third to last syllable:

From Pa

100	

Second Mode - Heirmologic (Hard Chromatic)

\int_{π} Δ
1 0 0 ρ

\int_{π} Δ
1 0 0 ρ

0

\int_{π} Δ
1 0 0 ρ

\int_{π} Δ
1 0 0 ρ

00100

\int_{π} Δ
0 0 1 0 0 ρ

\int_{π} Δ
0 0 1 0 0 ρ

\int_{π} Δ
0 0 1 0 0 ρ

\int_{π} Δ
0 0 1 0 0 ρ

\int_{π} Δ
0 0 1 0 0 ρ

10100

\int_{π} Δ
1 0 1 0 0 ρ

100100

\int_{π} Δ
1 0 0 1 0 0 ρ

\int_{π} Δ
1 0 0 1 0 0 ρ

\int_{π} Δ
1 0 0 1 0 0 ρ

00X0100

\int_{π} Δ
0 0 X 0 1 0 0 ρ

Second Mode - Heirmologic (Hard Chromatic)

1000100

From Di

100

0100

0101

00100

10100

2
1

Second Mode - Heirmologic (Hard Chromatic)

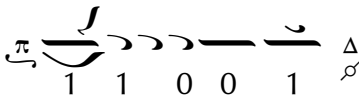
000100		
0X0100		
100100		
0100100		
100X0100		



Accented on fourth to last syllable:

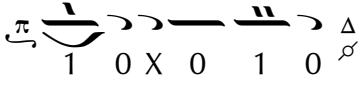
From Pa


1001	
X010	


Second Mode - Heirmologic (Hard Chromatic)

11001 

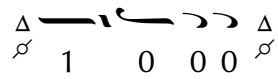
001001  

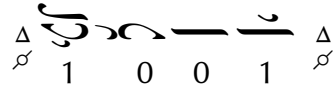
10X010 

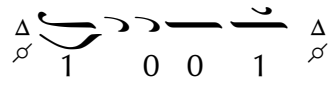


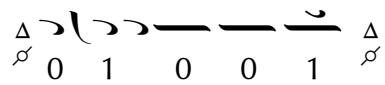




From Di

1000 

1001 



01001 

01010  

Second Mode - Heirmologic (Hard Chromatic)

C) Formulae with Fthores

01001 $\begin{array}{cccccc} \pi & \overset{\varphi}{\curvearrowright} & \curvearrowright & \Gamma & \text{---} & \text{---} & \overset{\varphi}{\curvearrowleft} & \pi \\ & 0 & 1 & 0 & 0 & & 1 & \end{array}$

010001 $\begin{array}{cccccc} \pi & \overset{\varphi}{\curvearrowright} & \overset{\varphi}{\curvearrowright} & \text{---} & \text{---} & \overset{\varphi}{\curvearrowleft} & \pi \\ & 1 & 0 & 0 & 0 & 1 & \end{array}$

D) Endings for Theotokia*

Accented on last syllable:

(Use a formula ending in 100)

Accented on second to last syllable:

100010  Δ
1 0 0 0 0 1 0

1X0010  Δ
1 X 0 0 0 1 0

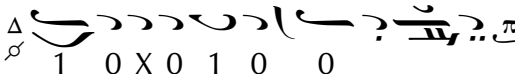
Accented on third to last syllable:

0X0100  Δ
0 X 0 1 0 0

100100  Δ
1 0 0 1 0 0

 Δ
1 0 0 1 0 0

10X0100  Δ
1 0 X 0 1 0 0

 Δ
1 0 X 0 1 0 0

* The formulae in blue in this section are from the Athonite oral tradition, as represented in the book *Παρακλητικῆς, Μουσικὸν Ἐγκόλπιον, Πλάγιοι Ἦχοι*, Ἱεροθέου Ἱερομονάχου, ἐκδόσεις Ἱ.Μ. Φιλοθέου, Ἄγιον Ὄρος, 2004.

BYZANTINE MUSIC FORMULÆ

Second Mode - Heirmologic (Soft Chromatic)

Contents*

A) Initial Formulæ.....	168
B) Cadences on Vou.....	170
C) Cadences on Di.....	171
D) Cadences on Zo.....	180
E) Formulæ with Fthoras.....	181
F) Final Cadences.....	182
G) Endings for Theotokia.....	183

Key:

1 = accented syllable

0 = unaccented syllable

X = syllable that may be either
accented or unaccented

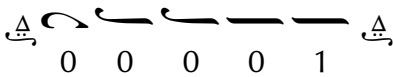
Variations of the same formula
are indicated in color



* The Byzantine music formulæ herein were extracted from all the heirmologic melodies found in the *Zoe Anastasimatarion* (14th edition, 2002), all the heirmologic melodies in the *Neon Anastasimatarion* by Petros Ephesios, some melodies of Vol. I of the *Doxastarion* by Petros Peloponnesios (and Keltzanides), and all the heirmologic melodies in Vol. I of *Mousike Kypsele*. These formulæ are applicable to Apolytikia, Kontakia, and Kathismata in (soft chromatic) second mode. Bear in mind that all Apolytikia and Kontakia in plagal second mode (except for the Apolytikion of the Resurrection) do not use formulæ of plagal second mode but these formulæ in second mode. The formulæ applicable to the verses of Psalms 140, 141, and 129 chanted in the beginning of Vespers are at: <http://www.stanthonysmonastery.org/music/Formula2v.pdf>

Second Mode - Heirmologic (Soft Chromatic)

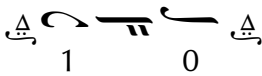
A) Initial Formulae

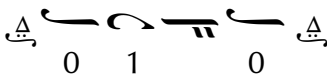
Accented on last syllable:

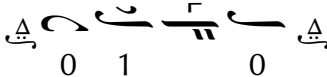
00001 

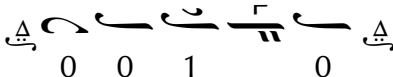
00010001  

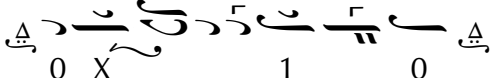
Accented on second to last syllable:

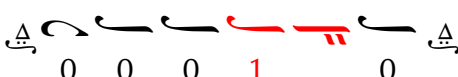
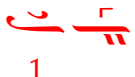
10 

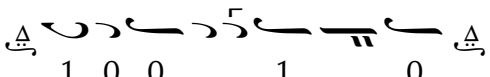
010 

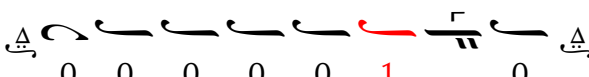

0010 

0010 

0X10 

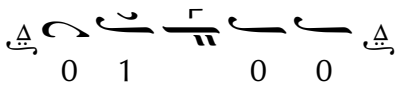
00010  

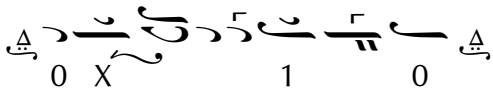
10010 

0000010  

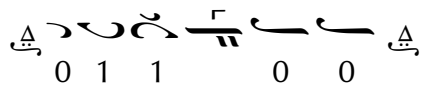
Accented on third to last syllable:

Second Mode - Heirmologic (Soft Chromatic)

0100 

0X10 

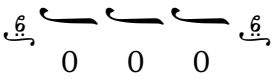
01100 



B) Cadences on Vou

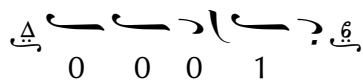
Accented on last syllable:

From Vou

000 


From Di

0001 



Accented on second to last syllable:

From Di

10 




Accented on third to last syllable:

From Di

0100 




000100100 



Accented on fourth to last syllable:

From Di

01001 



C) Cadences on Di

Accented on last syllable:

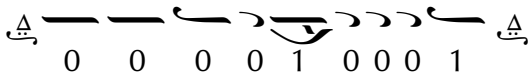
From Vou

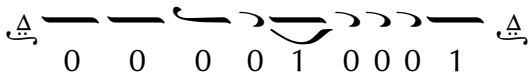
0		
0001		
010001		
00100001		

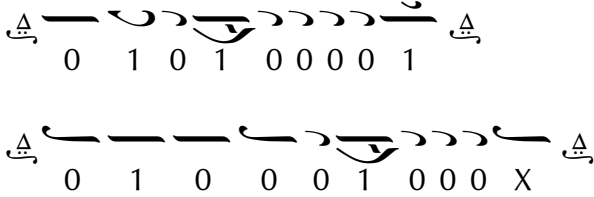
From Di

00	
10001	
010001	
00010001	
10010001	

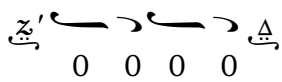
Second Mode - Heirmologic (Soft Chromatic)

000010001 

010100001 


010001000X 

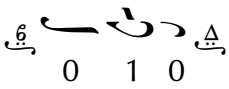
From Zo

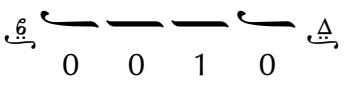
0000 

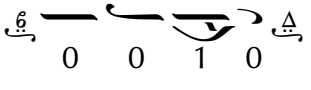
Accented on second to last syllable:

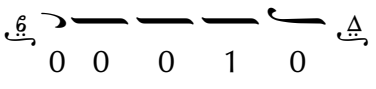
From Vou

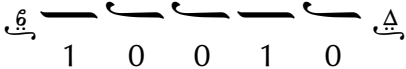
10 

010 

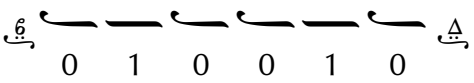
0010 

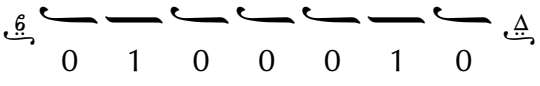
0010 

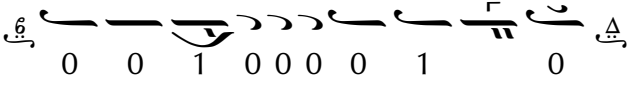
00010 

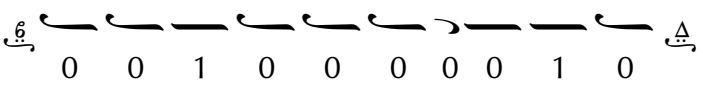
10010 

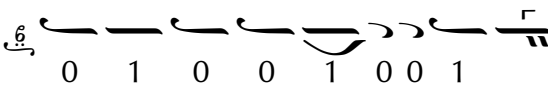
Second Mode - Heirmologic (Soft Chromatic)

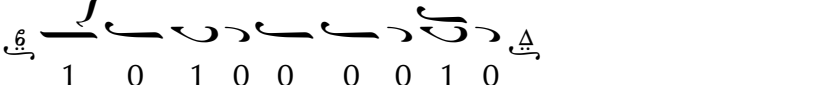
010010 

0100010 

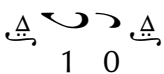
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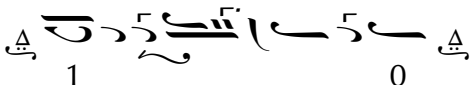
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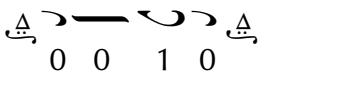
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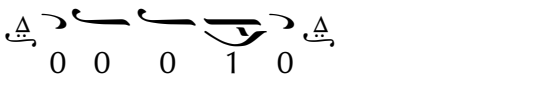
010001000010 

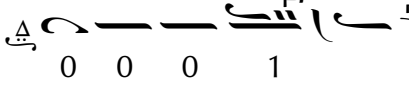
From Di

10 

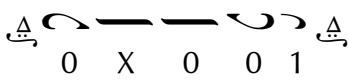
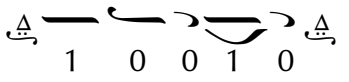
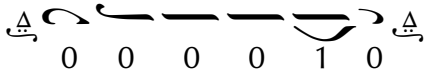
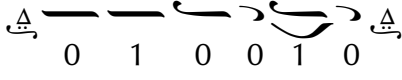
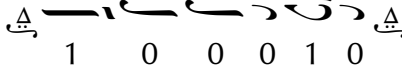
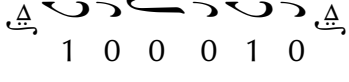
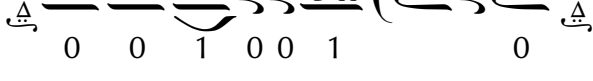
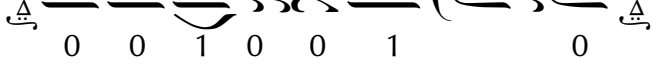
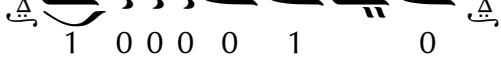
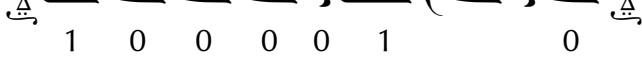
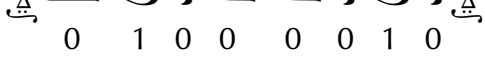
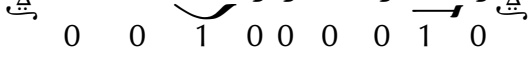
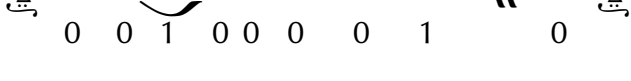
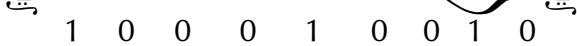
0010 

00010 

000010 


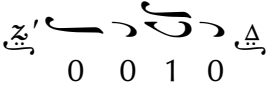
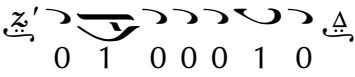
0000010 

Second Mode - Heirmologic (Soft Chromatic)

0X010	
10010	
000010	
010010	
100010	
	
0010010	
	
1000010	
	
01000010	
001000010	
	
100010010	

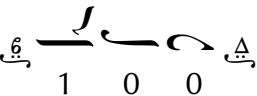
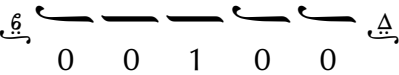

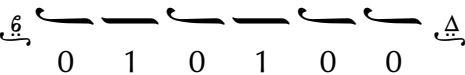
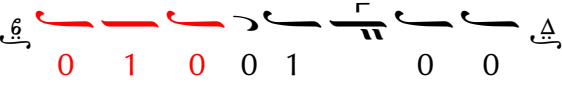

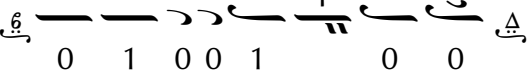
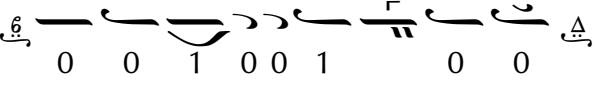
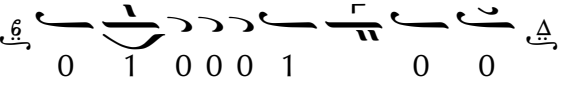
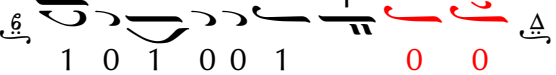

Second Mode - Heirmologic (Soft Chromatic)

From Zo

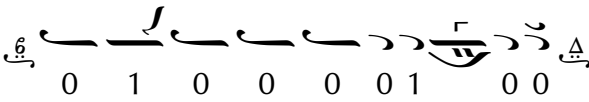
10	
0010	
0100010	

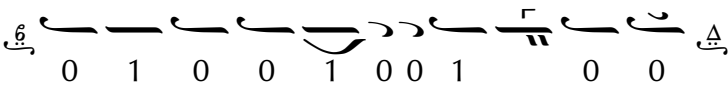
Accented on third to last syllable:


From Vou


100		
00100		
010100		
		
0100100		
		
00100100		
01000100		
10100100		

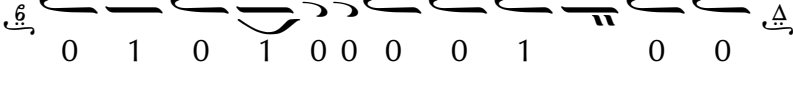
Second Mode - Heirmologic (Soft Chromatic)

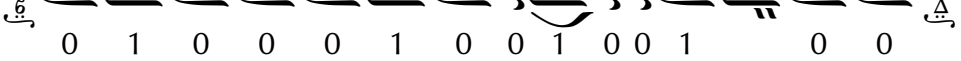
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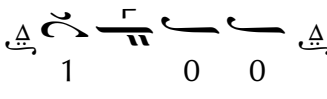
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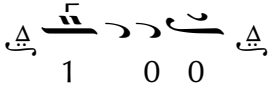
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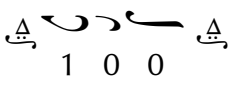
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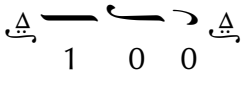
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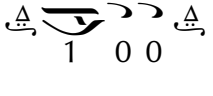
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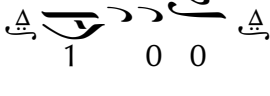
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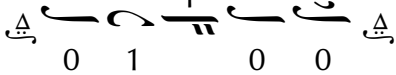






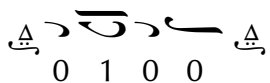




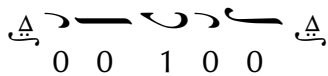
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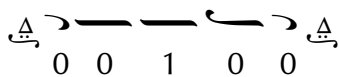
Second Mode - Heirmologic (Soft Chromatic)


 0 1 0 0


 0 1 0 0

00100

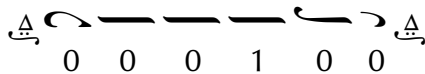

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 0 0 1 0 0

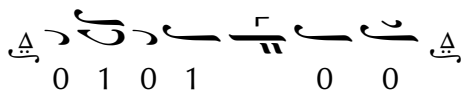
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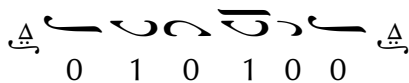

 1 0 1 0 0

000100

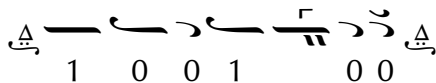

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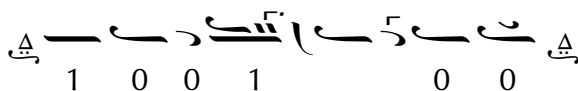
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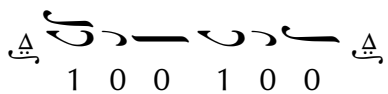

 0 1 0 1 0 0

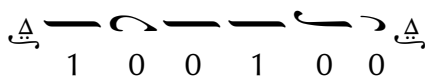

 0 1 0 1 0 0

100100

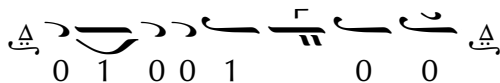

 1 0 0 1 0 0

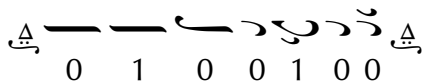

 1 0 0 1 0 0


 1 0 0 1 0 0

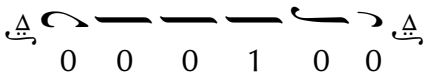
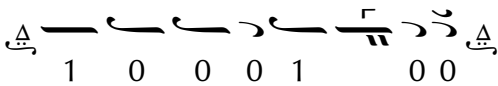
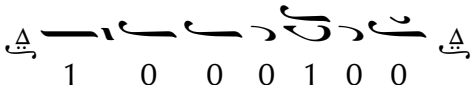
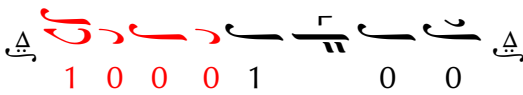

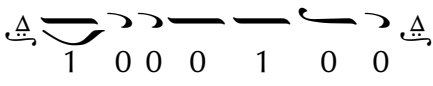
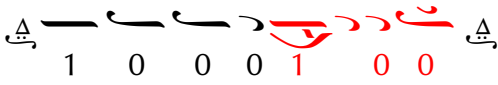

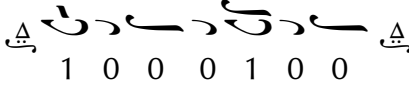
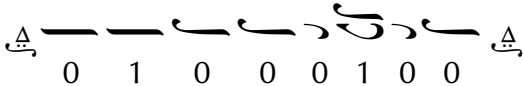
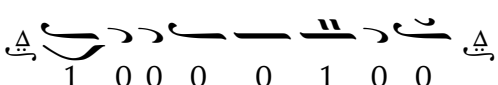
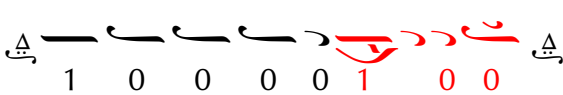




 1 0 0 1 0 0

0100100


 0 1 0 0 1 0 0

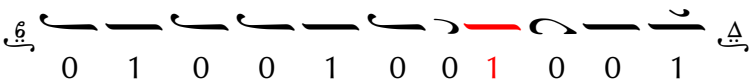


 0 1 0 0 1 0 0

Second Mode - Heirmologic (Soft Chromatic)

0000100		
1000100		
		
		
		
		
		
01000100		
10000100		
		
01010010X		

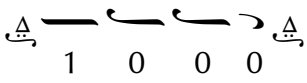
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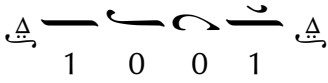
From Vou

01001001001		
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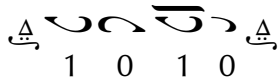
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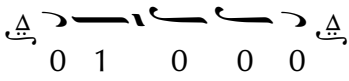
From Di

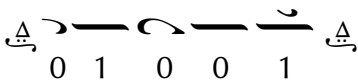
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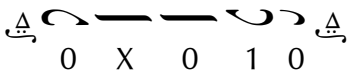
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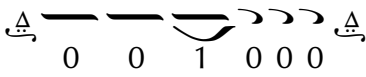
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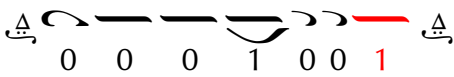


01000 


01001 

0X010 

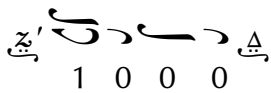
001000 

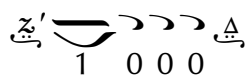
0001001 



10001001 

From Zo

1000 



Second Mode - Heirmologic (Soft Chromatic)

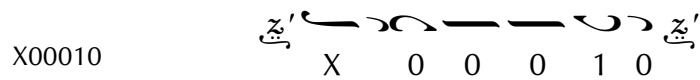
D) Cadences on Zo

Accented on second to last syllable:

From Di

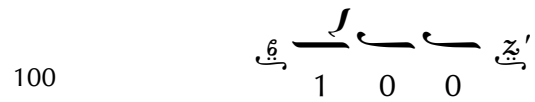


From Zo

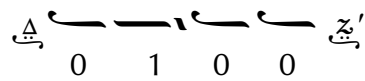
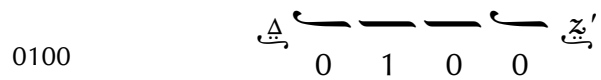


Accented on third to last syllable:

From Vou



From Di



E) Formulae with Fthoras

00100

F) Final Cadences

Accented on last syllable:

A 100 formula may be used here

Accented on second to last syllable:

10010

100010

Accented on third to last syllable:

00100

10100

010100

101100

0100100

1000100

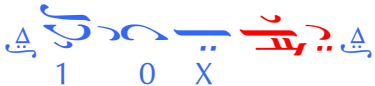

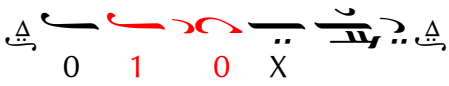
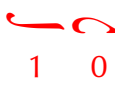
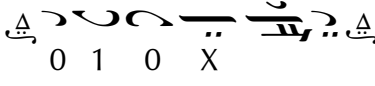

01000100

Accented on fourth to last syllable:

01001

Second Mode - Heirmologic (Soft Chromatic)

G) Endings for Theotokia*

10X		
010X		
		
0010X		

* The two formulae in blue in this section are from the Athonite oral tradition, as represented in the book *Παρακλητικῆς, Μουσικὸν Ἐγκόλπιον, Πλάγιοι Ἦχοι*, Ἱεροθέου Ἱερομονάχου, ἐκδόσεις Ἱ.Μ. Φιλοθέου, Ἄγιον Ὄρος, 2004.

BYZANTINE MUSIC FORMULÆ

Second Mode - Verses (Soft Chromatic)

Contents*

A) Cadences on Zo	184
B) Cadences on Di.....	188
C) Formulae with Fthoras.....	194
D) Final Cadences	195

Key:

1 = accented syllable

0 = unaccented syllable

X = syllable that may be either
accented or unaccented

Variations of the same formula
are indicated in color

* The Byzantine music formulae herein were extracted from all the heirmologic verses found in the Zoe *Anastasimatarion* (14th edition, 2002), the *Anastasimatarion* of Petros Peloponnesios (Mousike Bibliotheke), the *Neon Anastasimatarion* by Petros Ephesios, and the doxology by Ioannis Kavvadas (as found in Vol. II of *Mousikos Pandektes*). These formulae are applicable only to the brief verses (that are not immediately followed by troparia) of Psalms 140, 141, and 129 chanted in the beginning of Vespers immediately after "Lord I Have Cried" and the brief verses of Psalms 148, 149, and 150 chanted in Orthros immediately after "Let Every Breath." They may also be used for composing a brief doxology. The soft chromatic formulae in second mode used for Apolytikia, Kontakia, and Kathismata are at:

<http://www.stanthonysmonastery.org/music/Formula2s.pdf>

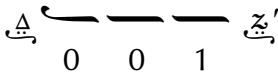
Second Mode - Verses (Soft Chromatic)

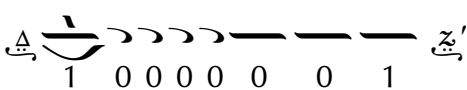
A) Cadences on Zo

These formulae are also used as initial formulae.

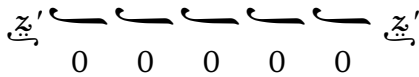
Accented on last syllable:

From Di

001 

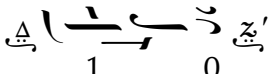
1000001 

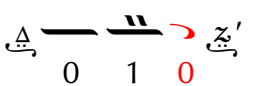

From Zo

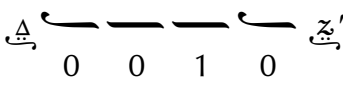
00000 

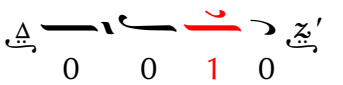

Accented on second to last syllable:

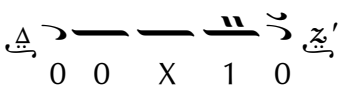
From Di

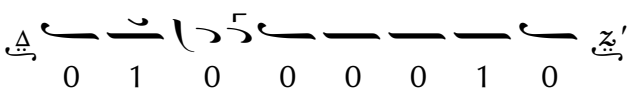
10 

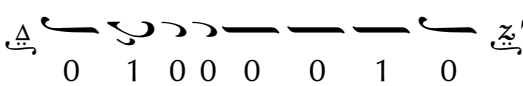
010  

0010 

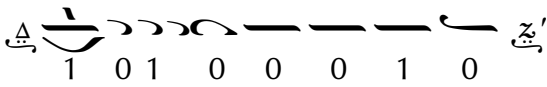
 

00X10 

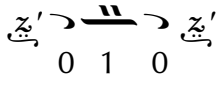
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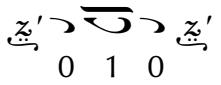



Second Mode - Verses (Soft Chromatic)

10100010 

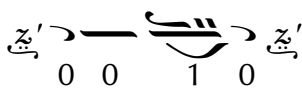
From Zo

010 



0010 

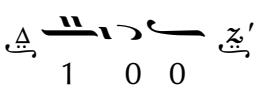


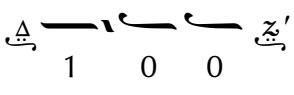


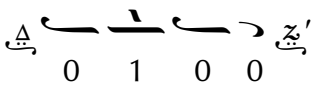
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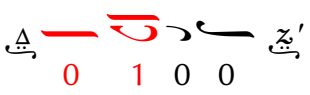
From Di

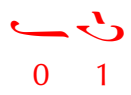
100 

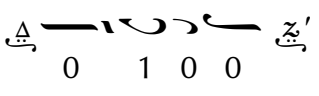


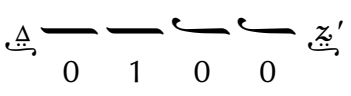


0100 

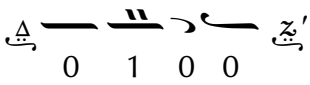
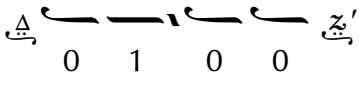
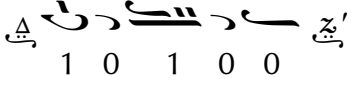
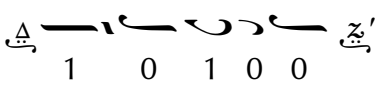
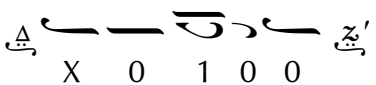
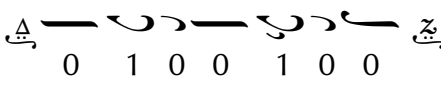
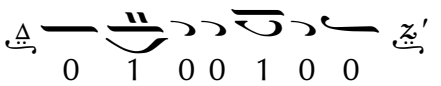




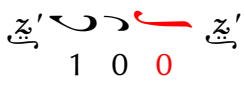

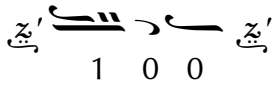
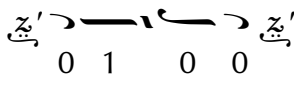





Second Mode - Verses (Soft Chromatic)

	
	
10100	
	
X0100	
0100100	
	

From Zo

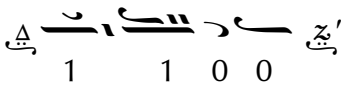
100		
		
0100		
100100		

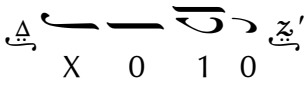
Accented on fourth to last syllable:

From Di

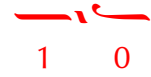
1001		
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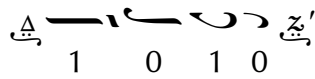
Second Mode - Verses (Soft Chromatic)


1100 
 1 1 0 0

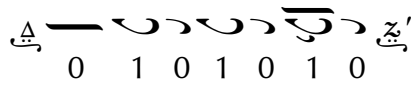
X010 
 X 0 1 0

1010 
 1 0 1 0


 1 0


 1 0 1 0

0101010 
 0 1 0 1 0 1 0


 0 1 0 1 0 1 0

From Zo

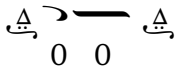
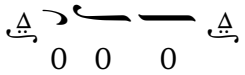
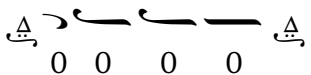
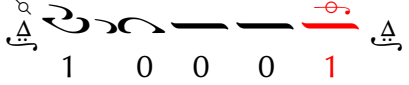
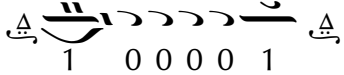
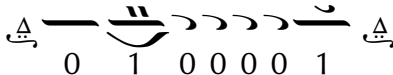


1010 
 1 0 1 0


 1

B) Cadences on Di

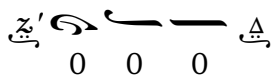
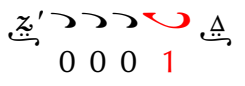
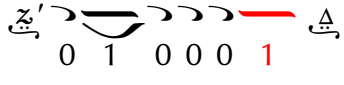

Accented on last syllable:

From Di

00	
000	
0000	
10001	
100001	
0100001	
01010001	
10010001	

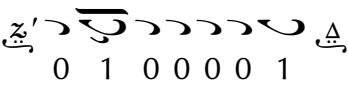


From Zo

000	
0001	
010001	
010X0X	



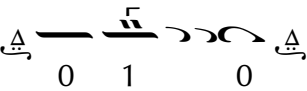

Second Mode - Verses (Soft Chromatic)

0100001 

Accented on second to last syllable:

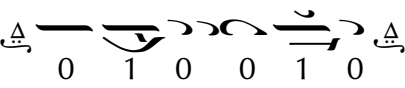
From Di

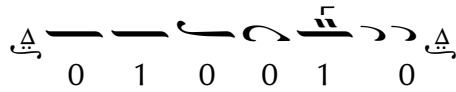
10 

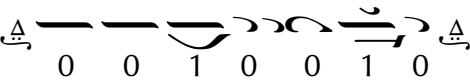
010 

10010 



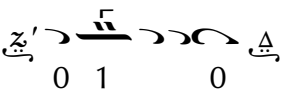
010010 



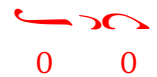
0010010 


100X010 

From Zo

010 

0010 



10010 





Second Mode - Verses (Soft Chromatic)

010X010

Accented on third to last syllable:

From Di

100

0100

10100

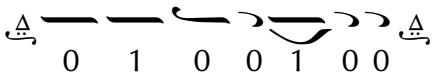
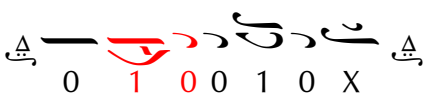
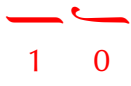

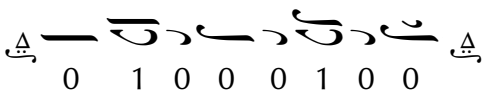
011100

100100


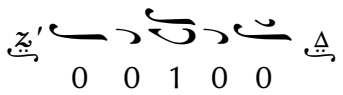
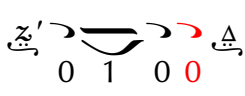

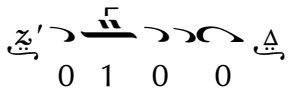
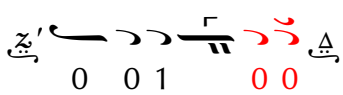

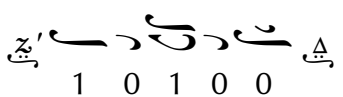

0000100

0100100

Second Mode - Verses (Soft Chromatic)

	 0 1 0 0 1 0 0	
010010X	 0 1 0 0 1 0 X	 1 0
0110X00	 0 1 1 0 X 0 0	
001000100	 0 1 0 0 0 1 0 0	

From Zo

100	 0 1 0 0	
0100	 0 0 1 0 0	
	 0 1 0 0	 0
	 0 1 0 0	
00100	 0 0 1 0 0	 0 0
10100	 1 0 1 0 0	
100100	 1 0 0 1 0 0	

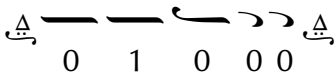
Accented on fourth to last syllable:


From Di

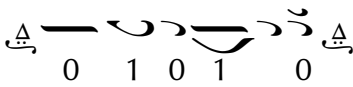
1001	 1 0 0 1
------	--

Second Mode - Verses (Soft Chromatic)

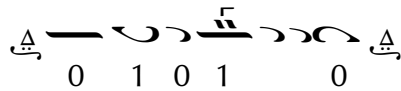
1010 


01000 

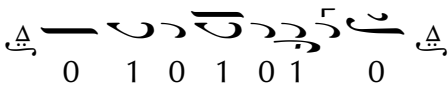
01X00 

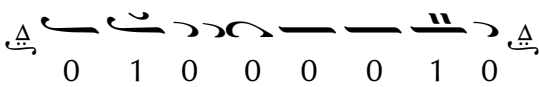
01010 



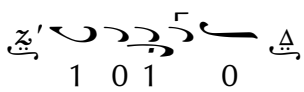


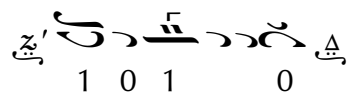
001000 

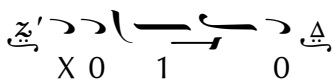
0101010 

01001010 

From Zo



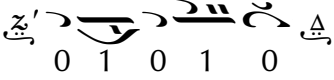


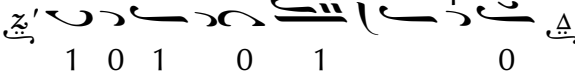




1010 



X010 

01001 

Second Mode - Verses (Soft Chromatic)

	 0 1 0 0 1	 1
01010	 0 1 0 1 0	
	 0 1 0 1 0	
001010	 0 0 1 0 1 0	
101010	 1 0 1 0 1 0	
0001001	 0 0 0 1 0 0 1	
0101010	 0 1 0 1 0 1 0	
1001010	 1 0 0 1 0 1 0	 1 0

Second Mode - Verses (Soft Chromatic)


C) Formulae with Fthoras

Accented on last syllable:

From Di

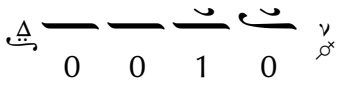
001 

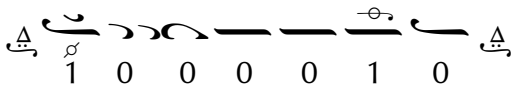
From Zo

0010100 

Accented on second to last syllable:

From Di

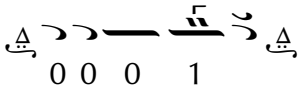
0010 

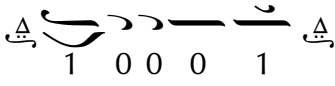
1000010 

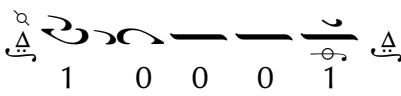
Second Mode - Verses (Soft Chromatic)

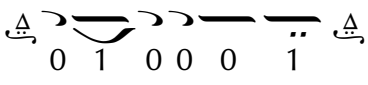
D) Final Cadences

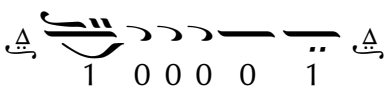
Accented on last syllable:

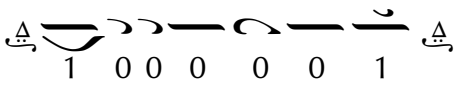
0001 

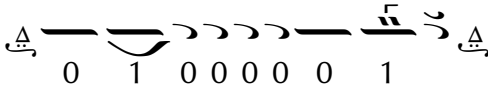
10001 

 100001

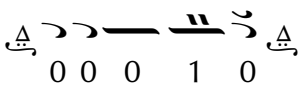
010001 

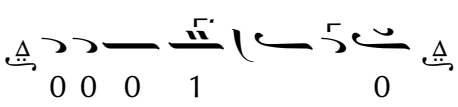
100001 

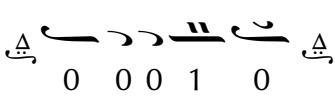
1000001 

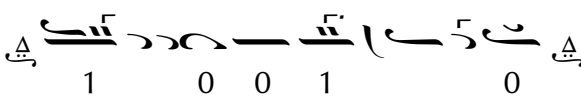
01000001 

Accented on second to last syllable:

00010 

 000100

 00010

10010 

Second Mode - Verses (Soft Chromatic)

0 1 0 0 1 0

1 0 0 1 0

1 0 0 1 0

000010

0 0 0 0 1 0

100010

1 0 0 0 1 0

1 0 0 0 1 0

1 0 0 0 1 0

1000010

1 0 0 0 0 1 0

1 0 0 0 0 1 0

1 0 0 0 0 1 0

1 0 0 0 0 1 0


1 0 0 0 0 1 0

10100010

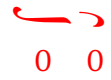
1 0 1 0 0 0 1 0

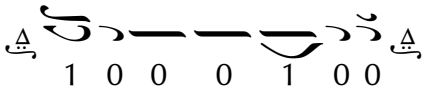
Second Mode - Verses (Soft Chromatic)

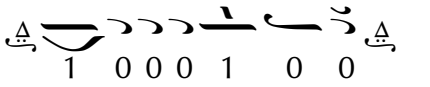
Accented on third to last syllable:

0010100 


1000100 

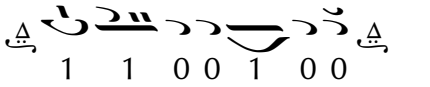


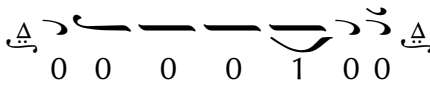




1010100 

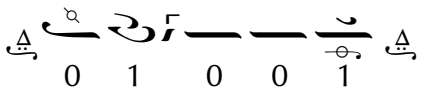
1100100 

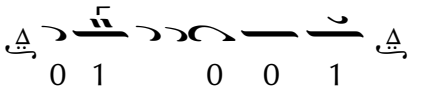


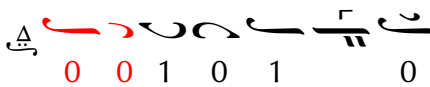
0000100 

Accented on fourth to last syllable:

1010 

01001 



001010 



Second Mode - Verses (Soft Chromatic)

00X010 Δ $\overline{\text{L}}$ $\overline{\text{L}}$ $\overline{\text{L}}$ $\overline{\text{L}}$ $\overline{\text{L}}$ $\overline{\text{L}}$ $\overline{\text{L}}$ Δ
 0 0 X 0 1 0

101010 Δ $\overline{\text{L}}$ $\overline{\text{L}}$ $\overline{\text{L}}$ $\overline{\text{L}}$ $\overline{\text{L}}$ $\overline{\text{L}}$ $\overline{\text{L}}$ Δ
 1 0 1 0 1 0



Third Mode



BYZANTINE MUSIC FORMULÆ

Third Mode - Sticheraric

Contents*

	<u>Initial Formulae</u>	
A) Ga (or Pa) - Ke.....		202
	<u>Medial Formulae</u>	
B) Ke - Pa.....		206
C) Medial Formulae from Pa.....		212
1) Pa - Ke.....		212
2) Pa - Di.....		215
3) Pa - Pa.....		218
4) Di - Ke.....		219
5) Di - Nee.....		220
6) Pa - Ga.....		221
7) Di - Ga.....		222
8) Ga - Ke.....		223
9) Di - Di.....		224
10) Di - Pa.....		225
D) Ke - Ke.....		226
E) Ke - Di.....		236
	<u>Other Formulae</u>	
F) Formulae with fthores.....		237
G) Old (slow) Sticheraric Formulae.....		239
	<u>Ending Formulae</u>	
H) Semi-final Formulae: Ke - Ga.....		241
I) Final Cadences: Ga - Ga.....		242
J) Other Final Cadences.....		244
K) Final Cadences for Theotokia.....		246

* The Byzantine music formulae herein were extracted from sticheraric melodies found in the *Zoe Anastasi-matarion* (14th edition, 2002) Volume I of *Mousike Kypsele* (1883 edition), the *Doxastarion* of Konstantinos Protopsaltis (1844 edition), and the two-volume *Athonias* (1906 edition) by Petros Philanthidis.

Key:

1 = accented syllable
0 = unaccented syllable
X = syllable that may be either accented or unaccented

Variations of the same formula are indicated in color

Third Mode - Sticheraric

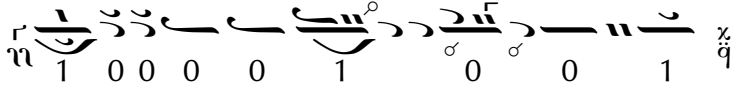
A) Intial Formulae Ga - Ke

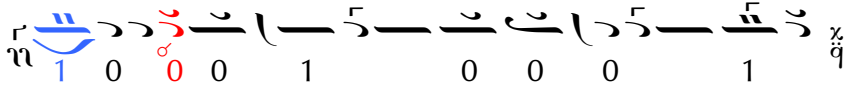
These may also be used as medial formulae from Pa to Ke by increasing the intervallic jump of the first character by two.


Accented on last syllable:

1001			
10001			
X0001			
100001			
010001			
1000101			
1001001			
10010001			

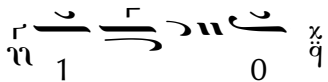
Third Mode - Sticheraric

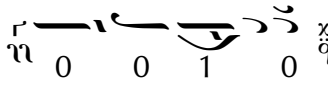
100001001 

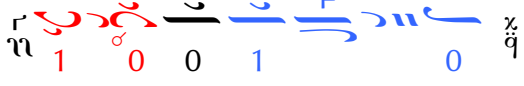
100010001 




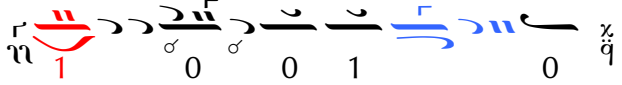
Accented on second to last syllable:


10 

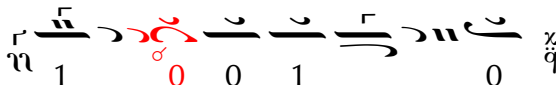
0010 


10010 

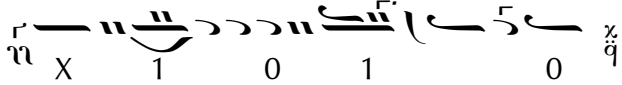


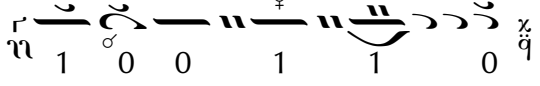


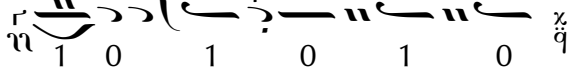




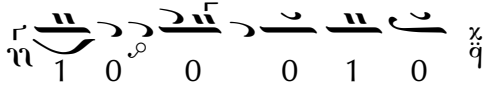


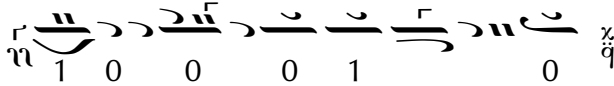
X1010 

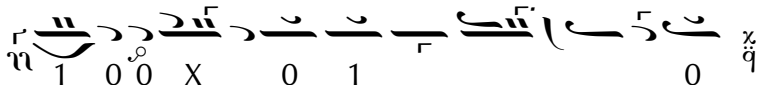
100110 

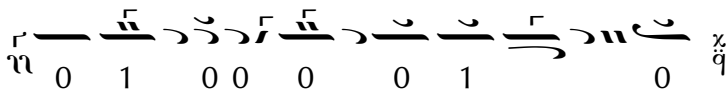
101010 

Third Mode - Sticheraric

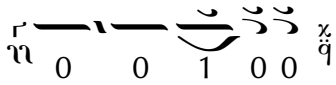
100010 

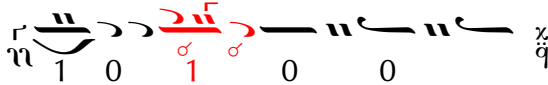



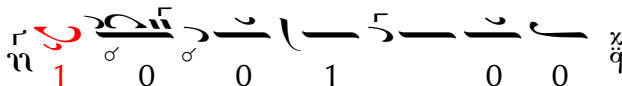

100X010 

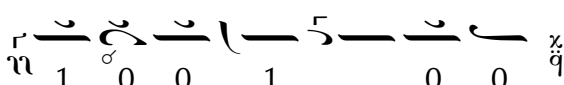
01000010 

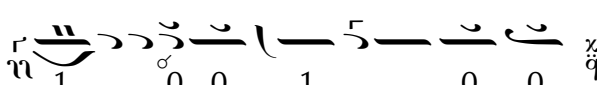
Accented on third to last syllable:

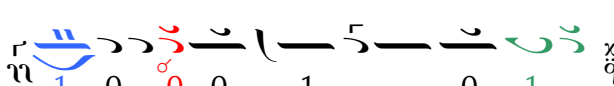
00100 




10100  

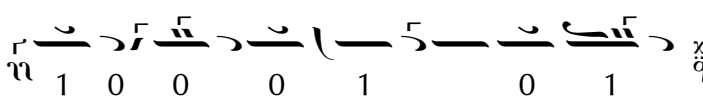
100100  





1000101 



Third Mode - Sticheraric

1000100

00100100

010100100

010010100

010000100

100100100

100000100

Accented on fourth to last syllable:

1001

X1010

101010

100X010

B) Medial Formulae Ke - Pa

Accented on last syllable:

1010X

0X0001

10010X

100X0X

X00X0X


0X00001


01X0X01


X0X010X

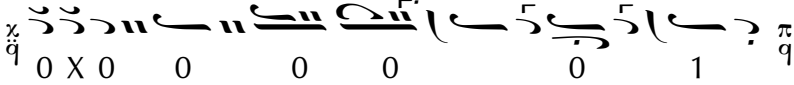
100010X

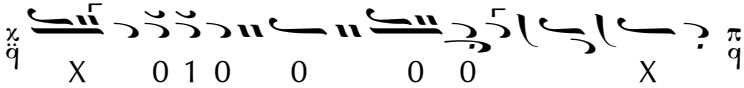
Third Mode - Sticheraric

1000X0X 




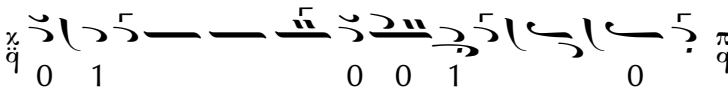
10X01001 

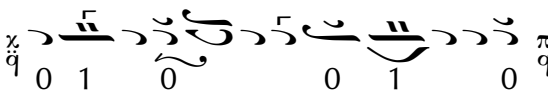
0X000001 

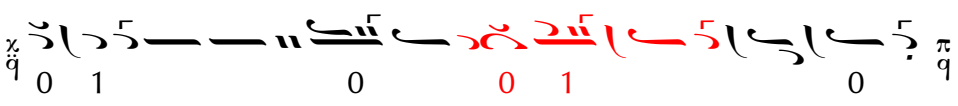
X010000X 

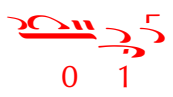
Accented on second to last syllable:

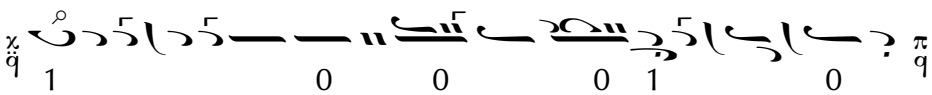
0010 

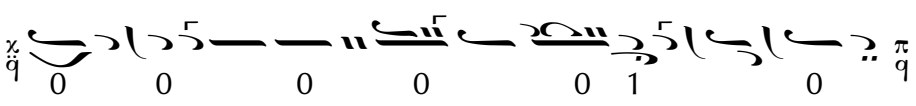
010010 

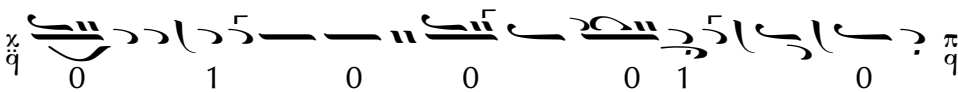






100010 

0000010 

0100010 

Third Mode - Sticheraric

0100010 $\frac{x}{q}$ 0 1 0 0 0 1 0 $\frac{\pi}{q}$

0 1

1000010 $\frac{x}{q}$ 1 0 0 0 0 1 0 $\frac{\pi}{q}$

$\frac{x}{q}$ 1 0 0 0 1 0 $\frac{\pi}{q}$

X010010 $\frac{x}{q}$ X 0 1 0 0 1 0 $\frac{\pi}{q}$

1 0 0

1

00100010 $\frac{x}{q}$ 0 0 1 0 0 0 1 0 $\frac{\pi}{q}$

0 0 1

$\frac{x}{q}$ 0 0 1 0 0 0 1 0 $\frac{\pi}{q}$ 0

$\frac{x}{q}$ 0 0 1 0 0 0 1 0 $\frac{\pi}{q}$

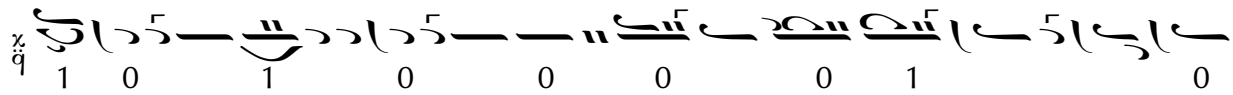
0 0 1 0

0 0

0 0

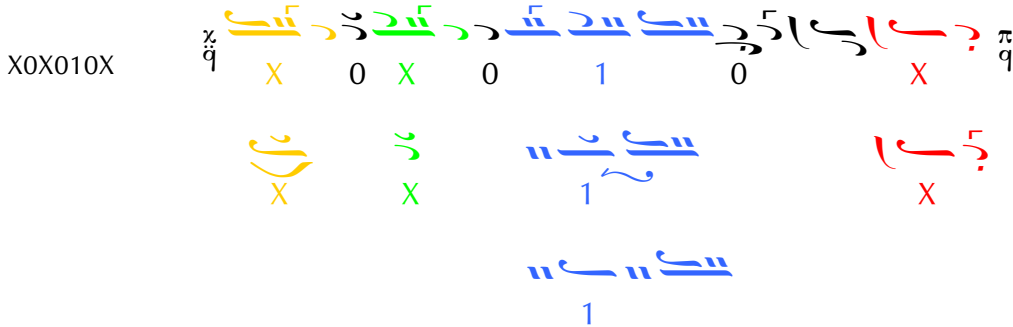
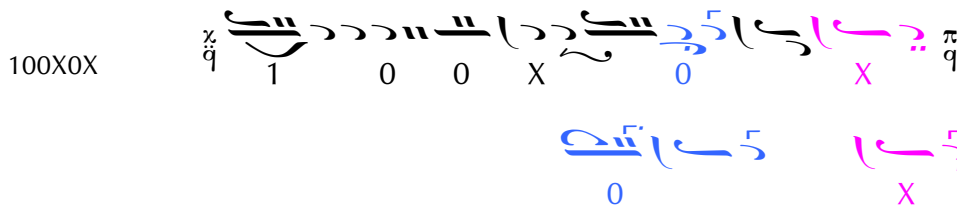
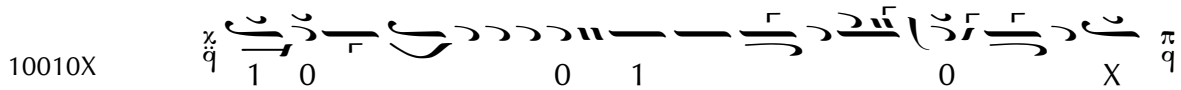
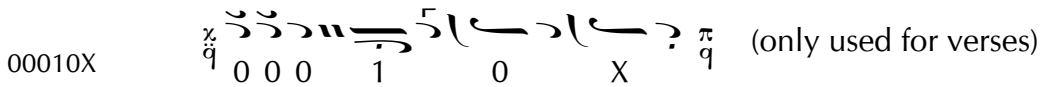
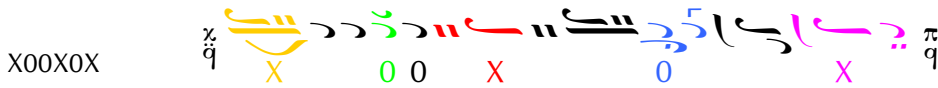
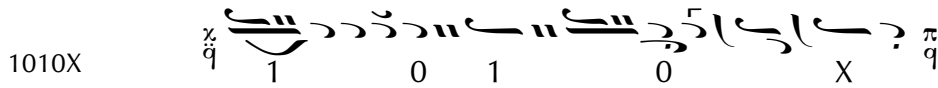
Third Mode - Sticheraric

101000010



π_q

Accented on third to last syllable:



Third Mode - Sticheraric

100010X π_q

100010X π_q (only used for verses)

1000X0X π_q

010000100 π_q

Accented on fourth to last syllable:

1010 π_q

X001010 π_q

π_q

01001010 π_q

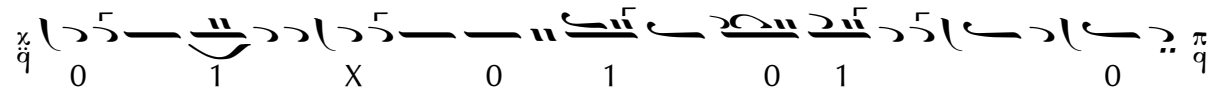
10001010 π_q

π_q

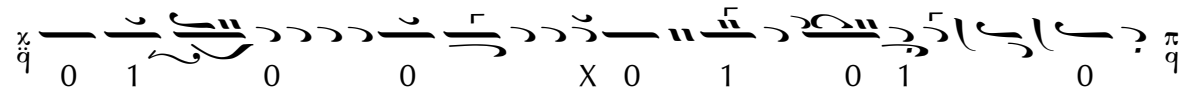
10101001 π_q

Third Mode - Sticheraric

01X01010



0100X01010



C) Medial Formulae from Pa

In third mode there are four ways that the melody continues from Pa: by having a cadence on Nee, Ga, Di, or Ke. The cadences on Ke may be preceded by a cadence on Di. The cadences on Nee must be preceded by a cadence on Di. The cadences on Ga and Di are not written with a martyria. Interestingly enough, the vast majority of heirmologic bridges in third mode occur as medial formulae from Pa. For this reason, there is no separate section for such bridges in this mode.

1) Pa - Ke

Note that some formulae in section A may also be used as formulae from Pa to Ke.

Accented on last syllable:

001		
X01		
10001		
00010001		
010X0001		
010010100101		

Accented on second to last syllable:

010		
-----	--	--

Third Mode - Sticheraric

0010

π
q
0 1 0 $\frac{x}{q}$

π
q
0 0 1 0 $\frac{x}{q}$

π
q
0 0 1 0 $\frac{x}{q}$

π
q
0 0 1 0 $\frac{x}{q}$

π
q
0 0 1 0 $\frac{x}{q}$

π
q
0 0 1 0 $\frac{x}{q}$

00010

π
q
0 0 0 1 0 $\frac{x}{q}$

π
q
0 0 0 1 0 $\frac{x}{q}$

110010

π
q
1 1 0 0 1 0 $\frac{x}{q}$

Accented on third to last syllable:

100

π
q
1 0 0 $\frac{x}{q}$

00100

π
q
0 0 1 0 0 $\frac{x}{q}$

π
q
0 0 1 0 0 $\frac{x}{q}$

10100

π
q
1 0 1 0 0 $\frac{x}{q}$

Third Mode - Sticheraric

100100 π
 $\frac{\pi}{q}$ 1 0 0 1 0 0 $\frac{x}{q}$

001100 π
 $\frac{\pi}{q}$ 0 0 1 1 0 0 $\frac{x}{q}$

0010100 π
 $\frac{\pi}{q}$ 0 0 1 0 1 0 0 $\frac{x}{q}$

00001100 π
 $\frac{\pi}{q}$ 0 0 0 0 1 1 0 0 $\frac{x}{q}$

Accented on fourth to last syllable:

1001 π
 $\frac{\pi}{q}$ 1 0 0 1 $\frac{x}{q}$

001001 π
 $\frac{\pi}{q}$ 1 0 0 1 $\frac{x}{q}$

001001 π
 $\frac{\pi}{q}$ 0 0 1 0 0 1 $\frac{x}{q}$

0001001 π
 $\frac{\pi}{q}$ 0 0 0 1 0 0 1 $\frac{x}{q}$

0001001 π
 $\frac{\pi}{q}$ 0 0 0 1 0 0 1 $\frac{x}{q}$

$\frac{x}{q}$
 1

Third Mode - Sticheraric

2) Pa - Di

These formulae are followed by a cadence on Ke (section C4) or Nee (section C5) or Ga (section C7) or Pa (section C10) or by another cadence of Di (section C9).

Accented on last syllable:

01 $\pi \begin{array}{c} \text{—} \text{—} \\ \text{q} \\ 0 \quad 1 \end{array} \overset{\Delta}{\text{A}}$

X1 $\pi \begin{array}{c} \text{—} \text{—} \\ \text{q} \\ \text{X} \quad 1 \end{array} \overset{\Delta}{\text{A}}$

001 $\pi \begin{array}{c} \text{—} \text{—} \text{—} \\ \text{q} \\ 0 \quad 0 \quad 1 \end{array} \overset{\Delta}{\text{A}}$

10001 $\pi \begin{array}{c} \text{—} \text{—} \text{—} \text{—} \text{—} \\ \text{q} \\ 1 \quad 0 \quad 0 \quad 0 \quad 1 \end{array} \overset{\Delta}{\text{A}}$ 

10010001 $\pi \begin{array}{c} \text{—} \text{—} \text{—} \text{—} \text{—} \text{—} \text{—} \text{—} \\ \text{q} \\ 1 \quad 0 \quad 0 \quad 1 \quad 0 \quad 0 \quad 0 \quad 1 \end{array} \overset{\Delta}{\text{A}}$

Accented on second to last syllable:

010 $\pi \begin{array}{c} \text{—} \text{—} \text{—} \\ \text{q} \\ 0 \quad 1 \quad 0 \end{array} \overset{\Delta}{\text{A}}$

$\pi \begin{array}{c} \text{—} \text{—} \\ \text{q} \\ 0 \quad 1 \quad 0 \end{array} \overset{\Delta}{\text{A}}$

0010 $\pi \begin{array}{c} \text{—} \text{—} \text{—} \text{—} \\ \text{q} \\ 0 \quad 0 \quad 1 \quad 0 \end{array} \overset{\Delta}{\text{A}}$

$\pi \begin{array}{c} \text{—} \text{—} \text{—} \text{—} \\ \text{q} \\ 0 \quad 0 \quad 1 \quad 0 \end{array} \overset{\Delta}{\text{A}}$

$\pi \begin{array}{c} \text{—} \text{—} \text{—} \text{—} \\ \text{q} \\ 0 \quad 0 \quad 1 \quad 0 \end{array} \overset{\Delta}{\text{A}}$

$\pi \begin{array}{c} \text{—} \text{—} \text{—} \text{—} \\ \text{q} \\ 0 \quad 0 \quad 1 \quad 0 \end{array} \overset{\Delta}{\text{A}}$

Third Mode - Sticheraric

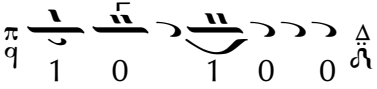

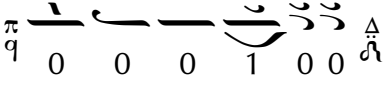
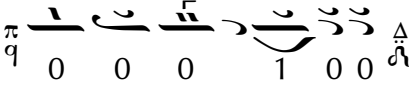
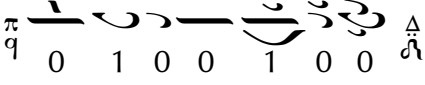
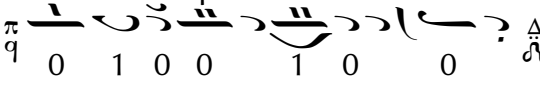
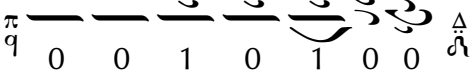
	π		Δ
	q	0 0 1 0	Δ
00010	π		Δ
	q	0 0 0 1 0	Δ
10010	π		Δ
	q	1 0 0 1 0	Δ
010010	π		Δ
	q	0 1 0 0 1 0	Δ
001010	π		Δ
	q	0 0 1 0 1 0	Δ
000X10	π		Δ
	q	0 0 0 X 1 0	Δ

Accented on third to last syllable:

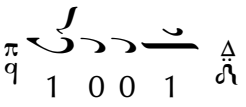
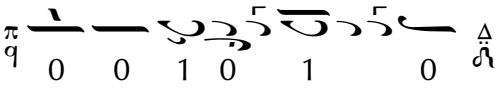

100	π		Δ
	q	1 0 0	Δ
	π		Δ
	q	1 0 0	Δ
0100	π		Δ
	q	0 1 0 0	Δ
	π		Δ
	q	0 1 0 0	Δ
0101	π		
	q	0 1 0 1	
00100	π		Δ
	q	0 0 1 0 0	Δ

0 1

Third Mode - Sticheraric

10100	π η  1 0 1 0 0 Δ
	π η  1 0 1 0 0 Δ
000100	π η  0 0 0 1 0 0 Δ
	π η  0 0 0 1 0 0 Δ
0100100	π η  0 1 0 0 1 0 0 Δ
	π η  0 1 0 0 1 0 0 Δ
0010100	π η  0 0 1 0 1 0 0 Δ

Accented on fourth to last syllable:

1001	π η  1 0 0 1 Δ
001010	π η  0 0 1 0 1 0 Δ
1001010	π η  1 0 0 1 0 1 0 Δ

Third Mode - Sticheraric

3) Pa - Pa

10010	π_q π_q
0010010	π_q π_q
0100010	π_q π_q
0010010	π_q π_q
00100010	π_q π_q

Third Mode - Sticheraric

4) Di - Ke

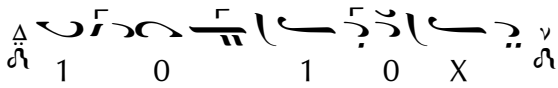
These formulae are preceded by a cadence on Di (section C2, C9, or E).
Formulae in section A) may also be used to go from Di to Ke.

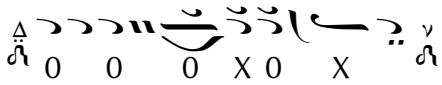
001	$\begin{array}{c} \Delta \\ \text{d} \end{array} \begin{array}{c} \curvearrowright \\ \text{0} \end{array} \begin{array}{c} \text{—} \\ \text{0} \end{array} \begin{array}{c} \text{—} \\ \text{1} \end{array} \begin{array}{c} \text{—} \\ \text{q} \end{array}$
0001	$\begin{array}{c} \Delta \\ \text{d} \end{array} \begin{array}{c} \curvearrowright \\ \text{0} \end{array} \begin{array}{c} \text{—} \\ \text{0} \end{array} \begin{array}{c} \text{—} \\ \text{0} \end{array} \begin{array}{c} \text{—} \\ \text{1} \end{array} \begin{array}{c} \text{—} \\ \text{q} \end{array}$
0100	$\begin{array}{c} \Delta \\ \text{d} \end{array} \begin{array}{c} \curvearrowright \\ \text{0} \end{array} \begin{array}{c} \text{—} \\ \text{1} \end{array} \begin{array}{c} \text{—} \\ \text{0} \end{array} \begin{array}{c} \text{—} \\ \text{0} \end{array} \begin{array}{c} \text{—} \\ \text{q} \end{array}$
X100	$\begin{array}{c} \Delta \\ \text{d} \end{array} \begin{array}{c} \text{—} \\ \text{X} \end{array} \begin{array}{c} \text{—} \\ \text{1} \end{array} \begin{array}{c} \text{—} \\ \text{0} \end{array} \begin{array}{c} \text{—} \\ \text{0} \end{array} \begin{array}{c} \text{—} \\ \text{q} \end{array}$
X0001	$\begin{array}{c} \Delta \\ \text{d} \end{array} \begin{array}{c} \text{—} \\ \text{X} \end{array} \begin{array}{c} \text{—} \\ \text{0} \end{array} \begin{array}{c} \text{—} \\ \text{0} \end{array} \begin{array}{c} \text{—} \\ \text{0} \end{array} \begin{array}{c} \text{—} \\ \text{1} \end{array} \begin{array}{c} \text{—} \\ \text{q} \end{array}$

Third Mode - Sticheraric

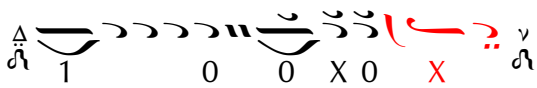
5) Di - Nee

These formulae are preceded by a cadence on Di (section C2, C9, or E). They may be followed by formulae from Pa.

1010X 

000X0X 

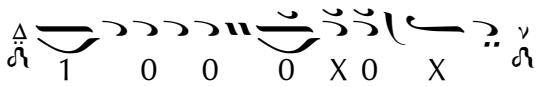


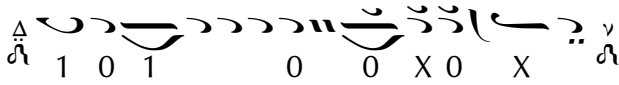
100X0X 



X000X0X 



1000X0X 

10100X0X 

7) Di - Ga

These formulae must be followed by a cadence on Ke (section C8).

00	
00X	
100	
X00	
10000	
0100000	

Third Mode - Sticheraric

8) Ga - Ke

These formulae must be preceded by a cadence on Ga (section C6 or C7).

10 $\overset{\curvearrowright}{\text{r}} \underset{1}{\text{u}} \xrightarrow{\quad} \xrightarrow{\quad} \xrightarrow{\quad} \xrightarrow{\quad} \underset{0}{\text{u}} \quad \frac{x}{q}$

$\overset{\curvearrowright}{\text{r}} \underset{1}{\text{u}} \xrightarrow{\quad} \xrightarrow{\quad} \xrightarrow{\quad} \xrightarrow{\quad} \xrightarrow{\quad} \xrightarrow{\quad} \xrightarrow{\quad} \xrightarrow{\quad} \underset{0}{\text{u}} \quad \frac{x}{q}$

$\overset{\curvearrowright}{\text{r}} \underset{1}{\text{u}} \xrightarrow{\quad} \xrightarrow{\quad} \xrightarrow{\quad} \xrightarrow{\quad} \underset{0}{\text{u}} \quad \frac{x}{q}$

$\overset{\curvearrowright}{\text{r}} \underset{1}{\text{u}} \xrightarrow{\quad} \xrightarrow{\quad} \xrightarrow{\quad} \xrightarrow{\quad} \xrightarrow{\quad} \xrightarrow{\quad} \xrightarrow{\quad} \xrightarrow{\quad} \underset{0}{\text{u}} \quad \frac{x}{q}$

100 $\overset{\curvearrowright}{\text{r}} \underset{1}{\text{u}} \xrightarrow{\quad} \xrightarrow{\quad} \xrightarrow{\quad} \xrightarrow{\quad} \xrightarrow{\quad} \xrightarrow{\quad} \xrightarrow{\quad} \xrightarrow{\quad} \xrightarrow{\quad} \underset{0}{\text{u}} \quad \frac{x}{q}$

10X $\overset{\curvearrowright}{\text{r}} \underset{1}{\text{u}} \xrightarrow{\quad} \xrightarrow{\quad} \xrightarrow{\quad} \xrightarrow{\quad} \xrightarrow{\quad} \xrightarrow{\quad} \xrightarrow{\quad} \xrightarrow{\quad} \xrightarrow{\quad} \xrightarrow{\quad} \underset{0}{\text{u}} \quad \frac{x}{q}$

Third Mode - Sticheraric

9) Di - Di

These formulae are usually preceded by a formula in section C2.

010	
010X	
0100	
0001	
00010	
010001	
100100	

Third Mode - Sticheraric

10) Di - Pa

These formulae are preceded by a cadence on Di (section C2, C9, or E).

0010 $\overset{\Delta}{\underset{\delta}{\mathfrak{A}}} \underbrace{\text{—}}_0 \rightsquigarrow \underbrace{\text{—}}_{0\ 1} \rightsquigarrow \text{—} \rightsquigarrow \overset{\pi}{\underset{\eta}{\mathfrak{A}}}$

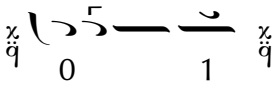
00010 $\overset{\Delta}{\underset{\delta}{\mathfrak{A}}} \underbrace{\text{—}}_0 \rightsquigarrow \text{—} \rightsquigarrow \overset{\Gamma}{\text{—}} \rightsquigarrow \overset{\Gamma}{\text{—}} \rightsquigarrow \underbrace{\text{—}}_0 \rightsquigarrow \underbrace{\text{—}}_1 \rightsquigarrow \text{—} \rightsquigarrow \overset{\pi}{\underset{\eta}{\mathfrak{A}}}$

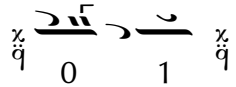
10010 $\overset{\Delta}{\underset{\delta}{\mathfrak{A}}} \overset{\Gamma}{\text{—}} \rightsquigarrow \overset{\Gamma}{\text{—}} \rightsquigarrow \overset{\Gamma}{\text{—}} \rightsquigarrow \text{—} \rightsquigarrow \underbrace{\text{—}}_1 \rightsquigarrow \text{—} \rightsquigarrow \overset{\pi}{\underset{\eta}{\mathfrak{A}}}$

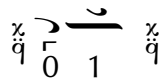
D) Medial Formulae: Ke - Ke

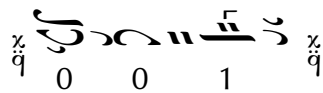
Some of these formulae may also be used as formulae from Pa to Ke.

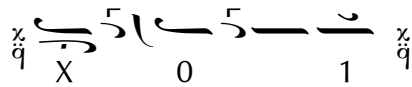
Accented on last syllable:

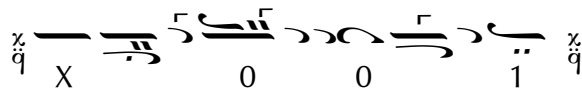
01 

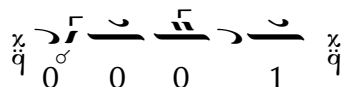


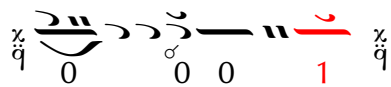


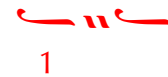
001 

X01 

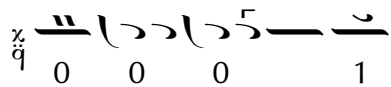
X001 

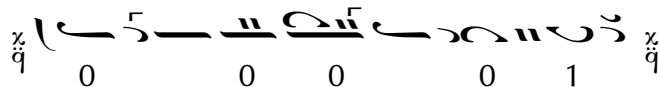
0001 

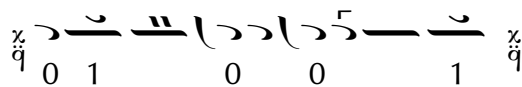




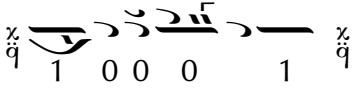
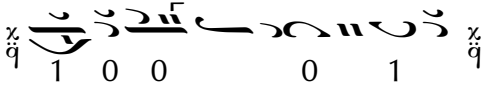
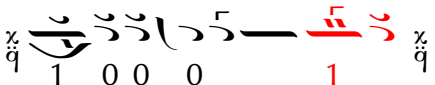

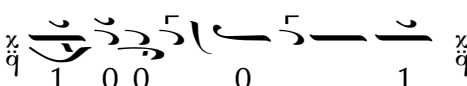
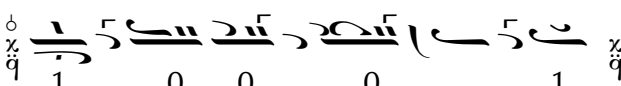
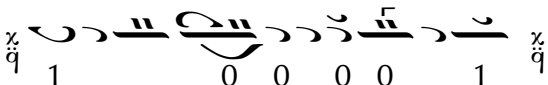


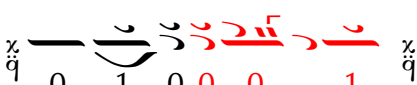
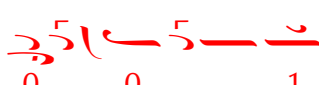
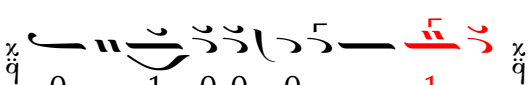

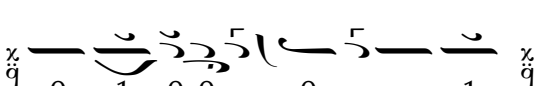
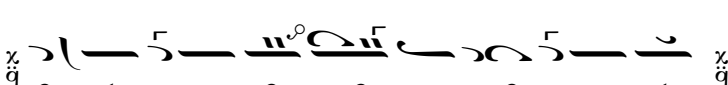

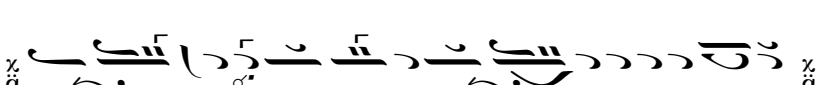




00001 

01001 

Third Mode - Sticheraric

10001	$\frac{x}{q}$  $\frac{x}{q}$	
	$\frac{x}{q}$  $\frac{x}{q}$	
	$\frac{x}{q}$  $\frac{x}{q}$	
	$\frac{x}{q}$  $\frac{x}{q}$	
	$\frac{o}{q}$  $\frac{x}{q}$	
100001	$\frac{x}{q}$  $\frac{x}{q}$	
010001	$\frac{o}{q}$  $\frac{x}{q}$	
	$\frac{x}{q}$  $\frac{x}{q}$	
	$\frac{x}{q}$  $\frac{x}{q}$	
	$\frac{x}{q}$  $\frac{x}{q}$	
	$\frac{x}{q}$  $\frac{x}{q}$	
10000X	$\frac{x}{q}$  $\frac{x}{q}$	
1000101	$\frac{x}{q}$  $\frac{x}{q}$	

Accented on second to last syllable:

Third Mode - Sticheraric

10

$\frac{x}{q}$ $\frac{x}{q}$
 $\frac{1}{1}$ — $\frac{0}{0}$ $\frac{x}{q}$

$\frac{x}{q}$ $\frac{x}{q}$
 $\frac{1}{1}$ — $\frac{0}{0}$ $\frac{x}{q}$

$\frac{x}{q}$ $\frac{x}{q}$
 $\frac{1}{1}$ $\frac{0}{0}$

010

$\frac{x}{q}$ — — $\frac{x}{q}$
 $\frac{0}{0}$ $\frac{1}{1}$ $\frac{0}{0}$

$\frac{x}{q}$ — — $\frac{x}{q}$
 $\frac{0}{0}$ $\frac{1}{1}$ $\frac{0}{0}$

$\frac{x}{q}$ — $\frac{x}{q}$ $\frac{x}{q}$
 $\frac{0}{0}$ $\frac{1}{1}$ $\frac{0}{0}$

$\frac{x}{q}$ — $\frac{x}{q}$ $\frac{x}{q}$
 $\frac{1}{1}$

$\frac{x}{q}$ — — $\frac{x}{q}$
 $\frac{0}{0}$ $\frac{1}{1}$ $\frac{0}{0}$

$\frac{x}{q}$ — — $\frac{x}{q}$
 $\frac{0}{0}$ $\frac{1}{1}$ $\frac{0}{0}$

$\frac{x}{q}$ — — $\frac{x}{q}$
 $\frac{0}{0}$ $\frac{1}{1}$ $\frac{0}{0}$

$\frac{x}{q}$ — — $\frac{x}{q}$
 $\frac{0}{0}$ $\frac{1}{1}$ $\frac{0}{0}$

$\frac{x}{q}$ — — $\frac{x}{q}$
 $\frac{0}{0}$ $\frac{1}{1}$ $\frac{0}{0}$

$\frac{x}{q}$ — — $\frac{x}{q}$
 $\frac{0}{0}$ $\frac{1}{1}$ $\frac{0}{0}$

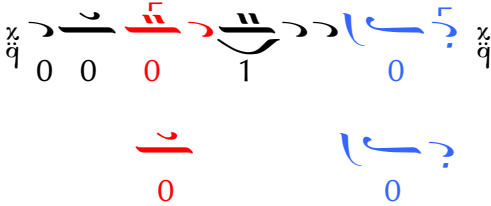
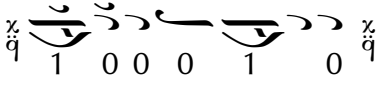
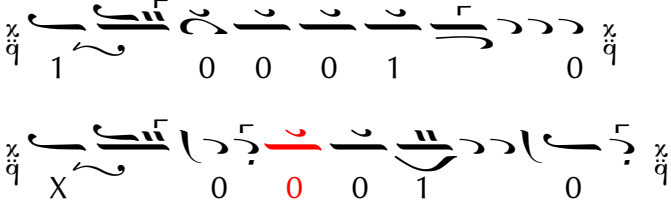

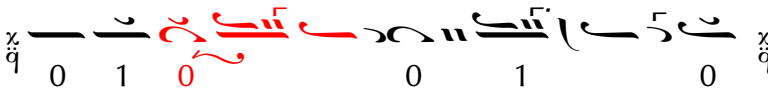
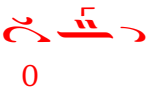
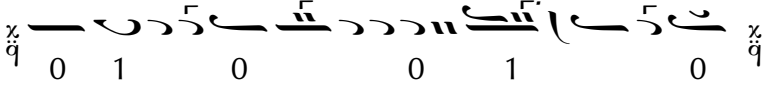
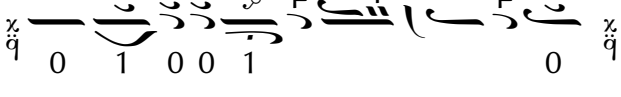
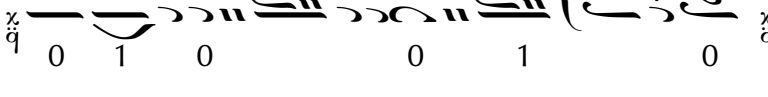
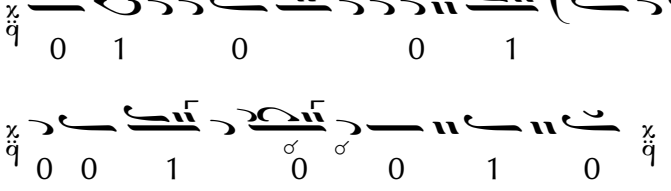
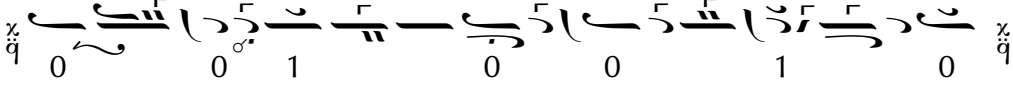
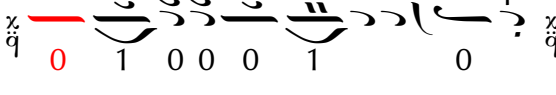

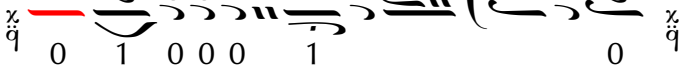

$\frac{x}{q}$ — — $\frac{x}{q}$
 $\frac{0}{0}$ $\frac{1}{1}$ $\frac{0}{0}$

$\frac{x}{q}$ — — $\frac{x}{q}$
 $\frac{0}{0}$ $\frac{1}{1}$ $\frac{0}{0}$

Third Mode - Sticheraric

	$\frac{x}{q}$		$\frac{x}{q}$	
0110	$\frac{x}{q}$		$\frac{x}{q}$	
0010	$\frac{x}{q}$		$\frac{x}{q}$	
	$\frac{x}{q}$		$\frac{x}{q}$	
	$\frac{x}{q}$		$\frac{x}{q}$	
X010	$\frac{x}{q}$		$\frac{x}{q}$	
	$\frac{x}{q}$		$\frac{x}{q}$	
01010	$\frac{x}{q}$		$\frac{x}{q}$	
	$\frac{x}{q}$		$\frac{x}{q}$	
10010	$\frac{x}{q}$		$\frac{x}{q}$	
	$\frac{x}{q}$		$\frac{x}{q}$	
	$\frac{x}{q}$		$\frac{x}{q}$	

Third Mode - Sticheraric

00010	 <p> $\frac{x}{q}$ 0 0 0 1 0 $\frac{x}{q}$ 0 0 </p>	
100010	 <p> $\frac{x}{q}$ 1 0 0 0 1 0 $\frac{x}{q}$ </p>	
X00010	 <p> $\frac{x}{q}$ X 0 0 0 1 0 $\frac{x}{q}$ </p>	 <p>0</p>
010010	 <p> $\frac{x}{q}$ 0 1 0 0 1 0 $\frac{x}{q}$ </p>	 <p>0</p>
	 <p> $\frac{x}{q}$ 0 1 0 0 1 0 $\frac{x}{q}$ </p>	
	 <p> $\frac{x}{q}$ 0 1 0 0 1 0 $\frac{x}{q}$ </p>	
	 <p> $\frac{x}{q}$ 0 1 0 0 1 0 $\frac{x}{q}$ </p>	
0010010	 <p> $\frac{x}{q}$ 0 0 1 0 0 1 0 $\frac{x}{q}$ </p>	
	 <p> $\frac{x}{q}$ 0 0 1 0 0 1 0 $\frac{x}{q}$ </p>	
0100010	 <p> $\frac{x}{q}$ 0 1 0 0 0 1 0 $\frac{x}{q}$ </p>	 <p>0</p>
	 <p> $\frac{x}{q}$ 0 1 0 0 0 1 0 $\frac{x}{q}$ </p>	 <p>0</p>

Third Mode - Sticheraric

$\frac{x}{q}$ ————— $\frac{x}{q}$ $\frac{x}{q}$ " $\frac{x}{q}$
 0 1 0 0 0 1 0 0

$\frac{x}{q}$ ————— $\frac{x}{q}$ $\frac{x}{q}$ " $\frac{x}{q}$
 0 1 0 0 0 1 0 0

10010010 $\frac{x}{q}$ ————— $\frac{x}{q}$ $\frac{x}{q}$ " $\frac{x}{q}$
 1 0 0 1 0 0 1 0

01010010 $\frac{x}{q}$ ————— $\frac{x}{q}$ $\frac{x}{q}$ " $\frac{x}{q}$
 0 1 0 1 0 0 1 0

1010010010 $\frac{x}{q}$ ————— $\frac{x}{q}$ $\frac{x}{q}$ " $\frac{x}{q}$
 1 0 1 0 0 1 0 0 1 0

Accented on third to last syllable:

100 $\frac{x}{q}$ ————— $\frac{x}{q}$ $\frac{x}{q}$
 1 0 0

$\frac{x}{q}$ $\frac{x}{q}$ $\frac{x}{q}$ $\frac{x}{q}$
 1 0 0

$\frac{x}{q}$ $\frac{x}{q}$ $\frac{x}{q}$ $\frac{x}{q}$
 1 0 0


$\frac{x}{q}$ $\frac{x}{q}$ $\frac{x}{q}$ $\frac{x}{q}$ $\frac{x}{q}$ $\frac{x}{q}$
 1 0 0 0

$\frac{x}{q}$ $\frac{x}{q}$ $\frac{x}{q}$ $\frac{x}{q}$
 1 0 0

$\frac{x}{q}$ $\frac{x}{q}$ $\frac{x}{q}$ $\frac{x}{q}$
 1 0 0

$\frac{x}{q}$ $\frac{x}{q}$ $\frac{x}{q}$ $\frac{x}{q}$
 1 0 0


Third Mode - Sticheraric

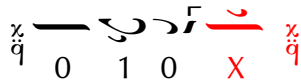
0100 


0 
0

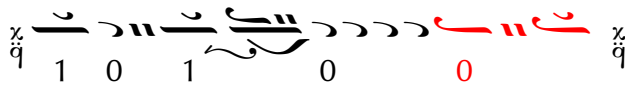

0



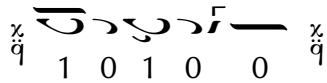
010X 





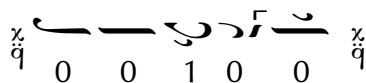
10100 

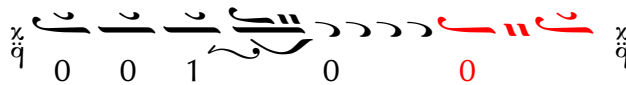

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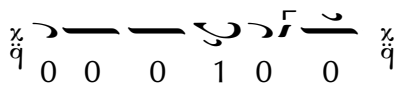
00100 

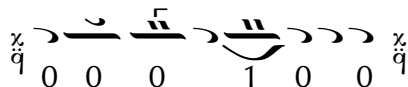

0 1

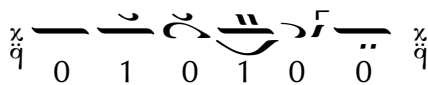





0

000100 

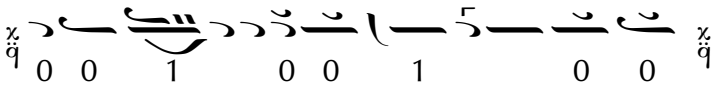


010100 

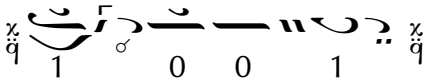
Third Mode - Sticheraric

	$\frac{\times}{q}$		$\frac{\times}{q}$		$\frac{\times}{q}$
100100	$\frac{\times}{q}$		$\frac{\times}{q}$		$\frac{\times}{q}$
	$\frac{\times}{q}$		$\frac{\times}{q}$		$\frac{\times}{q}$
	$\frac{\times}{q}$		$\frac{\times}{q}$		$\frac{\times}{q}$
	$\frac{\times}{q}$		$\frac{\times}{q}$		$\frac{\times}{q}$
	$\frac{\times}{q}$		$\frac{\times}{q}$		$\frac{\times}{q}$
	$\frac{\times}{q}$		$\frac{\times}{q}$		$\frac{\times}{q}$
	$\frac{\times}{q}$		$\frac{\times}{q}$		$\frac{\times}{q}$
000X100	$\frac{\times}{q}$		$\frac{\times}{q}$		$\frac{\times}{q}$
1000100	$\frac{\times}{q}$		$\frac{\times}{q}$		$\frac{\times}{q}$
	$\frac{\times}{q}$		$\frac{\times}{q}$		$\frac{\times}{q}$
0110100	$\frac{\times}{q}$		$\frac{\times}{q}$		$\frac{\times}{q}$
X010100	$\frac{\times}{q}$		$\frac{\times}{q}$		$\frac{\times}{q}$
0100100	$\frac{\times}{q}$		$\frac{\times}{q}$		$\frac{\times}{q}$
	$\frac{\times}{q}$		$\frac{\times}{q}$		$\frac{\times}{q}$

Third Mode - Sticheraric

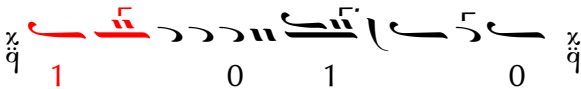
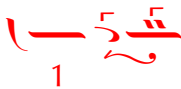
00100100 

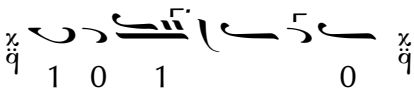
Accented on fourth to last syllable:

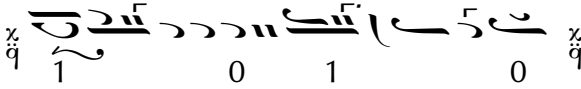
1001 


 

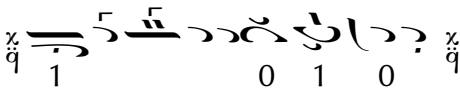
1010 

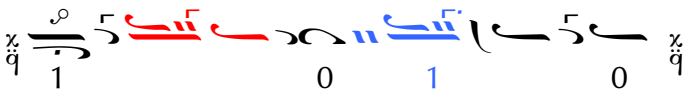
 















X010  

Third Mode - Sticheraric

1 0

01001

0 1 0 0 1

0 1 0 0 1

0 1 0 0 1

0 1 0 0 1

0 1 0 0 1

0 1 0 1

01010

0 1 0 1 0

0 1 0 1 0

0 1 0 1 0

001010

0 0 1 0 1 0

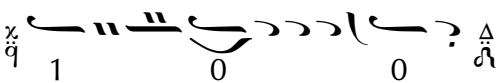
0101010


0 1 0 1 0 1 0

10001001

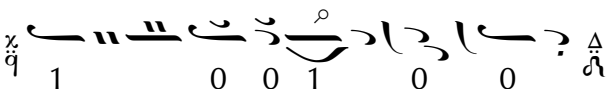
1 0 0 0 1 0 0 1

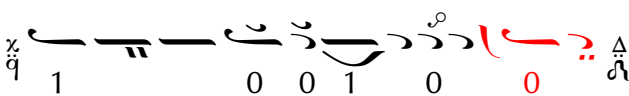
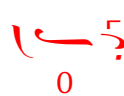
E) Formulae Ke - Di

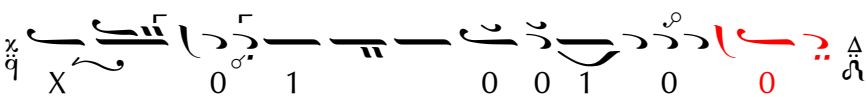
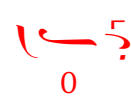
100 $\begin{matrix} \times \\ q \end{matrix}$  $\begin{matrix} \Delta \\ \delta \end{matrix}$

100 $\begin{matrix} \times \\ q \end{matrix}$  $\begin{matrix} \Delta \\ \delta \end{matrix}$

01001 $\begin{matrix} \times \\ q \end{matrix}$  $\begin{matrix} \Delta \\ \delta \end{matrix}$

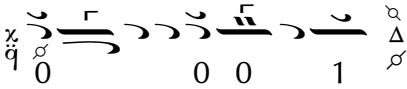
100100 $\begin{matrix} \times \\ q \end{matrix}$  $\begin{matrix} \Delta \\ \delta \end{matrix}$

$\begin{matrix} \times \\ q \end{matrix}$  $\begin{matrix} \Delta \\ \delta \end{matrix}$ 

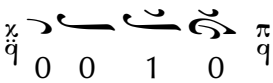
X0100100 $\begin{matrix} \times \\ q \end{matrix}$  $\begin{matrix} \Delta \\ \delta \end{matrix}$ 

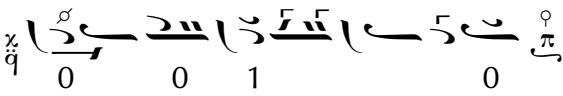
F) Formulae with fthores

Accented on last syllable:

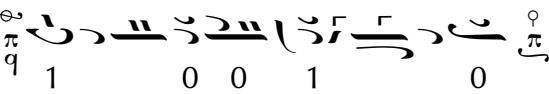
0001 

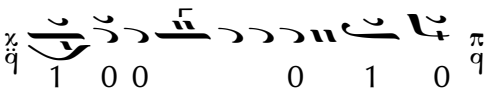
Accented on second to last syllable:

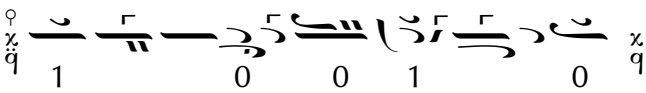
0010 

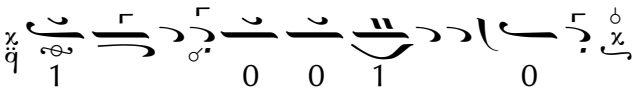


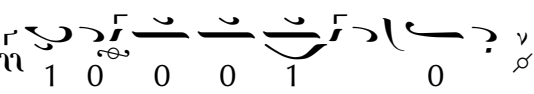
01X0 

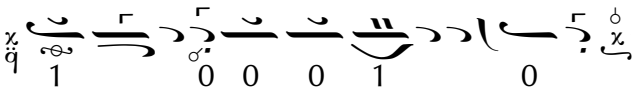
10010 

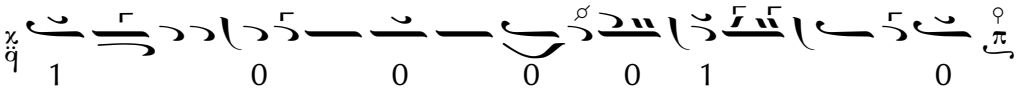






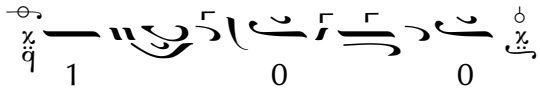
100010 

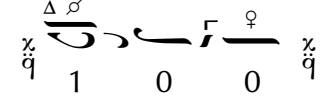


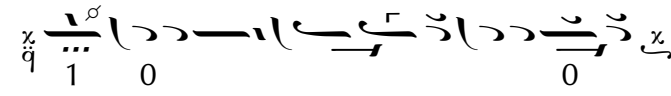
1000010 

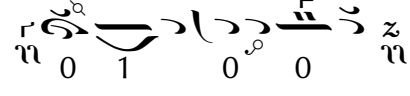
Accented on third to last syllable:

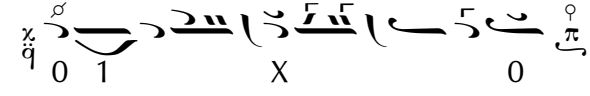
Third Mode - Sticheraric


100 

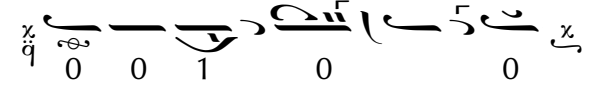
100 

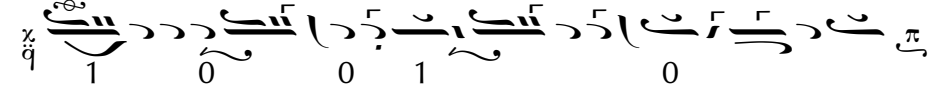
100 

0100 

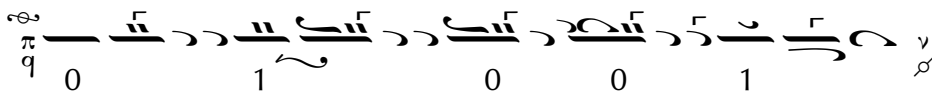
01X0 

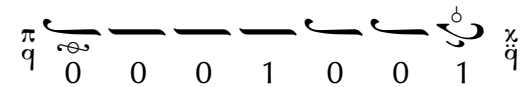
00100 



100100 

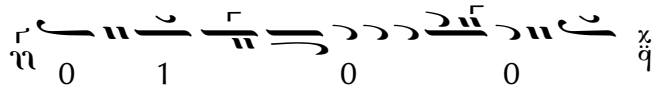
Accented on fourth to last syllable:

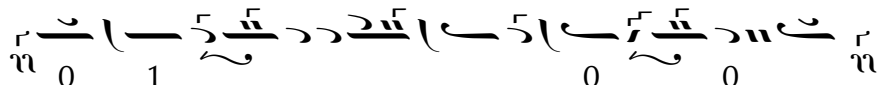
01001 

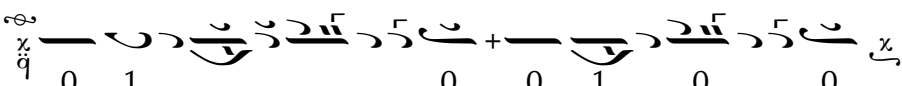
0001001 

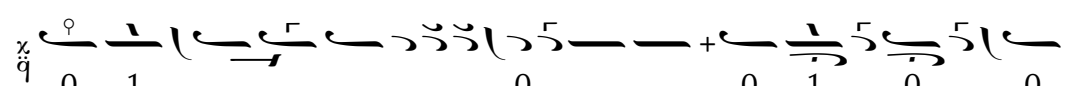
Third Mode - Sticheraric


Accented on third to last syllable:

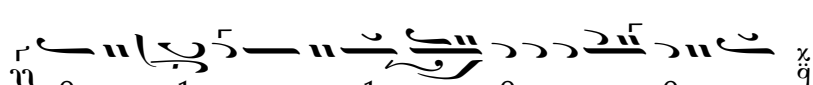
0100 

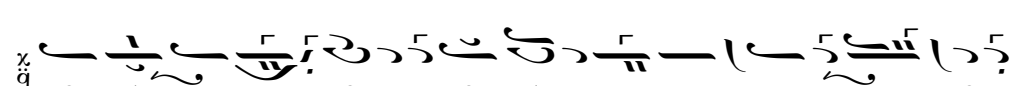
0100 

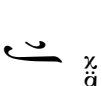
0100 

0100 

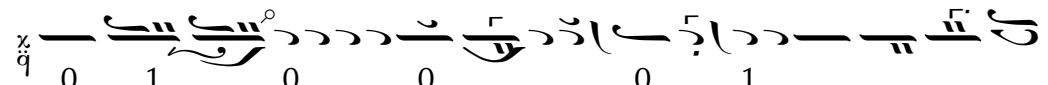



01100 

0100100 



Accented on fourth to last syllable:

010001010 



Third Mode - Sticheraric

I) Final Cadences: Ga - Ga

(to be preceded by a semi-final formula in section H)

10		
100		
1000		
1001		
00100		
00101		
10X0X		
X0100		
10100		

Third Mode - Sticheraric

001001

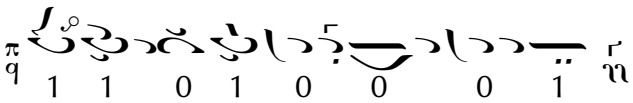
101001

J) Other Final Cadences

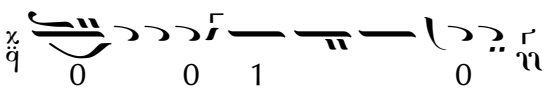
(not preceded by a semi-final formula in section H)

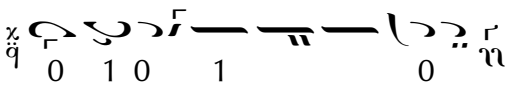
Accented on last syllable:

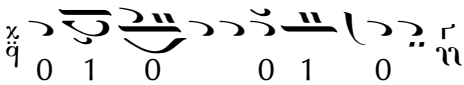
(Some formulae below ending in 100 may also be used here.)

11010001 


Accented on second to last syllable:

0010 

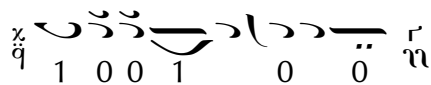
01010 

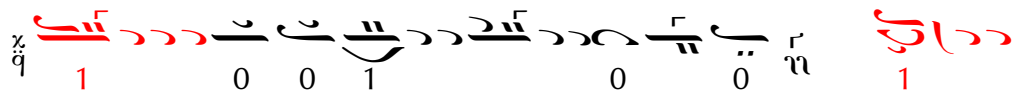
010010 

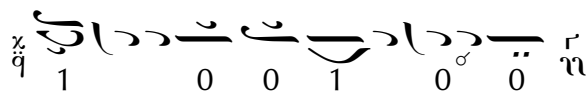
Accented on third to last syllable:

100100 









Third Mode - Sticheraric

$\begin{matrix} \times \\ q \end{matrix}$

 1 0 0 1 0

0

01100100
 $\begin{matrix} \times \\ q \end{matrix}$

 0 1 1 0 0 1 0 0

10100100
 $\begin{matrix} \times \\ q \end{matrix}$

 1 0 1 0 0 1 0 0

Accented on fourth to last syllable:

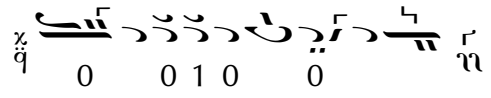
1001
 $\begin{matrix} \times \\ q \end{matrix}$

 1 0 0 1

Third Mode - Sticheric


K) Final Cadences for Theotokia

00100



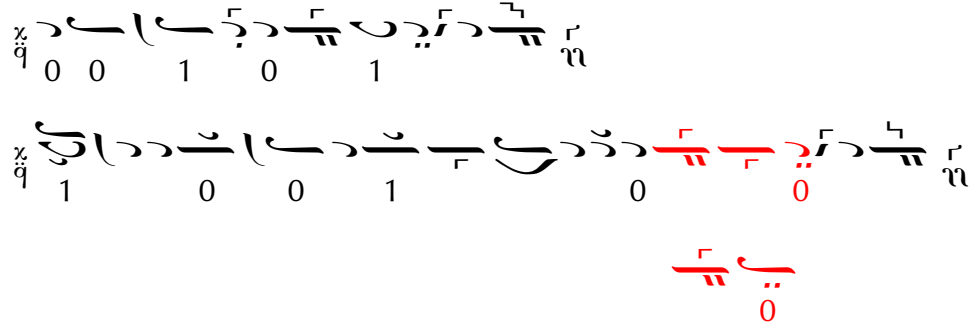
0 0 1 0 0

00101



0 0 1 0 1

100100



1 0 0 1 0

0

Detailed description: The image shows three musical cadences for the Theotokia in the Third Mode, Sticheric style. Each cadence is represented by a sequence of notes with rhythmic flags and a final cadence symbol (a double bar line with a fermata). The notes are labeled with binary digits (0 or 1) below them. The first cadence (00100) has five notes. The second (00101) has five notes. The third (100100) has six notes, with the last two notes (0 and 0) highlighted in red. Below the third cadence, there is a separate red musical notation consisting of a single note with a rhythmic flag and a '0' below it.

BYZANTINE MUSIC FORMULAE

Third Mode - Heirmologic

Contents*

A) Cadences on Di	248
B) Cadences on Ke	252
C) Cadences on Pa.....	264
E) Formulae with Fthoras	268
F) Ending Formulae.....	269
G) Endings for Theotokia	272

Key:

1 = accented syllable

0 = unaccented syllable

X = syllable that may be either
accented or unaccented

Variations of the same formula
are indicated in color

* The Byzantine music formulae herein were extracted from all the heirmologic melodies found in the *Zoe Anastasimatarion* (14th edition, 2002).

Third Mode - Heirmologic

A) Cadences on Di

Heirmologic third mode melodies usually begin with one of these formulae.

Note that there are no formulae in this section beginning on Ke. This is because melodies in heirmologic third mode do not move directly from Ke to Di.

Accented on last syllable:

From Pa

0 $\pi \overset{\Delta}{\underset{q}{\curvearrowright}} \overset{\Delta}{\underset{q}{\curvearrowright}}$

000 $\pi \overset{\Delta}{\underset{q}{\curvearrowright}} \overset{\Delta}{\underset{q}{\curvearrowright}} \overset{\Delta}{\underset{q}{\curvearrowright}} \overset{\Delta}{\underset{q}{\curvearrowright}}$

10001 $\pi \overset{\Delta}{\underset{q}{\curvearrowright}} \overset{\Delta}{\underset{q}{\curvearrowright}} \overset{\Delta}{\underset{q}{\curvearrowright}} \overset{\Delta}{\underset{q}{\curvearrowright}} \overset{\Delta}{\underset{q}{\curvearrowright}}$

From Di

00 $\overset{\Delta}{\underset{q}{\curvearrowright}} \overset{\Delta}{\underset{q}{\curvearrowright}} \overset{\Delta}{\underset{q}{\curvearrowright}}$

010001 $\overset{\Delta}{\underset{q}{\curvearrowright}} \overset{\Delta}{\underset{q}{\curvearrowright}} \overset{\Delta}{\underset{q}{\curvearrowright}} \overset{\Delta}{\underset{q}{\curvearrowright}} \overset{\Delta}{\underset{q}{\curvearrowright}} \overset{\Delta}{\underset{q}{\curvearrowright}}$

Accented on second to last syllable:

From Pa

10 $\pi \overset{\Delta}{\underset{q}{\curvearrowright}} \overset{\Delta}{\underset{q}{\curvearrowright}}$

010 $\pi \overset{\Delta}{\underset{q}{\curvearrowright}} \overset{\Delta}{\underset{q}{\curvearrowright}} \overset{\Delta}{\underset{q}{\curvearrowright}}$

0010 $\pi \overset{\Delta}{\underset{q}{\curvearrowright}} \overset{\Delta}{\underset{q}{\curvearrowright}} \overset{\Delta}{\underset{q}{\curvearrowright}} \overset{\Delta}{\underset{q}{\curvearrowright}}$

10010 $\pi \overset{\Delta}{\underset{q}{\curvearrowright}} \overset{\Delta}{\underset{q}{\curvearrowright}} \overset{\Delta}{\underset{q}{\curvearrowright}} \overset{\Delta}{\underset{q}{\curvearrowright}} \overset{\Delta}{\underset{q}{\curvearrowright}}$



Third Mode - Heirmologic

From Di

10	$\overset{\Delta}{\underset{\Delta}{\text{di}}} \overset{\curvearrowright}{1} \overset{\curvearrowright}{0} \overset{\Delta}{\underset{\Delta}{\text{di}}}$
00010	$\overset{\Delta}{\underset{\Delta}{\text{di}}} \overset{\curvearrowleft}{0} \overset{\curvearrowleft}{0} \overset{\curvearrowleft}{0} \overset{\curvearrowright}{1} \overset{\curvearrowright}{0} \overset{\Delta}{\underset{\Delta}{\text{di}}}$
10010	$\overset{\Delta}{\underset{\Delta}{\text{di}}} \overset{\curvearrowright}{1} \overset{\curvearrowright}{0} \overset{\curvearrowright}{0} \overset{\curvearrowright}{1} \overset{\curvearrowright}{0} \overset{\Delta}{\underset{\Delta}{\text{di}}}$
	$\overset{\Delta}{\underset{\Delta}{\text{di}}} \overset{\curvearrowright}{1} \overset{\curvearrowright}{0} \overset{\curvearrowright}{0} \overset{\curvearrowright}{1} \overset{\curvearrowright}{\text{X}} \overset{\curvearrowright}{0} \overset{\Delta}{\underset{\Delta}{\text{di}}}$
010010	$\overset{\Delta}{\underset{\Delta}{\text{di}}} \overset{\curvearrowleft}{0} \overset{\curvearrowright}{1} \overset{\curvearrowright}{0} \overset{\curvearrowright}{0} \overset{\curvearrowright}{1} \overset{\curvearrowright}{0} \overset{\Delta}{\underset{\Delta}{\text{di}}}$
	$\overset{\Delta}{\underset{\Delta}{\text{di}}} \overset{\curvearrowleft}{0} \overset{\curvearrowright}{1} \overset{\curvearrowright}{0} \overset{\curvearrowright}{0} \overset{\curvearrowright}{1} \overset{\curvearrowright}{0} \overset{\Delta}{\underset{\Delta}{\text{di}}}$
100010	$\overset{\Delta}{\underset{\Delta}{\text{di}}} \overset{\curvearrowleft}{1} \overset{\curvearrowleft}{0} \overset{\curvearrowleft}{0} \overset{\curvearrowleft}{0} \overset{\curvearrowright}{1} \overset{\curvearrowright}{0} \overset{\Delta}{\underset{\Delta}{\text{di}}}$



Accented on third to last syllable:

From Pa

100	$\overset{\pi}{\underset{\eta}{\text{pa}}} \overset{\curvearrowright}{1} \overset{\curvearrowright}{0} \overset{\curvearrowright}{0} \overset{\Delta}{\underset{\Delta}{\text{di}}}$
0100	$\overset{\pi}{\underset{\eta}{\text{pa}}} \overset{\curvearrowleft}{0} \overset{\curvearrowright}{1} \overset{\curvearrowright}{0} \overset{\curvearrowright}{0} \overset{\Delta}{\underset{\Delta}{\text{di}}}$
010X	$\overset{\pi}{\underset{\eta}{\text{pa}}} \overset{\curvearrowleft}{0} \overset{\curvearrowright}{1} \overset{\curvearrowright}{0} \text{X} \overset{\Delta}{\underset{\Delta}{\text{di}}}$
00100	$\overset{\pi}{\underset{\eta}{\text{pa}}} \overset{\curvearrowleft}{0} \overset{\curvearrowleft}{0} \overset{\curvearrowright}{1} \overset{\curvearrowright}{0} \overset{\curvearrowright}{0} \overset{\Delta}{\underset{\Delta}{\text{di}}}$
	$\overset{\pi}{\underset{\eta}{\text{pa}}} \overset{\curvearrowleft}{0} \overset{\curvearrowleft}{0} \overset{\curvearrowright}{1} \overset{\curvearrowright}{0} \overset{\curvearrowright}{0} \overset{\Delta}{\underset{\Delta}{\text{di}}}$



Third Mode - Heirmologic

π
q
0 0 1 0 0 Δ
d

0010100
 π
q
0 0 1 0 1 0 0 Δ
d

00X0100
 π
q
0 0 X 0 1 0 0 Δ
d

1000100
 π
q
1 0 0 0 1 0 0 Δ
d

ρ
1 0

From Di

0100
 Δ
d
0 1 0 0 Δ
d

1

010100
 π
q
0 1 0 1 0 0 Δ
d

100100
 Δ
d
1 0 0 1 0 0 Δ
d

001100
 Δ
d
0 0 1 1 0 0 Δ
d

0100100
 Δ
d
0 1 0 0 1 0 0 Δ
d

Accented on fourth to last syllable:

From Pa

01000
 π
q
0 1 0 0 0 Δ
d

01010
 π
q
0 1 0 0 0 Δ
d

001010
 π
q
0 0 1 0 1 0 Δ
d

Third Mode - Heirmologic

From Di

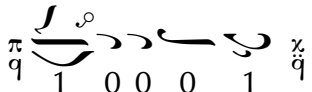
01000 $\overset{\Delta}{\underset{\delta}{\mathfrak{A}}} \overline{\quad} \overline{\quad} \overline{\quad} \overline{\quad} \overset{\Delta}{\underset{\delta}{\mathfrak{A}}}$
 0 1 0 0 0

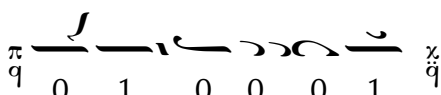
001100 $\overset{\Delta}{\underset{\delta}{\mathfrak{A}}} \overline{\quad} \overline{\quad} \overline{\quad} \overline{\quad} \overline{\quad} \overline{\quad} \overset{\Delta}{\underset{\delta}{\mathfrak{A}}}$
 0 0 1 1 0 0

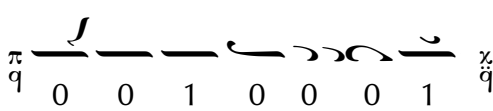
B) Cadences on Ke

Accented on last syllable:

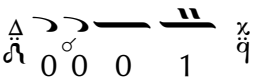
From Pa

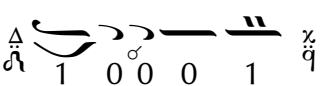
10001 

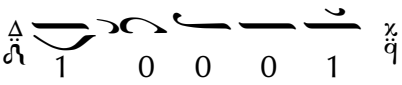
010001 

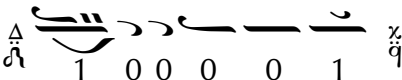
0010001 

From Di

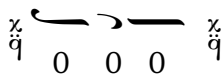
0001 

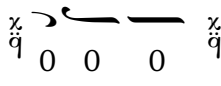
10001 

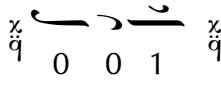


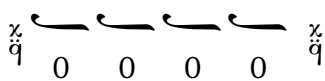
100001 

From Ke

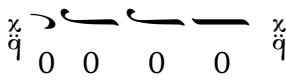
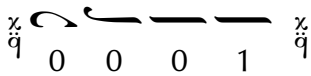
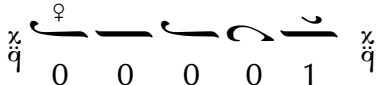
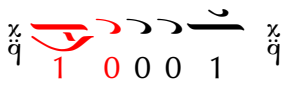
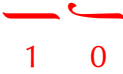
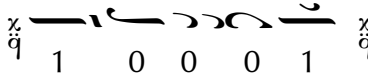
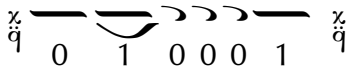
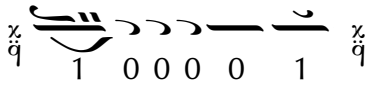
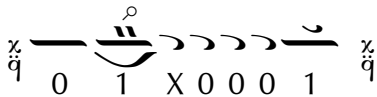
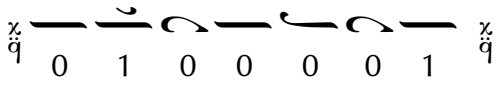

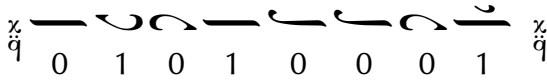
000 



001 

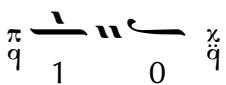
0000 

Third Mode - Heirmologic

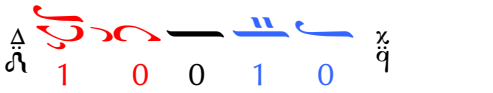

	$\frac{x}{q}$  $\frac{x}{q}$	
0001	$\frac{x}{q}$  $\frac{x}{q}$	
00001	$\frac{x}{q}$  $\frac{x}{q}$	
10001	$\frac{x}{q}$  $\frac{x}{q}$	
	$\frac{x}{q}$  $\frac{x}{q}$	
010001	$\frac{x}{q}$  $\frac{x}{q}$	
100001	$\frac{x}{q}$  $\frac{x}{q}$	
01X0001	$\frac{x}{q}$  $\frac{x}{q}$	
0100001	$\frac{x}{q}$  $\frac{x}{q}$	
01010001	$\frac{x}{q}$  $\frac{x}{q}$	
	$\frac{x}{q}$  $\frac{x}{q}$	

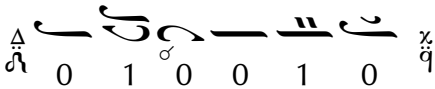
Accented on second to last syllable:

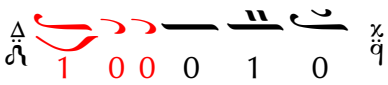

From Pa

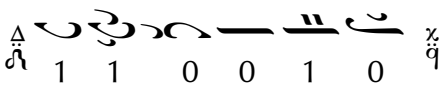
10	$\frac{\pi}{q}$ 
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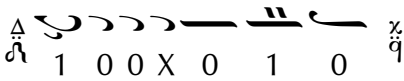
Third Mode - Heirmologic

10010 


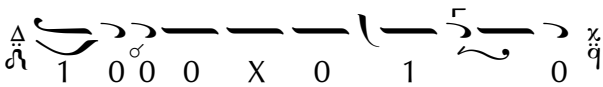
010010 

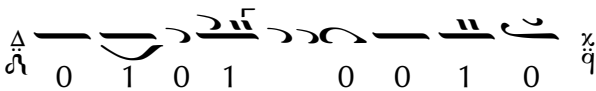
100010  

110010 

100X010 

1000X010 

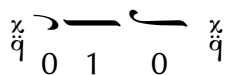
01010010 

100X0X010 

From Ke

10  

010 

Third Mode - Heirmologic

0010	 $\begin{matrix} \text{q} \\ \text{q} \end{matrix}$ 0 0 1 0	
	 $\begin{matrix} \text{q} \\ \text{q} \end{matrix}$ 0 0 1 0	
00010	 $\begin{matrix} \text{q} \\ \text{q} \end{matrix}$ 0 0 0 1 0	
10010	 $\begin{matrix} \text{q} \\ \text{q} \end{matrix}$ 1 0 0 1 0	
	 $\begin{matrix} \text{q} \\ \text{q} \end{matrix}$ 1 0 0 1 0	 $\begin{matrix} \text{q} \\ \text{q} \end{matrix}$ 1 0 0
010010	 $\begin{matrix} \text{q} \\ \text{q} \end{matrix}$ 0 1 0 0 1 0	 $\begin{matrix} \text{q} \\ \text{q} \end{matrix}$ 1
	 $\begin{matrix} \text{q} \\ \text{q} \end{matrix}$ 0 1 0 0 1 0	 $\begin{matrix} \text{q} \\ \text{q} \end{matrix}$ 1
	 $\begin{matrix} \text{q} \\ \text{q} \end{matrix}$ 0 1 0 0 1 0	
	 $\begin{matrix} \text{q} \\ \text{q} \end{matrix}$ 0 1 0 0 1 0	
000010	 $\begin{matrix} \text{q} \\ \text{q} \end{matrix}$ 0 0 0 0 1 0	
100010	 $\begin{matrix} \text{q} \\ \text{q} \end{matrix}$ 1 0 0 0 1 0	 $\begin{matrix} \text{q} \\ \text{q} \end{matrix}$ 1
	 $\begin{matrix} \text{q} \\ \text{q} \end{matrix}$ 1 0 0 0 1 0	
101010	 $\begin{matrix} \text{q} \\ \text{q} \end{matrix}$ 1 0 X 0 1 0	
0100010	 $\begin{matrix} \text{q} \\ \text{q} \end{matrix}$ 0 1 0 0 0 1 0	 $\begin{matrix} \text{q} \\ \text{q} \end{matrix}$ 1

Third Mode - Heirmologic

010X010	 $\frac{\pi}{q}$ 0 1 0 X 0 1 0 $\frac{\pi}{q}$	 0 1
10X0010	 $\frac{\pi}{q}$ 1 0 X 0 0 1 0 $\frac{\pi}{q}$	
01000010	 $\frac{\pi}{q}$ 0 1 0 0 0 0 1 0 $\frac{\pi}{q}$	

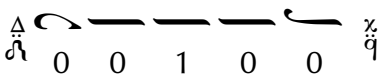
Accented on third to last syllable:

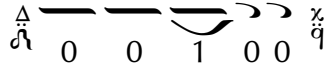
From Pa

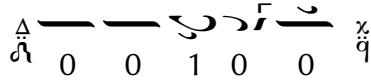
0100	 $\frac{\pi}{q}$ 0 1 0 0 $\frac{\pi}{q}$	
00100	 $\frac{\pi}{q}$ 0 0 1 0 0 $\frac{\pi}{q}$	
000100	 $\frac{\pi}{q}$ 0 0 0 1 0 0 $\frac{\pi}{q}$	
0X0100	 $\frac{\pi}{q}$ 0 X 0 1 0 0 $\frac{\pi}{q}$	
100100	 $\frac{\pi}{q}$ 1 0 0 1 0 0 $\frac{\pi}{q}$	
00X0101	 $\frac{\pi}{q}$ 0 0 X 0 1 0 1 $\frac{\pi}{q}$	 1
0100100	 $\frac{\pi}{q}$ 0 1 0 0 1 0 0 $\frac{\pi}{q}$	
10100100	 $\frac{\pi}{q}$ 1 0 1 0 0 1 0 0 $\frac{\pi}{q}$	
010100100	 $\frac{\pi}{q}$ 0 1 0 1 0 0 1 0 0 $\frac{\pi}{q}$	

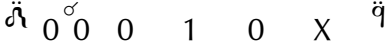
Third Mode - Heirmologic

From Di

00100 $\overset{\Delta}{\underset{\delta}{\mathcal{A}}}$ 

$\overset{\Delta}{\underset{\delta}{\mathcal{A}}}$ 

$\overset{\Delta}{\underset{\delta}{\mathcal{A}}}$ 


00010X $\overset{\Delta}{\underset{\delta}{\mathcal{A}}}$ 

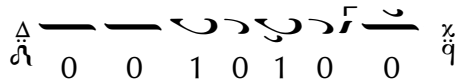
100100 $\overset{\Delta}{\underset{\delta}{\mathcal{A}}}$ 

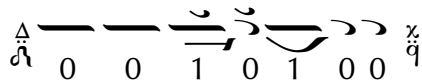


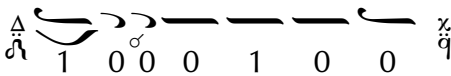




0010100 $\overset{\Delta}{\underset{\delta}{\mathcal{A}}}$ 

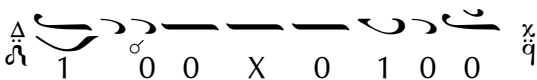
$\overset{\Delta}{\underset{\delta}{\mathcal{A}}}$ 

$\overset{\Delta}{\underset{\delta}{\mathcal{A}}}$ 

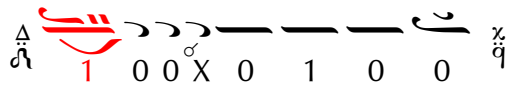
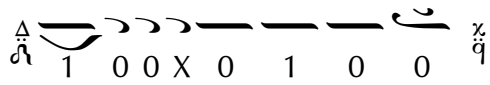
1000100 $\overset{\Delta}{\underset{\delta}{\mathcal{A}}}$ 

10000100 $\overset{\Delta}{\underset{\delta}{\mathcal{A}}}$ 

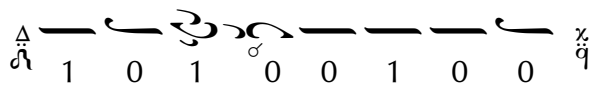


100X0100 $\overset{\Delta}{\underset{\delta}{\mathcal{A}}}$ 

Third Mode - Heirmologic

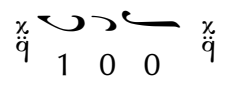
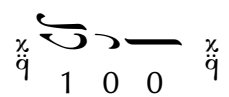
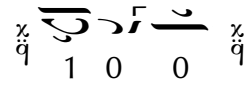


10100100

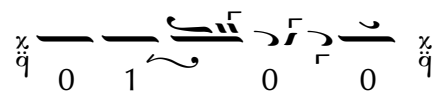
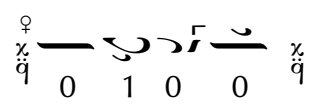


From Ke

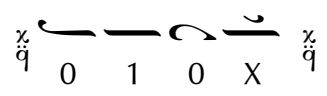
100



0100



010X



Third Mode - Heirmologic

0110		
10100		
010100		
0X0100		
100100		
0000100		
0100100		

Third Mode - Heirmologic

1000100	$\frac{x}{q}$ $\frac{x}{q}$	
	$\frac{x}{q}$ $\frac{x}{q}$	
	$\frac{x}{q}$ $\frac{x}{q}$	
10X0100	$\frac{x}{q}$ $\frac{x}{q}$	
	$\frac{x}{q}$ $\frac{x}{q}$	
01000100	$\frac{x}{q}$ $\frac{x}{q}$	
010100100	$\frac{x}{q}$ $\frac{x}{q}$	

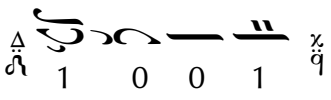
Accented on fourth to last syllable:

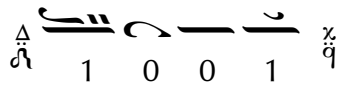
From Pa

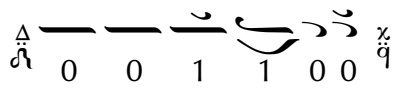
1001	$\frac{\pi}{q}$ $\frac{x}{q}$
01010	$\frac{\pi}{q}$ $\frac{x}{q}$
001001	$\frac{\pi}{q}$ $\frac{x}{q}$
101001	$\frac{\pi}{q}$ $\frac{x}{q}$
1001001	$\frac{\pi}{q}$ $\frac{x}{q}$

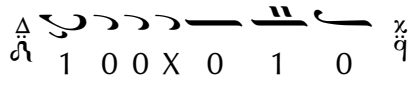
Third Mode - Heirmologic

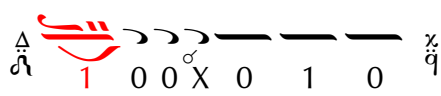
From Di

1001 

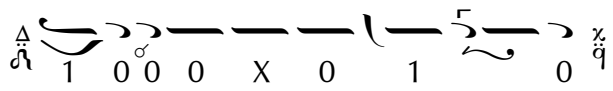


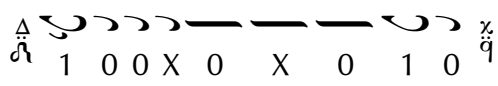
001100 

100X010 

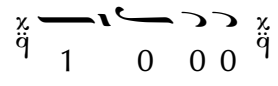




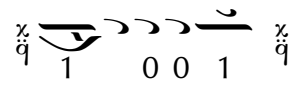
1000X010 

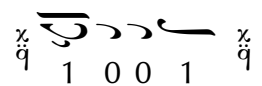
100X0X010 

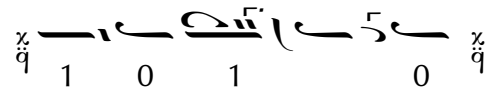
From Ke

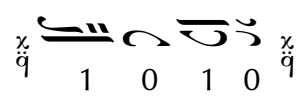
1000 



1001 



1010 



Third Mode - Heirmologic

01001		
01010		
001001		
001010		
101001		
101010		
010X010		
0101010		

C) Cadences on Pa

Accented on last syllable:

From Ke

010001

1X0001

0010001

Accented on second to last syllable:

From Pa

00110010

From Di

0010

10010

From Ke

0010

10010

Third Mode - Heirmologic

1

010010

$\frac{\pi}{q}$ 0 1 0 0 1 0 $\frac{\pi}{q}$

1 0 1 0

1 0 1 0

100010

$\frac{\pi}{q}$ 1 0 0 0 1 0 $\frac{\pi}{q}$

1 0 0 1 0

1 0

0X10010

$\frac{\pi}{q}$ 0 X 1 0 0 1 0 $\frac{\pi}{q}$

0100010

$\frac{\pi}{q}$ 0 1 0 0 0 1 0 $\frac{\pi}{q}$

100X010

$\frac{\pi}{q}$ 1 0 0 X 0 1 0 $\frac{\pi}{q}$

1 0

1010010

$\frac{\pi}{q}$ 1 0 1 0 0 1 0 $\frac{\pi}{q}$

1

0100X010

$\frac{\pi}{q}$ 0 1 0 0 X 0 1 0 $\frac{\pi}{q}$

0 1

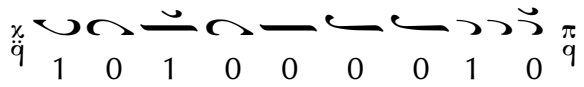
100100010

$\frac{\pi}{q}$ 1 0 0 1 0 0 0 1 0 $\frac{\pi}{q}$

101000010

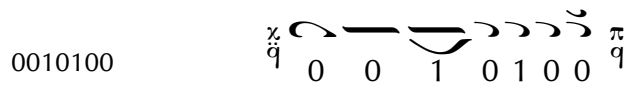
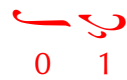
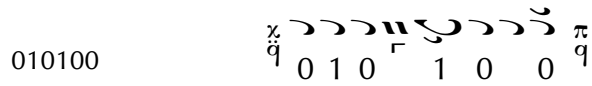
$\frac{\pi}{q}$ 1 0 1 0 0 0 0 1 0 $\frac{\pi}{q}$

Third Mode - Heirmologic



Accented on third to last syllable:

From Ke



Third Mode - Heirmologic

Accented on fourth to last syllable:

From Ke

001010	$\begin{array}{ccccccc} \overset{\chi}{\underset{\eta}{\curvearrowright}} & \text{—} & \text{—} & \text{—} & \text{—} & \text{—} & \overset{\pi}{\underset{\eta}{\curvearrowright}} \\ 0 & 0 & 1 & 0 & 1 & 0 & \end{array}$	
0001010	$\begin{array}{ccccccc} \overset{\chi}{\underset{\eta}{\curvearrowright}} & \text{—} & \text{—} & \text{—} & \text{—} & \text{—} & \overset{\pi}{\underset{\eta}{\curvearrowright}} \\ 0 & 0 & 0 & 1 & 0 & 1 & 0 \end{array}$	
0101010	$\begin{array}{ccccccc} \overset{\chi}{\underset{\eta}{\curvearrowright}} & \text{—} & \text{—} & \text{—} & \text{—} & \text{—} & \overset{\pi}{\underset{\eta}{\curvearrowright}} \\ 0 & 1 & 0 & 1 & 0 & 1 & 0 \end{array}$	$\begin{array}{cc} \text{—} & \text{—} \\ 1 & 0 \end{array}$
100X010	$\begin{array}{ccccccc} \overset{\chi}{\underset{\eta}{\curvearrowright}} & \text{—} & \text{—} & \text{—} & \text{—} & \text{—} & \overset{\pi}{\underset{\eta}{\curvearrowright}} \\ 1 & 0 & 0 & X & 0 & 1 & 0 \end{array}$	
0100X010	$\begin{array}{ccccccc} \overset{\chi}{\underset{\eta}{\curvearrowright}} & \text{—} & \text{—} & \text{—} & \text{—} & \text{—} & \overset{\pi}{\underset{\eta}{\curvearrowright}} \\ 0 & 1 & 0 & 0 & X & 0 & 1 \end{array}$	$\begin{array}{cc} \text{—} & \text{—} \\ 0 & 1 \end{array}$
10001001	$\begin{array}{ccccccc} \overset{\chi}{\underset{\eta}{\curvearrowright}} & \text{—} & \text{—} & \text{—} & \text{—} & \text{—} & \overset{\pi}{\underset{\eta}{\curvearrowright}} \\ 1 & 0 & 0 & 0 & 1 & 0 & 0 \end{array}$	
10001010	$\begin{array}{ccccccc} \overset{\chi}{\underset{\eta}{\curvearrowright}} & \text{—} & \text{—} & \text{—} & \text{—} & \text{—} & \overset{\pi}{\underset{\eta}{\curvearrowright}} \\ 1 & 0 & 0 & 0 & 1 & 0 & 1 \end{array}$	$\begin{array}{cc} \text{—} & \text{—} \\ 1 & 0 \end{array}$

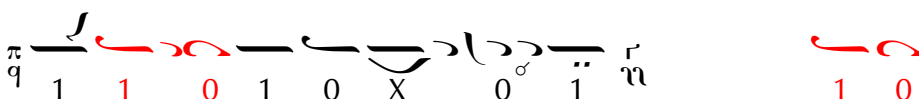
Third Mode - Heirmologic

F) Ending Formulae

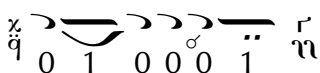
Accented on last syllable:

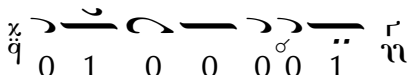
(Formulae ending in 100 or 1001 may also be used here.)

From Pa

11010X01 

From Ke

010001 

0100001 

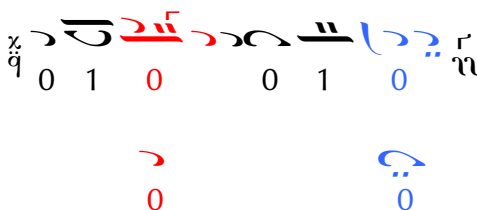
10010001 

Note: The alternate ending formulae in purple notes on pages 269-271 were used only by Petros Peloponnesios (in the 18th century) in his brief doxologies. Apparently, however, they fell into disuse, since they are not to be found in compositions of the 19th or 20th centuries.

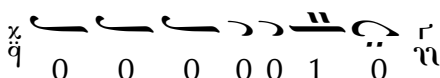
Accented on second to last syllable:

From Ke

010010 



X00010 

0000010 

Third Mode - Heirmologic

	$\begin{matrix} \times \\ \dot{q} \end{matrix}$		$\begin{matrix} \times \\ \dot{q} \end{matrix}$	$\begin{matrix} 0 & 0 & 0 & 0 & 0 & 1 & 0 \end{matrix}$	$\begin{matrix} \times \\ \dot{q} \end{matrix}$	
0010010	$\begin{matrix} \times \\ \dot{q} \end{matrix}$		$\begin{matrix} \times \\ \dot{q} \end{matrix}$	$\begin{matrix} 0 & 0 & 1 & 0 & 0 & 1 & 0 \end{matrix}$	$\begin{matrix} \times \\ \dot{q} \end{matrix}$	
0100010	$\begin{matrix} \times \\ \dot{q} \end{matrix}$		$\begin{matrix} \times \\ \dot{q} \end{matrix}$	$\begin{matrix} 0 & 1 & 0 & 0 & 0 & 1 & 0 \end{matrix}$	$\begin{matrix} \times \\ \dot{q} \end{matrix}$	
010X010	$\begin{matrix} \times \\ \dot{q} \end{matrix}$		$\begin{matrix} \times \\ \dot{q} \end{matrix}$	$\begin{matrix} 0 & 1 & 0 & X & 0 & 1 & 0 \end{matrix}$	$\begin{matrix} \times \\ \dot{q} \end{matrix}$	
00100010	$\begin{matrix} \times \\ \dot{q} \end{matrix}$		$\begin{matrix} \times \\ \dot{q} \end{matrix}$	$\begin{matrix} 0 & 0 & 1 & 0 & 0 & 0 & 1 & 0 \end{matrix}$	$\begin{matrix} \times \\ \dot{q} \end{matrix}$	
00110010	$\begin{matrix} \times \\ \dot{q} \end{matrix}$		$\begin{matrix} \times \\ \dot{q} \end{matrix}$	$\begin{matrix} 0 & 0 & 1 & 1 & 0 & 0 & 1 & 0 \end{matrix}$	$\begin{matrix} \times \\ \dot{q} \end{matrix}$	
10000010	$\begin{matrix} \times \\ \dot{q} \end{matrix}$		$\begin{matrix} \times \\ \dot{q} \end{matrix}$	$\begin{matrix} 1 & 0 & 0 & 0 & 0 & 0 & 1 & 0 \end{matrix}$	$\begin{matrix} \times \\ \dot{q} \end{matrix}$	
10010010	$\begin{matrix} \times \\ \dot{q} \end{matrix}$		$\begin{matrix} \times \\ \dot{q} \end{matrix}$	$\begin{matrix} 1 & 0 & 0 & 1 & 0 & 0 & 1 & 0 \end{matrix}$	$\begin{matrix} \times \\ \dot{q} \end{matrix}$	
10010010	$\begin{matrix} \times \\ \dot{q} \end{matrix}$		$\begin{matrix} \times \\ \dot{q} \end{matrix}$	$\begin{matrix} 1 & 0 & 0 & 1 & 0 & 0 & 1 & 0 \end{matrix}$	$\begin{matrix} \times \\ \dot{q} \end{matrix}$	
101010010	$\begin{matrix} \times \\ \dot{q} \end{matrix}$		$\begin{matrix} \times \\ \dot{q} \end{matrix}$	$\begin{matrix} 1 & 0 & 1 & 0 & 1 & 0 & 0 & 1 & 0 \end{matrix}$	$\begin{matrix} \times \\ \dot{q} \end{matrix}$	

Accented on third to last syllable:

From Pa

11010X01	$\begin{matrix} \pi \\ \dot{q} \end{matrix}$		$\begin{matrix} \pi \\ \dot{q} \end{matrix}$	$\begin{matrix} 1 & 1 & 0 & 1 & 0 & X & 0 & 1 \end{matrix}$	$\begin{matrix} \pi \\ \dot{q} \end{matrix}$	
----------	--	--	--	---	--	--

From Ke

100100	$\begin{matrix} \times \\ \dot{q} \end{matrix}$		$\begin{matrix} \times \\ \dot{q} \end{matrix}$	$\begin{matrix} 1 & 0 & 0 & 1 & 0 & 0 \end{matrix}$	$\begin{matrix} \times \\ \dot{q} \end{matrix}$	
--------	---	--	---	---	---	--

Third Mode - Heirmologic

0000100		
010010X		
10X0100		
010X0100		
100X0100		

Accented on fourth to last syllable:

From Ke

01010		
101010		
010X010		
10X01001		

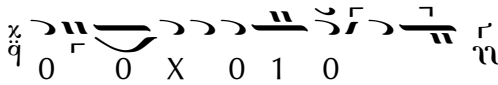
G) Endings for Theotokia*

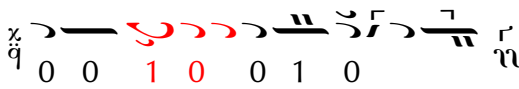
Accented on last syllable:

(Use a formula ending in 100 or 1001)

Accented on second to last syllable:

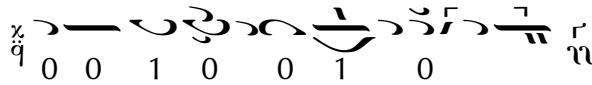
From Ke

00X010 

0010010 

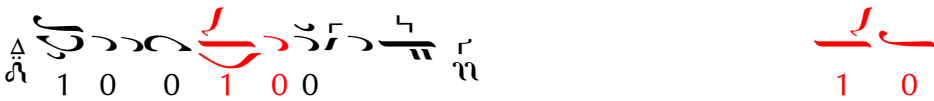




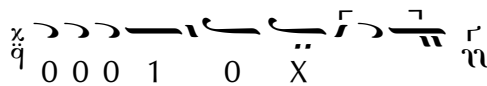


Accented on third to last syllable:

From Di

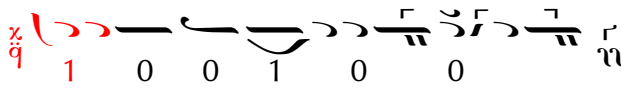

100100 

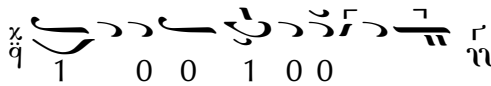
From Ke

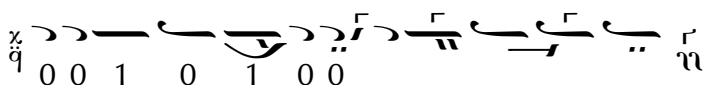
00010X 


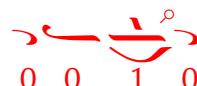
* Some formulae in this section are taken from the Athonite oral tradition, as represented in the book *Παρακλητικῆς, Μουσικὸν Ἐγκόλπιον, Πλάγιοι Ἦχοι, Ἱεροθέου Ἱερομονάχου, ἐκδόσεις Ἱ.Μ. Φιλοθέου, Ἅγιον Ὄρος, 2004.*


Third Mode - Heirmologic

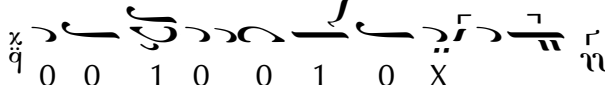
100100  

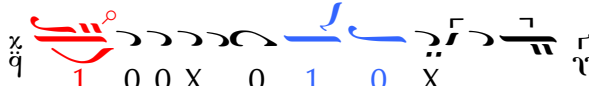


100100 

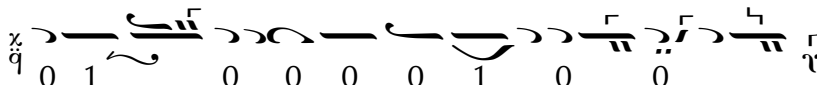
0010100 

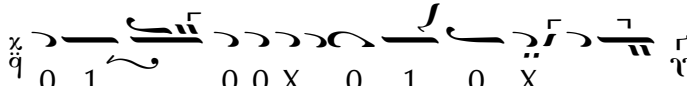
100010X  

1010100 

0010010X 

100X010X   

010000100 

0100X010X 

Accented on fourth to last syllable:

From Ke

1001 

*Note: The above formula in blue was not taken from a publication in Greek but from the Rumanian Anastasimatarul published in 1943. I included this formula because it is the only occurrence of a 1001 final cadence in this mode that I could find in a publication with traditional formulae.



Fourth Mode



BYZANTINE MUSIC FORMULÆ

Fourth Mode - Sticheraric

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* The Byzantine music formulae herein were extracted from sticheraric melodies found in the *Zoe Anastasi-matarion* (14th edition, 2002) Volume I of *Mousike Kypsele* (1883 edition), the *Doxastarion* of Konstantinos Protopsaltis (1844 edition), and the volume I of the *Athonias* (1906 edition) by Petros Philanthidis.

Key:

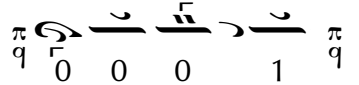
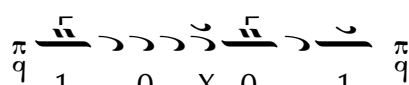
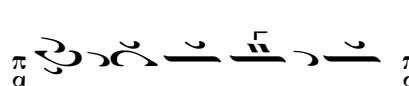

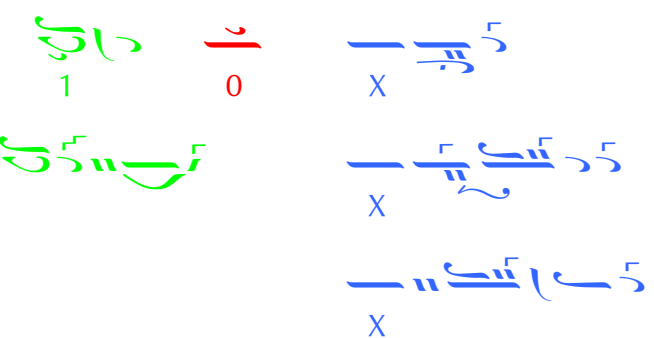
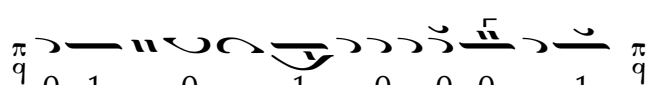
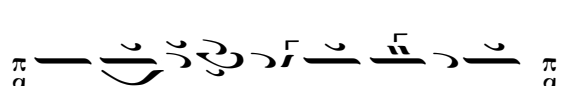
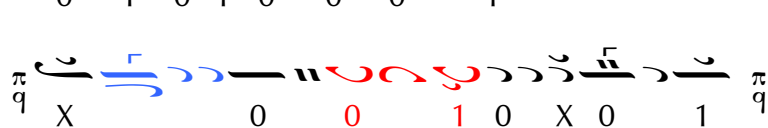
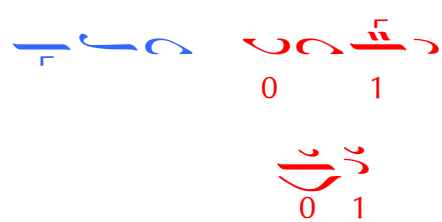
1 = accented syllable
0 = unaccented syllable
X = syllable that may be either accented or unaccented

Variations of the same formula are indicated in color

Medial Cadences on Pa

A) Accented on Last Syllable

Pa - Pa

0001	
10X01	
10001	
100X001	
	
01010001	
	
X0010X01	
	

Fourth Mode - Sticheraric

01010X01

X00010001

100010X01

Vou - Pa

This section is almost empty because medial cadences on Vou are rarely followed by a medial cadence on Pa

010010001

Di - Pa

10001

Fourth Mode - Sticheraric

0 0

Δ 1 0 0 0 1 π
 δ

1

0010001

Δ 0 0 0 1 0 0 0 1 π
 δ

B) Accented on Second to Last Syllable

Pa - Pa

10 π
 $\begin{matrix} \text{q} & \text{q} \\ 1 & 0 \end{matrix}$

π
 $\begin{matrix} \text{q} & \text{q} \\ 1 & 0 \end{matrix}$

010 π
 $\begin{matrix} \text{q} & \text{q} & \text{q} \\ 0 & 1 & 0 \end{matrix}$

10010 π
 $\begin{matrix} \text{q} & \text{q} & \text{q} & \text{q} & \text{q} & \text{q} & \text{q} \\ 1 & 0 & 0 & 1 & 0 & 1 & 0 \end{matrix}$

π
 $\begin{matrix} \text{q} & \text{q} & \text{q} & \text{q} & \text{q} \\ 1 & 0 & 0 & 1 & 0 \end{matrix}$

π
 $\begin{matrix} \text{q} & \text{q} & \text{q} & \text{q} & \text{q} & \text{q} & \text{q} \\ 1 & 0 & 0 & 1 & 0 & 1 & 0 \end{matrix}$

π
 $\begin{matrix} \text{q} & \text{q} & \text{q} & \text{q} & \text{q} & \text{q} & \text{q} \\ 1 & 0 & 0 & 1 & 0 & 1 & 0 \end{matrix}$

π
 $\begin{matrix} \text{q} & \text{q} & \text{q} & \text{q} & \text{q} & \text{q} & \text{q} \\ 1 & 0 & 0 & 1 & 0 & 1 & 0 \end{matrix}$

11010 π
 $\begin{matrix} \text{q} & \text{q} & \text{q} & \text{q} & \text{q} & \text{q} & \text{q} \\ 1 & 1 & 0 & 1 & 0 & 1 & 0 \end{matrix}$

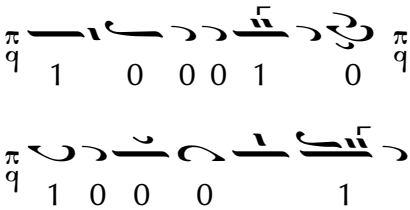
010010 π
 $\begin{matrix} \text{q} & \text{q} & \text{q} & \text{q} & \text{q} & \text{q} & \text{q} \\ 0 & 1 & 0 & 0 & 1 & 0 & 0 \end{matrix}$

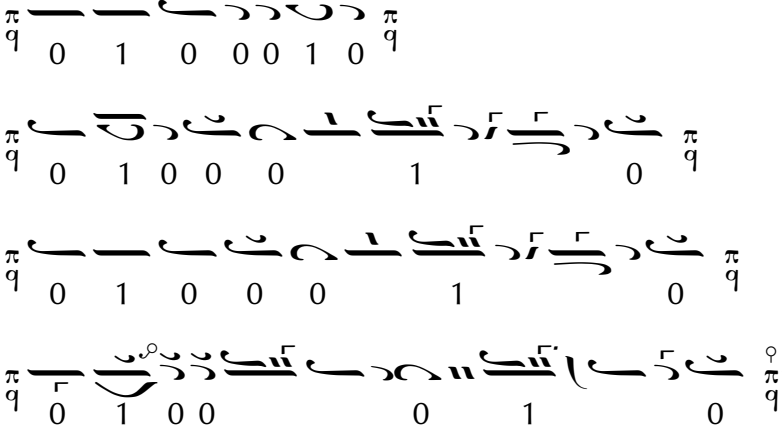
π
 $\begin{matrix} \text{q} & \text{q} & \text{q} & \text{q} & \text{q} & \text{q} & \text{q} \\ 0 & 1 & 0 & 0 & 1 & 0 & 0 \end{matrix}$

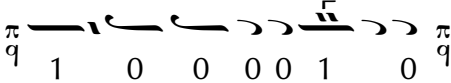
π
 $\begin{matrix} \text{q} & \text{q} & \text{q} & \text{q} & \text{q} & \text{q} & \text{q} \\ 0 & 1 & 0 & 0 & 1 & 0 & 0 \end{matrix}$

π
 $\begin{matrix} \text{q} & \text{q} & \text{q} & \text{q} \\ 0 & 1 & 1 & 0 \end{matrix}$

Fourth Mode - Sticheraric

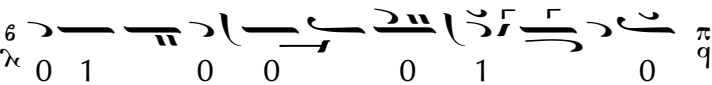
100010 

0100010 

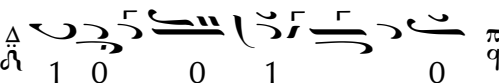
1000010 

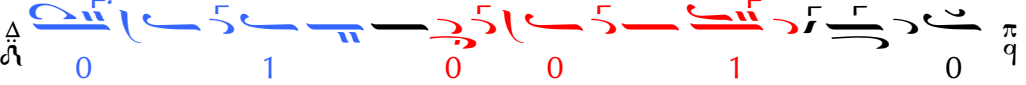
Vou - Pa

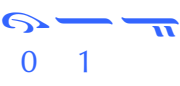
This section is almost empty because medial cadences on Vou are rarely followed by a medial cadence on Pa


0100010 


Di - Pa


10010 

010010 









Fourth Mode - Sticheraric

0010010		
1010010		
0100010		
1000010		
0X0X010		
1010X010		

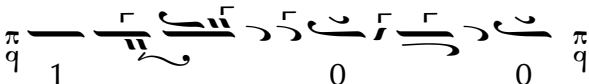
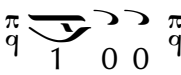
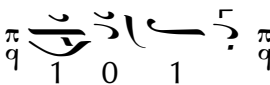
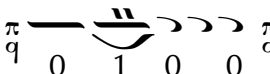


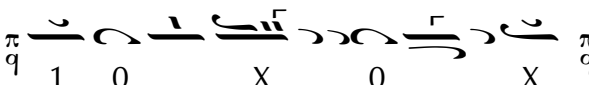
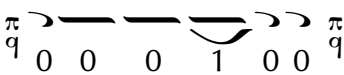
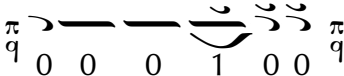
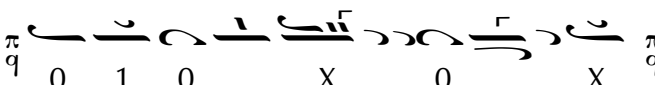

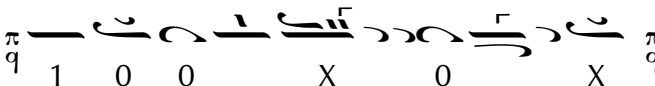
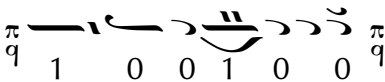
Fourth Mode - Sticheraric



Fourth Mode - Sticheraric

C) Accented on Third to Last Syllable

Pa - Pa

100	
	
101	
0100	
	
10100	
10X0X	
000100	
	
010X0X	
	
100X0X	
	

Fourth Mode - Sticheraric

100X0X

π ₉ 1 0 0 X 0 X π ₉

1 0 X

X

X

100X0X

π ₉ 1 0 0 X 0 X π ₉ 4

100100

π ₉ 1 0 0 1 0 0 π ₉

XXX0X0X

π ₉ X X X 0 X 0 X π ₉ 4

10X0X0X

π ₉ 1 0 X 0 X 0 X π ₉

X

X

X

0100100

π ₉ 0 1 0 0 1 0 0 π ₉

100010X

π ₉ 1 0 0 0 1 0 X π ₉

100X0X0X

π ₉ 1 0 0 X 0 X 0 X π ₉

X

X

Fourth Mode - Sticheraric

5 5 5 5

01000X0X π_9 0 1 0 0 0 X 0 X π_9

00010100 π_9 0 0 0 1 0 1 0 0 π_9

10010100 π_9 1 0 0 1 0 1 0 0 π_9

000100100 π_9 0 0 0 1 0 0 1 0 0 π_9

1010X00X0X

π_9 1 0 1 0 X 0 0 X 0 X π_9

0 X

X

X

Vou - Pa

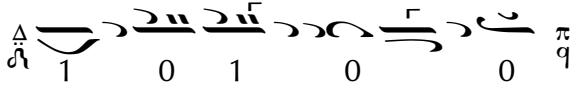
This section is empty because medial cadences on Vou are rarely followed by a medial cadence on Pa


Di - Pa

100 Δ 1 0 0 π_9 1

0100 Δ 0 1 0 0 π_9


Fourth Mode - Sticheraric

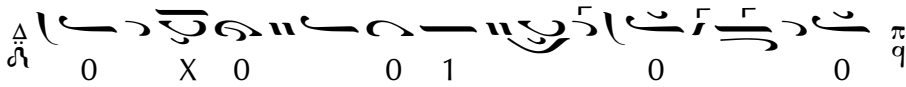
10100 Δ  π ₉
 1 0 1 0 0

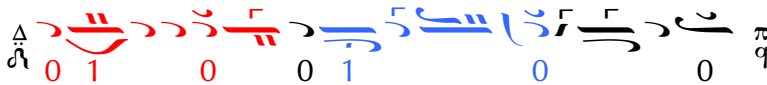
X010X Δ  π ₉
 X 0 1 0 X





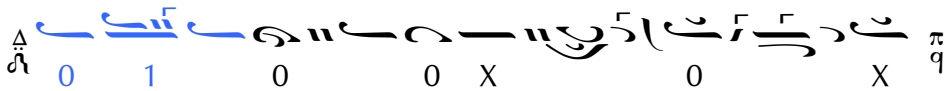
10X0X Δ  π ₉ 0
 1 0 X 0 X

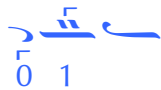
0X00100 Δ  π ₉
 0 X 0 0 1 0 0

0100100 Δ  π ₉
 0 1 0 0 1 0 0

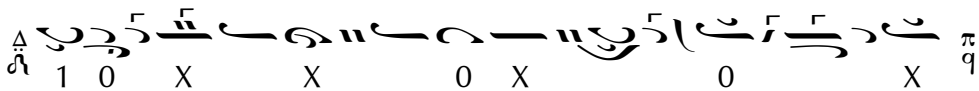

 0 1 0 1 0

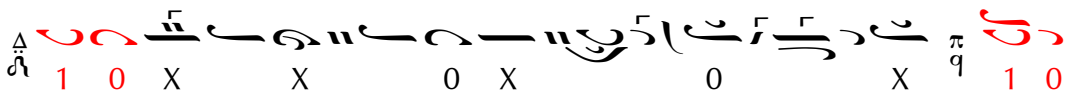

 0 1 0

0100X0X Δ  π ₉
 0 1 0 0 X 0 X

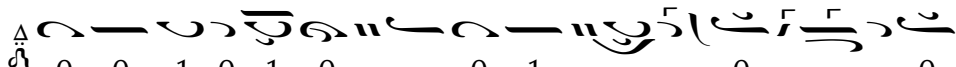

 0 1


 0 1

10XX0X0X Δ  π ₉
 1 0 X X 0 X 0 X

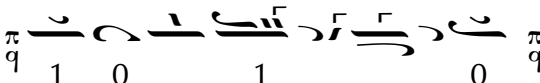
10XX0X0X Δ  π ₉ 1 0
 1 0 X X 0 X 0 X

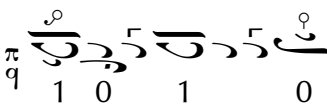
Fourth Mode - Sticheraric


0010100100 $\overset{\Delta}{\underset{\delta}{\alpha}}$  π
0 0 1 0 1 0 0 1 0 0

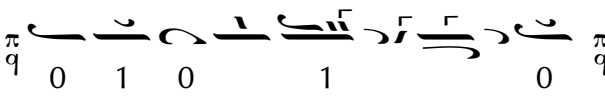
D) Accented on Fourth to Last Syllable

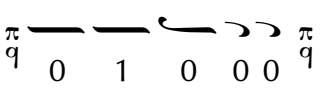
Pa - Pa


1010 

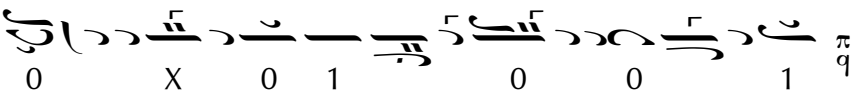


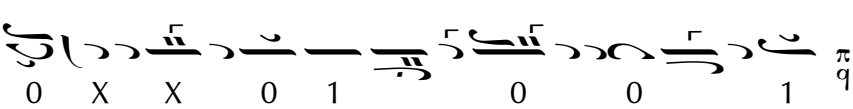


01010 

01000 

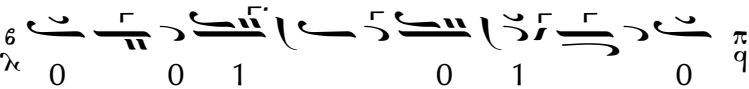
001010 

0X01001 

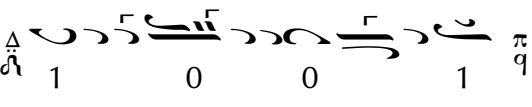
0XX01001 

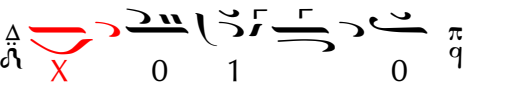
Vou - Pa

This section is almost empty because medial cadences on Vou are rarely followed by a medial cadence on Pa

001010 

Di - Pa

1001 

X010 



Fourth Mode - Sticheraric

01001 Δ δ 0 1 0 0 1 π

X01001 Δ δ X 0 1 0 0 1 π

0X01010 Δ δ 0 X 0 1 0 1 0 π

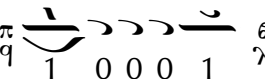
0100X010 Δ δ 0 1 0 0 X 0 1 0 π

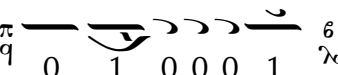
Medial Cadences on Vou


E) Accented on Last Syllable

Pa - Vou

This section is small because melodies in fourth mode do not frequently move from Pa to Vou.

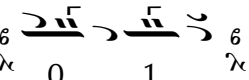
10001 

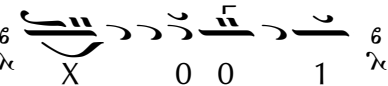
010001 

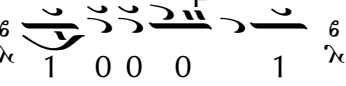
00010001 

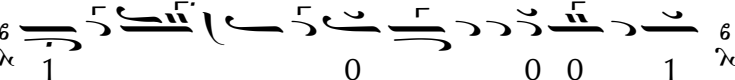
Vou - Vou

This section is also almost empty because medial cadences on Vou are rarely followed by another medial cadence on Vou

01 

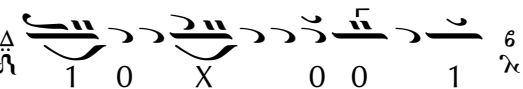
X001 

10001 



Di - Vou

This section is almost empty because melodies in this mode do not move from Di to Vou in many ways.

10X001 

Fourth Mode - Sticheraric

F) Accented on Second to Last Syllable

Pa - Vou

This section is almost empty because melodies in fourth mode do not frequently move from Pa to Vou.

0010 $\overset{\pi}{\underset{\eta}{\alpha}}$ — — — — — $\overset{\mu}{\lambda}$
0 0 1 0

00010 $\overset{\pi}{\underset{\eta}{\alpha}}$ — — — — — $\overset{\mu}{\lambda}$
0 0 0 1 0

Vou - Vou

This section is small because medial cadences on Vou are rarely followed by another medial cadence on Vou

010 $\overset{\mu}{\lambda}$ — — — — — $\overset{\mu}{\lambda}$
0 1 0

10010 $\overset{\mu}{\lambda}$ — — — — — $\overset{\mu}{\lambda}$
1 0 0 1 0

1

$\overset{\mu}{\lambda}$ — — — — — $\overset{\mu}{\lambda}$
1 0 0 1 0

1

Di - Vou

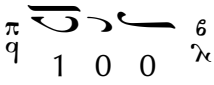
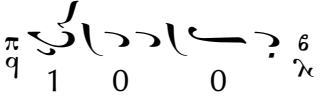
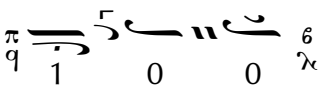



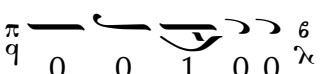
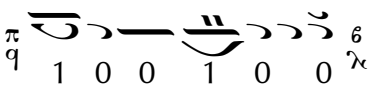
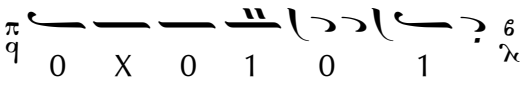
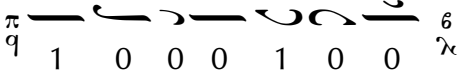

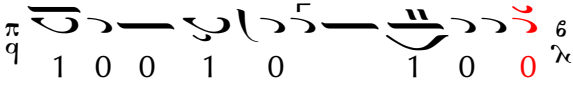
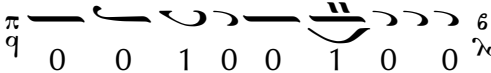
010 $\overset{\Delta}{\delta}$ — — — — — $\overset{\mu}{\lambda}$
0 1 0

0010 $\overset{\Delta}{\delta}$ — — — — — $\overset{\mu}{\lambda}$
0 0 1 0

10010 $\overset{\Delta}{\delta}$ — — — — — $\overset{\mu}{\lambda}$
1 0 0 1 0

G) Accented on Third to Last Syllable


Pa - Vou


100	
	
	
0100	
00100	
	
	
100100	
0X0101	
1000100	
0010100	
10010100	
	

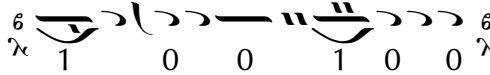


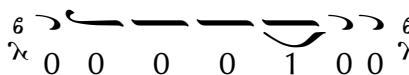
Fourth Mode - Sticheraric

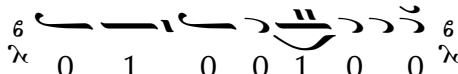
Vou - Vou

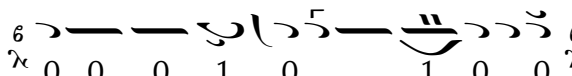
0100 



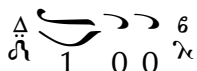
100100 

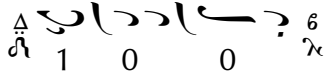
0000100 


0100100 

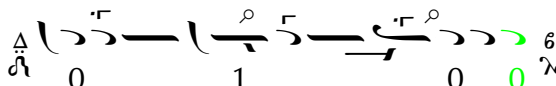
00010100 


Di - Vou

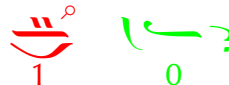
100 





0100 








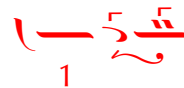
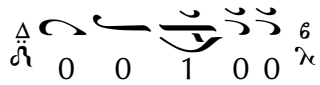






Fourth Mode - Sticheraric

00100



Fourth Mode - Sticheraric

H) Accented on Fourth to Last Syllable

Pa - Vou

This section is small because the melody in this mode does not move from Pa to Vou in very many ways.

01010 $\begin{array}{c} \pi \\ \rho \\ 0 \ 1 \ 0 \ 1 \ 0 \end{array} \begin{array}{c} \text{—} \text{—} \text{—} \text{—} \text{—} \\ \text{—} \text{—} \text{—} \text{—} \end{array} \begin{array}{c} 6 \\ \lambda \end{array}$

$\begin{array}{c} \pi \\ \rho \\ 0 \ 1 \ 0 \ 1 \ 0 \end{array} \begin{array}{c} \text{—} \text{—} \text{—} \text{—} \text{—} \\ \text{—} \text{—} \text{—} \text{—} \end{array} \begin{array}{c} 6 \\ \lambda \end{array}$

0001010 $\begin{array}{c} \pi \\ \rho \\ 0 \ 0 \ 0 \ 1 \ 0 \ 1 \ 0 \end{array} \begin{array}{c} \text{—} \text{—} \text{—} \text{—} \text{—} \\ \text{—} \text{—} \text{—} \text{—} \end{array} \begin{array}{c} 6 \\ \lambda \end{array}$

Di - Vou

This section is also small because the melody in this mode does not move from Di to Vou in very many ways.

1010 $\begin{array}{c} \Delta \\ \rho \\ 1 \ 0 \ 1 \ 0 \end{array} \begin{array}{c} \text{—} \text{—} \text{—} \text{—} \\ \text{—} \text{—} \text{—} \end{array} \begin{array}{c} 6 \\ \lambda \end{array}$

$\begin{array}{c} \Delta \\ \rho \\ 1 \ 0 \ 1 \ 0 \end{array} \begin{array}{c} \text{—} \text{—} \text{—} \text{—} \\ \text{—} \text{—} \text{—} \end{array} \begin{array}{c} 6 \\ \lambda \end{array}$

Medial Cadences on Di

I) Accented on Last Syllable

Pa - Di

001	π q	— — —	Δ Di
	0 0 1		
	π q	— — —	Δ Di
	0 0 1		
0001	π q	— — — —	Δ Di
	0 0 0 1		
10001	π q	— — — —	Δ Di
	1 0 0 0 1		
010001	π q	— — — — —	Δ Di
	0 1 0 0 0 1		
100001	π q	— — — — —	Δ Di
	1 0 0 0 0 1		
110001	π q	— — — — —	Δ Di
	1 1 0 0 0 1		
X00001	π q	— — — — —	Δ Di
	X 0 0 0 0 1		
0010001	π q	— — — — — —	Δ Di
	0 0 1 0 0 0 1		
	π q	— — — — — —	Δ Di
	0 0 1 0 0 0 1		
01000001	π q	— — — — — — —	Δ Di
	0 1 0 0 0 0 0 1		
00010001	π q	— — — — — — —	Δ Di
	0 0 0 1 0 0 0 1		



Fourth Mode - Sticheraric

001010001 $\begin{matrix} \pi \\ \gamma \\ \Delta \end{matrix} \begin{array}{cccccccc} \text{—} & \text{—} & \text{—} & \text{—} & \text{—} & \text{—} & \text{—} & \text{—} \\ 0 & 0 & 1 & 0 & 1 & 0 & 0 & 0 & 1 \end{array}$

000100011 $\begin{matrix} \pi \\ \gamma \\ \Delta \end{matrix} \begin{array}{cccccccc} \text{—} & \text{—} & \text{—} & \text{—} & \text{—} & \text{—} & \text{—} & \text{—} \\ 0 & 0 & 0 & 1 & 0 & 0 & 0 & 1 & 1 \end{array}$

Vou - Di

01 $\begin{matrix} 6 \\ \gamma \\ \Delta \end{matrix} \begin{array}{cc} \text{—} & \text{—} \\ 0 & 1 \end{array}$

$\begin{matrix} 6 \\ \gamma \\ \Delta \end{matrix} \begin{array}{cc} \text{—} & \text{—} \\ 0 & 1 \end{array}$

$\begin{matrix} 6 \\ \gamma \\ \Delta \end{matrix} \begin{array}{cc} \text{—} & \text{—} \\ 0 & 1 \end{array}$

0001 $\begin{matrix} 6 \\ \gamma \\ \Delta \end{matrix} \begin{array}{cccc} \text{—} & \text{—} & \text{—} & \text{—} \\ 0 & 0 & 0 & 1 \end{array}$

$\begin{matrix} 6 \\ \gamma \\ \Delta \end{matrix} \begin{array}{cccc} \text{—} & \text{—} & \text{—} & \text{—} \\ 0 & 0 & 0 & 1 \end{array}$

0101 $\begin{matrix} 6 \\ \gamma \\ \Delta \end{matrix} \begin{array}{cccc} \text{—} & \text{—} & \text{—} & \text{—} \\ 0 & 1 & 0 & 1 \end{array}$

00001 $\begin{matrix} 6 \\ \gamma \\ \Delta \end{matrix} \begin{array}{ccccc} \text{—} & \text{—} & \text{—} & \text{—} & \text{—} \\ 0 & 0 & 0 & 0 & 1 \end{array}$

10001 $\begin{matrix} 6 \\ \gamma \\ \Delta \end{matrix} \begin{array}{ccccc} \text{—} & \text{—} & \text{—} & \text{—} & \text{—} \\ 1 & 0 & 0 & 0 & 1 \end{array}$

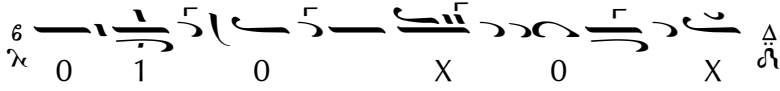
$\begin{matrix} \text{—} & \text{—} & \text{—} & \text{—} \\ 0 & & & 1 \end{matrix}$


010001 $\begin{matrix} 6 \\ \gamma \\ \Delta \end{matrix} \begin{array}{cccccc} \text{—} & \text{—} & \text{—} & \text{—} & \text{—} & \text{—} \\ 0 & 1 & 0 & 0 & 0 & 1 \end{array}$

$\begin{matrix} 6 \\ \gamma \\ \Delta \end{matrix} \begin{array}{cccccc} \text{—} & \text{—} & \text{—} & \text{—} & \text{—} & \text{—} \\ 0 & 1 & 0 & 0 & 0 & 1 \end{array}$

$\begin{matrix} 6 \\ \gamma \\ \Delta \end{matrix} \begin{array}{cccccc} \text{—} & \text{—} & \text{—} & \text{—} & \text{—} & \text{—} \\ 0 & 1 & 0 & 0 & 0 & 1 \end{array}$

Fourth Mode - Sticheraric

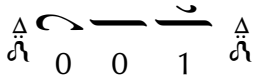
010X0X 

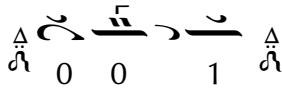
10010001 

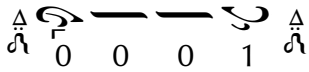
Di - Di

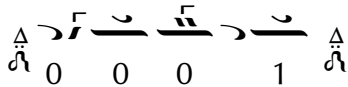
00 

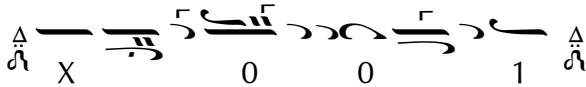
00X 

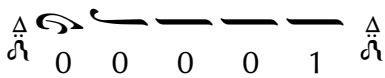
001 



0001 

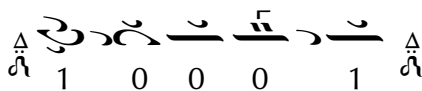


X001 

00001 

X0001 

10001 





Fourth Mode - Sticheraric

010001

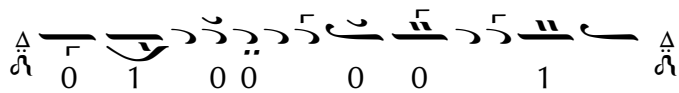
010X0X

010001

0100X0X

Fourth Mode - Sticheraric

0100001



J) Accented on Second to Last Syllable

Pa - Di

10

010

0010

X0010

Fourth Mode - Sticheraric

100010 $\overset{6}{\lambda} \begin{array}{c} \text{—} \text{—} \text{—} \text{—} \text{—} \text{—} \text{—} \\ \text{1} \text{ 0} \text{ 0} \text{ 0} \text{ 1} \text{ 0} \end{array} \overset{\Delta}{\text{—}}$

100010 $\overset{6}{\lambda} \begin{array}{c} \text{—} \text{—} \text{—} \text{—} \text{—} \text{—} \\ \text{1} \text{ 0} \text{ 0} \text{ 0} \text{ 1} \text{ 0} \end{array} \overset{\Delta}{\text{—}}$

0010010 $\overset{6}{\lambda} \begin{array}{c} \text{—} \text{—} \text{—} \text{—} \text{—} \text{—} \text{—} \\ \text{0} \text{ 0} \text{ 1} \text{ 0} \text{ 0} \text{ 1} \text{ 0} \end{array} \overset{\Delta}{\text{—}}$

00010010 $\overset{6}{\lambda} \begin{array}{c} \text{—} \text{—} \text{—} \text{—} \text{—} \text{—} \text{—} \text{—} \\ \text{0} \text{ 0} \text{ 0} \text{ 1} \text{ 0} \text{ 0} \text{ 1} \text{ 0} \end{array} \overset{\Delta}{\text{—}}$

Di - Di

10 $\overset{\Delta}{\text{—}} \begin{array}{c} \text{—} \text{—} \text{—} \\ \text{1} \text{ 0} \end{array} \overset{\Delta}{\text{—}}$

$\overset{\Delta}{\text{—}} \begin{array}{c} \text{—} \text{—} \text{—} \\ \text{1} \text{ 0} \end{array} \overset{\Delta}{\text{—}}$

$\overset{\Delta}{\text{—}} \begin{array}{c} \text{—} \text{—} \text{—} \text{—} \text{—} \text{—} \text{—} \\ \text{1} \text{ 0} \end{array} \overset{\Delta}{\text{—}}$

$\overset{\Delta}{\text{—}} \begin{array}{c} \text{—} \text{—} \text{—} \text{—} \text{—} \text{—} \text{—} \\ \text{1} \text{ 0} \end{array} \overset{\Delta}{\text{—}}$

010 $\overset{\Delta}{\text{—}} \begin{array}{c} \text{—} \text{—} \text{—} \text{—} \\ \text{0} \text{ 1} \text{ 0} \end{array} \overset{\Delta}{\text{—}}$ $\text{—} \text{—} \text{—}$
0

$\overset{\Delta}{\text{—}} \begin{array}{c} \text{—} \text{—} \text{—} \\ \text{0} \text{ 1} \text{ 0} \end{array} \overset{\Delta}{\text{—}}$

$\overset{\Delta}{\text{—}} \begin{array}{c} \text{—} \text{—} \text{—} \text{—} \text{—} \text{—} \\ \text{0} \text{ 1} \text{ 0} \end{array} \overset{\Delta}{\text{—}}$

$\begin{array}{c} \text{—} \text{—} \\ \text{0} \end{array}$ $\begin{array}{c} \text{—} \text{—} \\ \text{0} \end{array}$

$\overset{\Delta}{\text{—}} \begin{array}{c} \text{—} \text{—} \text{—} \text{—} \\ \text{0} \text{ 1} \text{ 0} \end{array} \overset{\Delta}{\text{—}}$

Fourth Mode - Sticheraric

0010		
X010		
10010		
X0010		
00010		
100010		

Fourth Mode - Sticheraric

1

010010

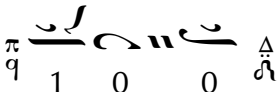
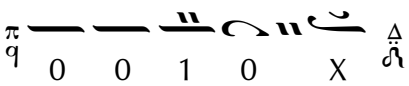
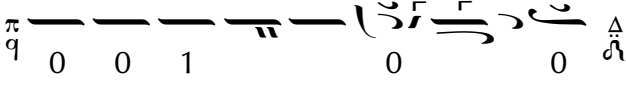
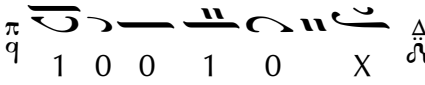
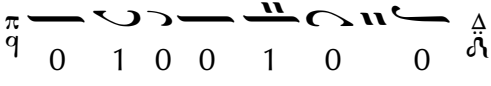
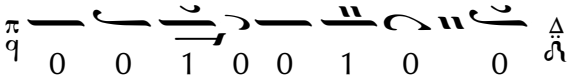
0100010

0010010

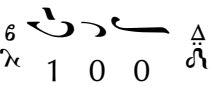
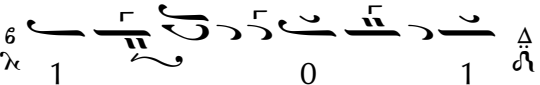
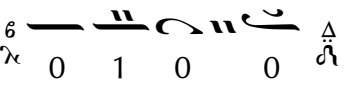
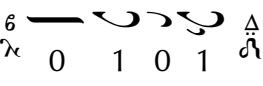
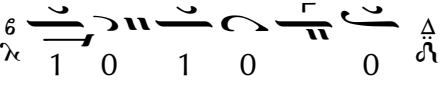
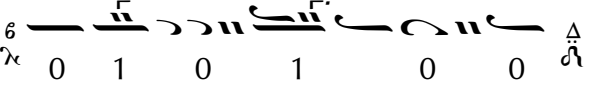
00010010

K) Accented on Third to Last Syllable

Pa - Di

100	π η		Δ δ
0010X	π η		Δ δ
00100	π η		Δ δ
10010X	π η		Δ δ
0100100	π η		Δ δ
00100100	π η		Δ δ

Vou - Di

100	ξ λ		Δ δ
101	ξ λ		Δ δ
0100	ξ λ		Δ δ
0101	ξ λ		Δ δ
10100	ξ λ		Δ δ
010100	ξ λ		Δ δ

Fourth Mode - Sticheraric

1010100 $\overset{\Delta}{\underset{\Delta}{\lambda}}$ $\overset{\Delta}{\underset{\Delta}{\lambda}}$ 1 0 1 0 1 0 0 $\overset{\Delta}{\underset{\Delta}{\lambda}}$

Di - Di

100 $\overset{\Delta}{\underset{\Delta}{\lambda}}$ 1 0 0 $\overset{\Delta}{\underset{\Delta}{\lambda}}$

$\overset{\Delta}{\underset{\Delta}{\lambda}}$ 1 0 0 $\overset{\Delta}{\underset{\Delta}{\lambda}}$

0100 $\overset{\Delta}{\underset{\Delta}{\lambda}}$ 0 1 0 0 $\overset{\Delta}{\underset{\Delta}{\lambda}}$

$\overset{\Delta}{\underset{\Delta}{\lambda}}$ 0 1 0 0 $\overset{\Delta}{\underset{\Delta}{\lambda}}$

$\overset{\Delta}{\underset{\Delta}{\lambda}}$ 0

$\overset{\Delta}{\underset{\Delta}{\lambda}}$ 0 1 0 0 $\overset{\Delta}{\underset{\Delta}{\lambda}}$

$\overset{\Delta}{\underset{\Delta}{\lambda}}$ 0 1 0 0 $\overset{\Delta}{\underset{\Delta}{\lambda}}$

$\overset{\Delta}{\underset{\Delta}{\lambda}}$ 0 1 0 0 $\overset{\Delta}{\underset{\Delta}{\lambda}}$

$\overset{\Delta}{\underset{\Delta}{\lambda}}$ 0 1 0 0 $\overset{\Delta}{\underset{\Delta}{\lambda}}$

$\overset{\Delta}{\underset{\Delta}{\lambda}}$ 1

$\overset{\Delta}{\underset{\Delta}{\lambda}}$ 0 1 0 0 $\overset{\Delta}{\underset{\Delta}{\lambda}}$

$\overset{\Delta}{\underset{\Delta}{\lambda}}$ 0 1 0 0 $\overset{\Delta}{\underset{\Delta}{\lambda}}$

$\overset{\Delta}{\underset{\Delta}{\lambda}}$ 0

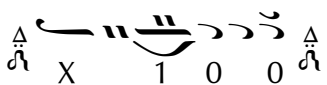
$\overset{\Delta}{\underset{\Delta}{\lambda}}$ 0 1 0 0 $\overset{\Delta}{\underset{\Delta}{\lambda}}$

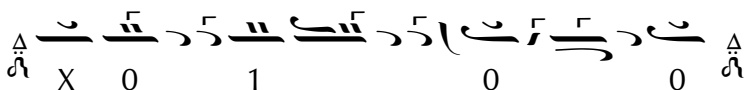
$\overset{\Delta}{\underset{\Delta}{\lambda}}$ 0 1 0 0 $\overset{\Delta}{\underset{\Delta}{\lambda}}$

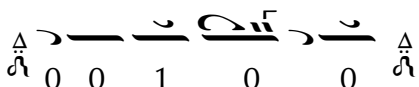
$\overset{\Delta}{\underset{\Delta}{\lambda}}$ 0 1 0 0 $\overset{\Delta}{\underset{\Delta}{\lambda}}$

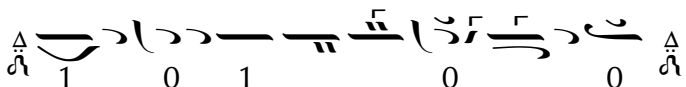
$\overset{\Delta}{\underset{\Delta}{\lambda}}$ 0

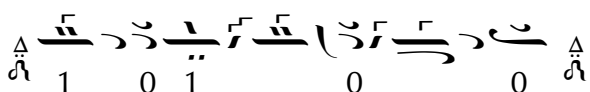
Fourth Mode - Sticheraric

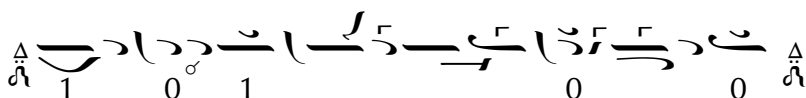
X100 
X 1 0 0

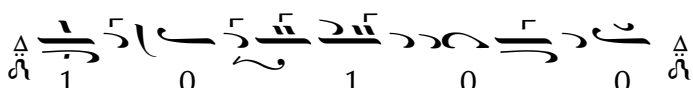
X0100 
X 0 1 0 0

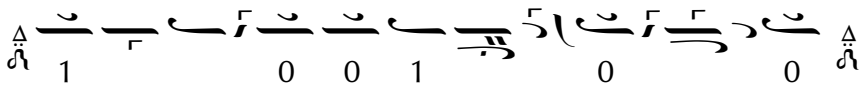
00100 
0 0 1 0 0

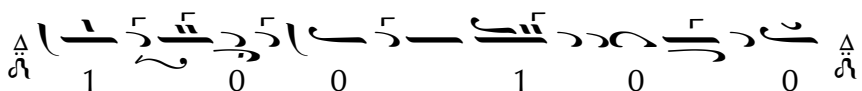
10100 
1 0 1 0 0

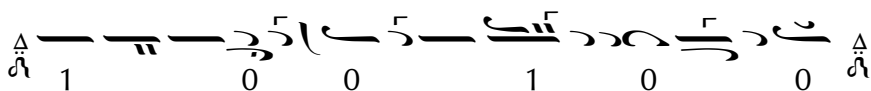

1 0 1 0 0

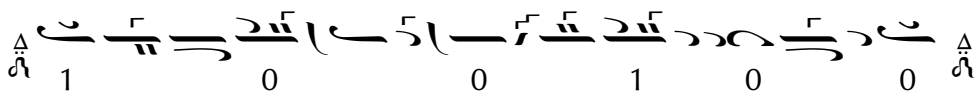

1 0 1 0 0

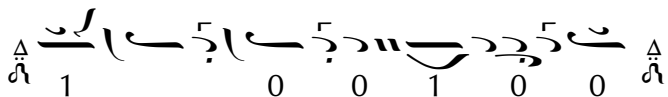

1 0 1 0 0

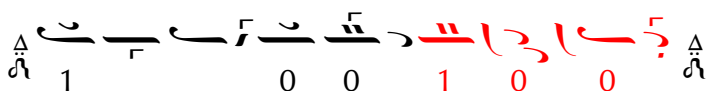
100100 
1 0 0 1 0 0


1 0 0 1 0 0


1 0 0 1 0 0


1 0 0 1 0 0


1 0 0 1 0 0


1 0 0 1 0 0

 
1 0 1 0 0

Fourth Mode - Sticheraric

1 0 0

000100

0010100

0100100

1000100

1 0

1 0 0

1 0 0

1 0

1000100

00100100

0 0

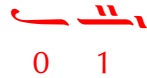
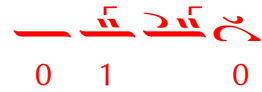
0 0 1 0 0 1 0 0

01000100

L) Accented on Fourth to Last Syllable

Pa - Di

1001	π q 1 0 0 1 Δ ♩
	π q 1 0 0 1 Δ ♩
1010	π q 1 0 1 0 Δ ♩
01010	π q 0 1 0 1 0 Δ ♩
01001	π q 0 1 0 0 1 Δ ♩
	π q 0 1 0 0 1 Δ ♩
	π q 0 1 0 0 1 Δ ♩
001001	π q 0 0 1 0 0 1 Δ ♩
101001	π q 1 0 1 0 0 1 Δ ♩
0001001	π q 0 0 0 1 0 0 1 Δ ♩
0101001	π q 0 1 0 1 0 0 1 Δ ♩
010001001	π q 0 1 0 0 0 1 0 0 1 Δ ♩



Vou - Di

Fourth Mode - Sticheraric

1001

$\overset{6}{\lambda} \overset{\Delta}{\delta} \begin{array}{c} \text{Musical notation} \\ 1 \ 0 \ 0 \ 1 \end{array}$

$\overset{6}{\lambda} \overset{\Delta}{\delta} \begin{array}{c} \text{Musical notation} \\ 1 \quad \quad 0 \quad \quad 0 \quad \quad 1 \end{array}$

01010

$\overset{6}{\lambda} \overset{\Delta}{\delta} \begin{array}{c} \text{Musical notation} \\ 0 \ 1 \ 0 \ 1 \ 0 \end{array}$

001001

$\overset{6}{\lambda} \overset{\Delta}{\delta} \begin{array}{c} \text{Musical notation} \\ 0 \ 0 \ 1 \ 0 \ 0 \ 1 \end{array}$

0101001

$\overset{6}{\lambda} \overset{\Delta}{\delta} \begin{array}{c} \text{Musical notation} \\ 0 \ 1 \ 0 \ 1 \ 0 \ 0 \ 1 \end{array}$

0001001

$\overset{6}{\lambda} \overset{\Delta}{\delta} \begin{array}{c} \text{Musical notation} \\ 0 \ 0 \ 0 \ 1 \ 0 \ 0 \ 1 \end{array}$

01001001

$\overset{6}{\lambda} \overset{\Delta}{\delta} \begin{array}{c} \text{Musical notation} \\ 0 \ 1 \ 0 \ 0 \ 1 \ 0 \ 0 \ 1 \end{array}$

Di - Di

100X

$\overset{\Delta}{\delta} \begin{array}{c} \text{Musical notation} \\ 1 \ 0 \ 0 \ X \end{array}$

1001

$\overset{\Delta}{\delta} \begin{array}{c} \text{Musical notation} \\ 1 \quad \quad 0 \quad \quad 0 \quad \quad 1 \end{array}$

$\begin{array}{c} \text{Musical notation} \\ 1 \quad \quad 0 \quad \quad 1 \end{array}$

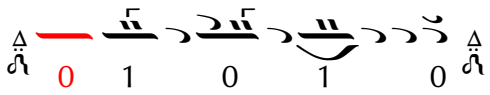
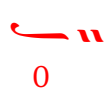
1010

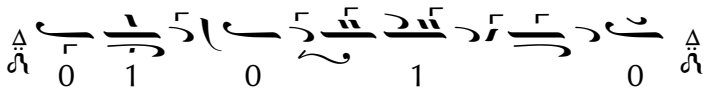
$\overset{\Delta}{\delta} \begin{array}{c} \text{Musical notation} \\ 1 \quad \quad 0 \quad \quad 1 \quad \quad 0 \end{array}$

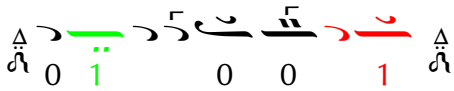
$\overset{\Delta}{\delta} \begin{array}{c} \text{Musical notation} \\ 1 \ 0 \ 1 \quad \quad 0 \end{array}$

$\overset{\Delta}{\delta} \begin{array}{c} \text{Musical notation} \\ 1 \quad \quad 0 \quad \quad 1 \quad \quad 0 \end{array}$

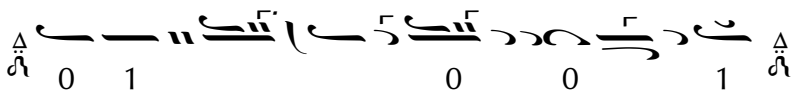
Fourth Mode - Sticheraric

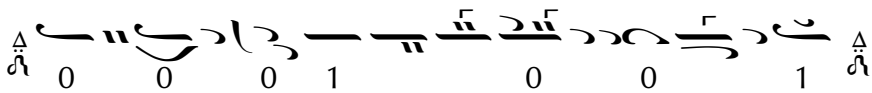
01010  



01001 



0001001 

Fourth Mode - Sticheraric

010

0010

10010

100010

Accented on third to last syllable:

0100

Fourth Mode - Sticheraric

0 1 0 0

0 1 0 0

0 1 0 0

0 1 0 0

0 1 0 0

0 1 0 0

0 1 0 0

0 1 0 0

000100

0 0 0 1 0 0

00010100

0 0 0 1 0 1 0 0

000100100

0 0 0 1 0 0 1 0 0

Accented on fourth to last syllable:

1001

1 0 0 1

1010

1 0 1 0

Fourth Mode - Sticheraric

$\overset{6}{\lambda}$
 $\overset{\alpha}{\lambda}$

1 0 1 0

01001

$\overset{\Delta}{\lambda}$
 $\overset{\nu'}{\lambda}$

0 1 0 0 1

01010

$\overset{\Delta}{\lambda}$
 $\overset{\alpha}{\lambda}$

0 1 0 1 0

01001010

$\overset{\Delta}{\lambda}$
 $\overset{\alpha}{\lambda}$

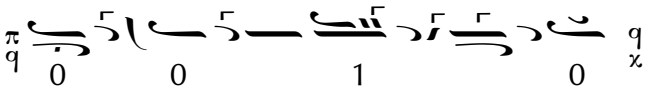
0 1 0 0 1 0 1 0

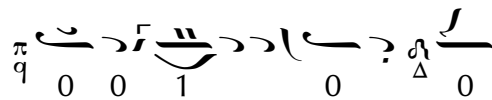
N) Medial Cadences on Low Di


Accented on last syllable:

(Use a formula ending in 100)

Accented on second to last syllable:

0010 



11010 

10010 


Accented on third to last syllable:

X010X 



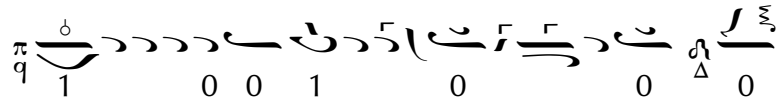


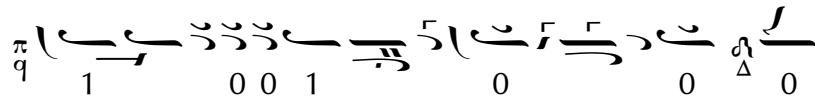



100100 

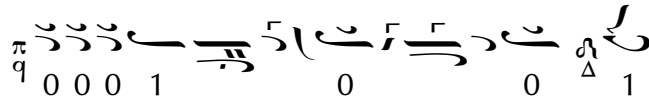


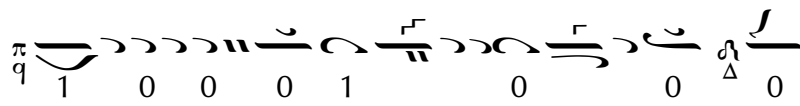
Fourth Mode - Sticheraric

π
 η

 1 0 0 1 0 0 Δ 0

π
 η

 1 0 0 1 0 0 Δ 0

000100
 π
 η

 0 0 0 1 0 0 Δ 1


000100
 π
 η

 0 0 0 1 0 0 Δ 1

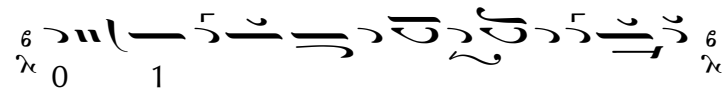
1000100
 π
 η

 1 0 0 0 1 0 0 Δ 0

Fourth Mode - Sticheraric

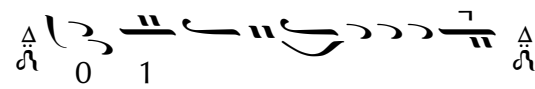
O) Old (slow) Sticheraric Formulae

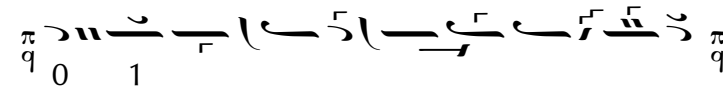
Accented on last syllable:

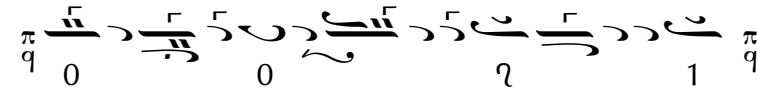
01 

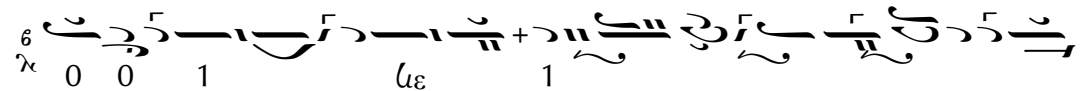
01 

01 

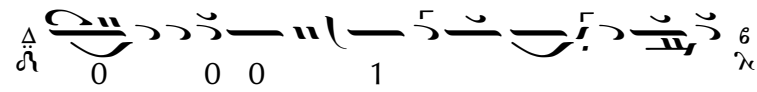
01 

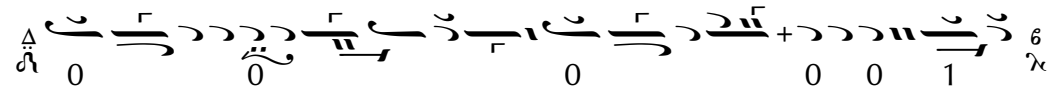
01 


001 

001 



0001 

0001 

10001 

0010001 

Fourth Mode - Sticheraric

Accented on second to last syllable:

10			
10			
10			
10			
10			
10			
010			
010			
010			
010			
010			
010			

Fourth Mode - Sticheraric

10010 π_9 π_9 0

10010 π_9 π_9 0

10010 π_9 π_9 0 π_9 1

010010 Δ_9 Δ_9 0

100010 π_9 Δ_9 0

0100010 Δ_9 Δ_9 0

π_9 0

1000010 Δ_9 Δ_9 1 0 0 0

π_9 0

1000010 Δ_9 Δ_9 1 0 0 0 0 1

π_9 0

1000010 Δ_9 Δ_9 1 0 0 0 0 1

π_9 0

1000010 Δ_9 Δ_9 1 0 0 0 0 1

π_9 0

10000010 Δ_9 Δ_9 1 0 0 0 0 0

Fourth Mode - Sticheraric

Accented on third to last syllable:

100 Δ π 9

100 ϵ λ Δ

100 π 9

π 9

100 π ϵ 9 λ

100 π Δ

100 π π 9

100 π π 9

100 π π 9

100 π ϵ 9 λ

100 Δ π 9

100 Δ Δ

Fourth Mode - Sticheraric

100 $\frac{\pi}{9} \frac{\Delta}{\Delta} \frac{1}{1} \frac{0}{0} \frac{1}{1} \frac{0}{0} \frac{0}{0} \frac{\Delta}{\Delta}$

100 $\frac{\Delta}{\Delta} \frac{1}{1} \frac{0}{0} \frac{0}{0} \frac{0}{0} \frac{0}{0} \frac{0}{0} \frac{0}{0}$

100 $\frac{\Delta}{\Delta} \frac{1}{1} \frac{0}{0} \frac{0}{0} \frac{0}{0} \frac{\pi}{9} \frac{\Delta}{\Delta} \frac{1}{1}$

100 $\frac{\pi}{9} \frac{1}{1} \frac{0}{0} \frac{1}{1} \frac{0}{0} \frac{0}{0} \frac{\pi}{9}$

101 $\frac{6}{\lambda} \frac{1}{1} \frac{0}{0} \frac{0}{0} \frac{0}{0} \frac{0}{0} \frac{1}{1} \frac{\Delta}{\Delta}$

10X $\frac{\pi}{9} \frac{1}{1} \frac{0}{0} \frac{0}{0} \frac{0}{0} \frac{0}{0} \frac{\pi}{9}$

$\frac{1}{1}$

0100 $\frac{\Delta}{\Delta} \frac{0}{0} \frac{1}{1} \frac{0}{0} \frac{0}{0} \frac{0}{0} \frac{0}{0} \frac{1}{1} \frac{0}{0}$

$\frac{6}{\lambda} \frac{0}{0}$

0100 $\frac{\Delta}{\Delta} \frac{0}{0} \frac{1}{1} \frac{0}{0} \frac{0}{0} \frac{0}{0} \frac{1}{1} \frac{0}{0} \frac{0}{0} \frac{\Delta}{\Delta}$

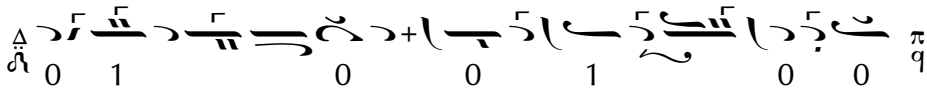
$\frac{0}{0} \frac{1}{1} \frac{0}{0} \frac{0}{0} \frac{\Delta}{\Delta}$

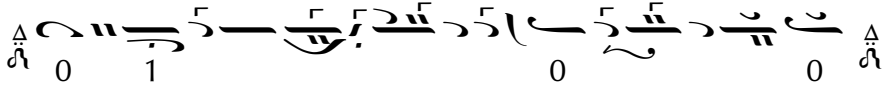
$\frac{0}{0} \frac{\Delta}{\Delta}$

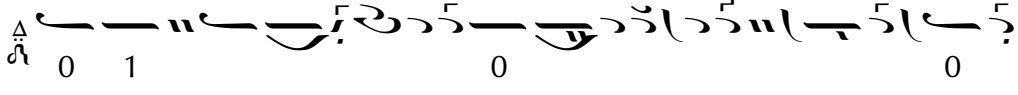
0100 $\frac{\pi}{9} \frac{0}{0} \frac{1}{1} \frac{0}{0} \frac{0}{0} \frac{1}{1} \frac{0}{0} \frac{0}{0} \frac{\pi}{9}$


0100 $\frac{\pi}{9} \frac{0}{0} \frac{1}{1} \frac{0}{0} \frac{1}{1} \frac{0}{0} \frac{0}{0} \frac{6}{\lambda}$

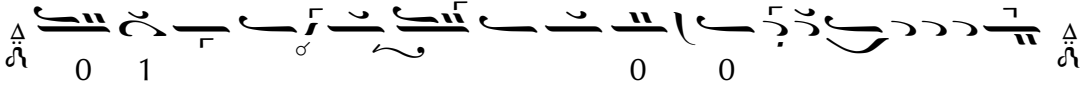
Fourth Mode - Sticheraric

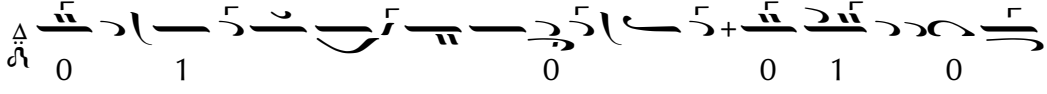
0100 

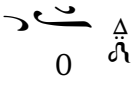
0100 

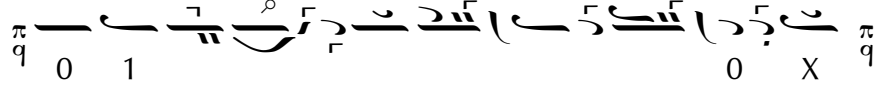
0100 

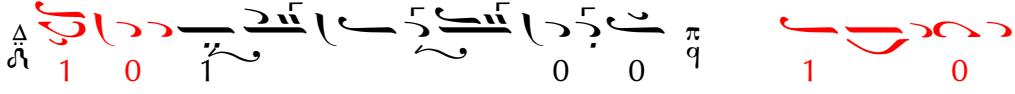


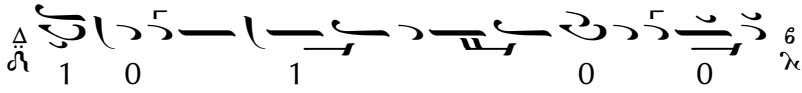
0100 

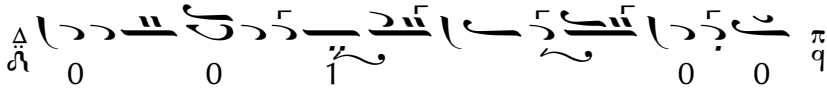
0100 

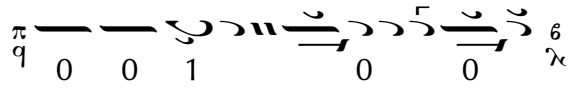


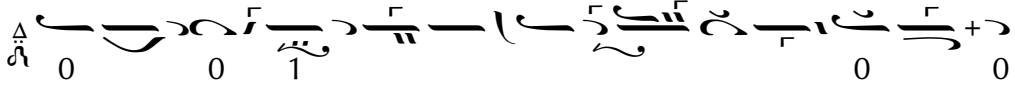
010X 

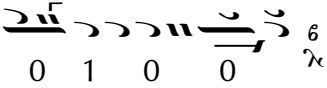
10100 

10100 

00100 

00100 

00100 



Fourth Mode - Sticheraric

00100 $\overset{\Delta}{\delta} \begin{array}{c} \text{...} \\ 0 \quad 0 \quad \dots \quad 0 \quad 0 \quad 1 \quad \dots \quad 0 \quad 0 \end{array} \overset{\pi}{\rho}$

00100 $\overset{\Delta}{\delta} \begin{array}{c} \text{...} \\ 0 \quad 0 \quad \dots \quad 1 \quad \dots \quad 0 \quad 0 \end{array} \overset{\pi}{\rho}$

00100 $\overset{\Delta}{\delta} \begin{array}{c} \text{...} \\ 0 \quad 0 \quad \dots \quad 1 \quad 0 \quad 0 \quad \dots \quad 1 \quad \dots \quad 0 \quad 0 \end{array} \overset{\pi}{\rho}$

00100 $\overset{6}{\lambda} \begin{array}{c} \text{...} \\ 0 \quad 0 \quad 1 \quad \dots \quad 0 \quad 0 \end{array} \overset{6}{\lambda}$

00100 $\overset{6}{\lambda} \begin{array}{c} \text{...} \\ 0 \quad 0 \quad 1 \quad \dots \quad 0 \quad \dots \quad 0 \quad 0 \quad 1 \quad 0 \end{array}$

$\overset{6}{\lambda} \begin{array}{c} \text{...} \\ 0 \end{array}$

00100 $\overset{\pi}{\rho} \begin{array}{c} \text{...} \\ 0 \quad 0 \quad 1 \quad \dots \quad 0 \quad 0 \quad 0 \quad 1 \quad \dots \quad 0 \end{array}$

$\overset{6}{\lambda} \begin{array}{c} \text{...} \\ 0 \end{array}$

00100 $\overset{6}{\lambda} \begin{array}{c} \text{...} \\ 0 \quad 0 \quad 1 \quad \dots \quad 0 \quad 0 \quad 0 \quad 1 \quad \dots \quad 0 \quad 0 \end{array} \overset{\pi}{\rho}$

00100 $\overset{6}{\lambda} \begin{array}{c} \text{...} \\ 0 \quad 0 \quad 1 \quad \dots \quad 0 \quad 0 \quad 1 \quad 0 \quad \dots \quad 0 \end{array} \overset{6}{\lambda}$

010100 $\overset{\pi}{\rho} \begin{array}{c} \text{...} \\ 0 \quad 1 \quad 0 \quad 1 \quad \dots \quad 0 \quad \dots \quad 0 \quad \dots \quad 0 \end{array} \overset{\pi}{\rho}$

100100 $\overset{\Delta}{\delta} \begin{array}{c} \text{...} \\ 1 \quad \dots \quad 0 \quad \dots \quad 0 \quad 1 \quad \dots \quad 0 \end{array}$

$\overset{\pi}{\rho} \begin{array}{c} \text{...} \\ 0 \end{array}$

100100 $\overset{\pi}{\rho} \begin{array}{c} \text{...} \\ 1 \quad \dots \quad 0 \quad \dots \quad 1 \quad \dots \quad 0 \end{array}$

Fourth Mode - Sticheraric

π_9
 ρ 0

π_9 1 0 0 1 0 ρ 0 π_9

Δ 1 0 0 1 0 0 λ

Δ 0 1 0 0 1 0

ρ 1 λ

π_9 0 0 1 0 1 0 0 1 0 1 0 0

Δ 0 0 1 Δ

λ 0 1 0 0 1

π_9 0 ρ 0 π_9

Δ 0 1 0 0 1 0

ρ 0 π_9

π_9 1 0 0 0 1 0

π_9 0 π_9

Δ 1 0 0 0 1 0

Fourth Mode - Sticheraric

010X0100

Accented on fourth to last syllable:

X010

01001

01001

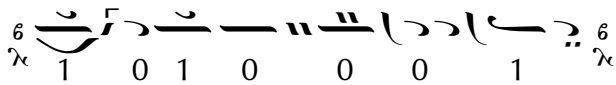
001001

001001

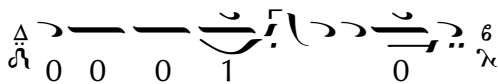
P) Final Cadences

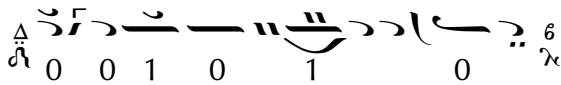
Accented on last syllable:

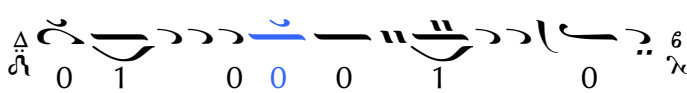

(Many formulae ending in 100, 10X, or X01 may also be appropriate)

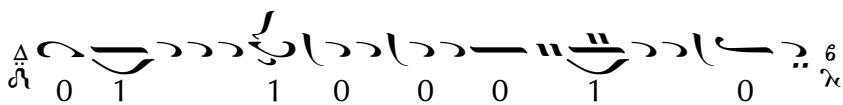
1010001 

Accented on second to last syllable:*



0100010 

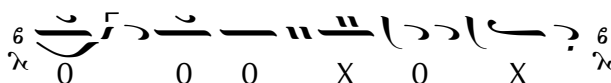
001010 

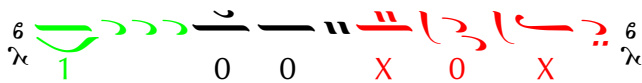
0100010  

01100010 

Accented on third to last syllable:

X010X  

000X0X 

100X0X 

* Only four formulae in this section is accented on the second to last syllable because out of the dozens of sticheraric melodies we examined, we found only four that ended with a word accented on the second to last syllable. Nevertheless, by comparing them with the other formulae in this section, it is safe to deduce that the other formulae can be altered to accommodate phrases accented on the second to last syllable (or on the fourth to last syllable) merely by removing the second to last syllable in them.

Fourth Mode - Sticheraric

1000X0X	$\overset{6}{\lambda}$	
0010X0X	$\overset{\Delta}{\lambda}$	
0010100	$\overset{\Delta}{\lambda}$	
0010X0X	$\overset{6}{\lambda}$	
0010100	$\overset{\Delta}{\lambda}$	
01010X01	$\overset{\pi}{\lambda}$	
01010X01	$\overset{\Delta}{\lambda}$	

Fourth Mode - Sticheraric

01010100 $\overset{\Delta}{\underset{\lambda}{\text{d}}} \overset{\overset{6}{\lambda}}{\text{d}}$ 0 1 0 1 0 1 0 0 $\overset{\overset{6}{\lambda}}{\text{d}}$ $\overset{\overset{6}{\lambda}}{\text{d}}$
 1

1 0

010X0X0X $\overset{\overset{6}{\lambda}}{\text{d}}$ 0 1 0 X 0 X 0 X $\overset{\overset{6}{\lambda}}{\text{d}}$

1 X 1 0 0

1 0 0

001000X0X $\overset{\Delta}{\underset{\lambda}{\text{d}}} \overset{\overset{6}{\lambda}}{\text{d}}$ 0 0 1 0 0 0 X 0 X $\overset{\overset{6}{\lambda}}{\text{d}}$

0 1 0 0

1 0 0

101000X0X $\overset{\overset{6}{\lambda}}{\text{d}}$ 1 0 1 0 0 0 X 0 X $\overset{\overset{6}{\lambda}}{\text{d}}$

0 1 0 0

1 0 0

Accented on fourth to last syllable:

001010 $\overset{\Delta}{\underset{\lambda}{\text{d}}} \overset{\overset{6}{\lambda}}{\text{d}}$ 0 0 1 0 1 0 $\overset{\overset{6}{\lambda}}{\text{d}}$

10001001 $\overset{\overset{6}{\lambda}}{\text{d}}$ 1 0 0 0 1 0 0 1 $\overset{\overset{6}{\lambda}}{\text{d}}$

Fourth Mode - Sticheraric

Q) Final Cadences for Theotokia

01001

100100

1000100

1000101

Old (slow) Sticheraric Cadences for Theotokia:

100

00100

BYZANTINE MUSIC FORMULAE

Fourth Mode - Heirmologic (Legetos)

Contents*

A) Cadences on Pa.....	336
B) Cadences on Vou.....	340
C) Cadences on Di.....	351
D) Formulae with Fthores.....	364
E) Endings for Theotokia.....	366

Key:

1 = accented syllable

0 = unaccented syllable

X = syllable that may be either
accented or unaccented

Variations of the same formula
are indicated in color

* The Byzantine music formulae herein were extracted from all the heirmologic melodies found in the *Zoe Anastasimatarion* (14th edition, 2002).

Fourth Mode - Heirmologic (Legetos)

A) Medial Cadences on Pa

Accented on last syllable:

From Pa

0 $\begin{matrix} \pi \\ \text{q} \end{matrix} \overline{\quad} \overline{\quad} \begin{matrix} \pi \\ \text{q} \end{matrix}$
 0 0

Accented on second to last syllable:

From Pa

01000010 $\begin{matrix} \pi \\ \text{q} \end{matrix} \overline{\quad} \overline{\quad} \overline{\quad} \overline{\quad} \overline{\quad} \overline{\quad} \overline{\quad} \begin{matrix} \pi \\ \text{q} \end{matrix}$
 0 1 0 0 0 0 1 0

From Vou

X010 $\begin{matrix} 6 \\ \lambda \end{matrix} \overline{\quad} \overline{\quad} \overline{\quad} \begin{matrix} \pi \\ \text{q} \end{matrix}$
 X 0 1 0

X0010 $\begin{matrix} 6 \\ \lambda \end{matrix} \overline{\quad} \overline{\quad} \overline{\quad} \overline{\quad} \begin{matrix} \pi \\ \text{q} \end{matrix}$
 X 0 0 1 0

010010 $\begin{matrix} 6 \\ \lambda \end{matrix} \overline{\quad} \overline{\quad} \overline{\quad} \overline{\quad} \overline{\quad} \begin{matrix} \pi \\ \text{q} \end{matrix}$
 0 1 0 0 1 0

0010010 $\begin{matrix} 6 \\ \lambda \end{matrix} \overline{\quad} \overline{\quad} \overline{\quad} \overline{\quad} \overline{\quad} \overline{\quad} \begin{matrix} \pi \\ \text{q} \end{matrix}$
 0 0 1 0 0 1 0

0100010 $\begin{matrix} 6 \\ \lambda \end{matrix} \overline{\quad} \overline{\quad} \overline{\quad} \overline{\quad} \overline{\quad} \overline{\quad} \begin{matrix} \pi \\ \text{q} \end{matrix}$
 0 1 0 0 0 1 0

$\overline{\quad} \overline{\quad}$
 1 0

1000010 $\begin{matrix} 6 \\ \lambda \end{matrix} \overline{\quad} \overline{\quad} \overline{\quad} \overline{\quad} \overline{\quad} \overline{\quad} \begin{matrix} \pi \\ \text{q} \end{matrix}$
 1 0 0 0 0 1 0

00010010 $\begin{matrix} 6 \\ \lambda \end{matrix} \overline{\quad} \overline{\quad} \overline{\quad} \overline{\quad} \overline{\quad} \overline{\quad} \overline{\quad} \begin{matrix} \pi \\ \text{q} \end{matrix}$
 0 0 0 1 0 0 1 0

00100010 $\begin{matrix} 6 \\ \lambda \end{matrix} \overline{\quad} \overline{\quad} \overline{\quad} \overline{\quad} \overline{\quad} \overline{\quad} \overline{\quad} \begin{matrix} \pi \\ \text{q} \end{matrix}$
 0 0 1 0 0 0 1 0

Fourth Mode - Heirmologic (Legetos)

1001010	$\overset{6}{\lambda} \begin{array}{c} \text{ⲛ} \text{ⲛ} \text{—} \text{ⲛ} \text{ⲛ} \text{ⲛ} \end{array} \overset{\pi}{\eta}$ $\lambda \quad 1 \quad 0 \quad 0 \quad 1 \quad 0 \quad 1 \quad 0 \quad \eta$
0001010	$\overset{6}{\lambda} \begin{array}{c} \text{ⲛ} \text{—} \text{—} \text{ⲛ} \text{ⲛ} \text{ⲛ} \end{array} \overset{\pi}{\eta}$ $\lambda \quad 0 \quad 0 \quad 0 \quad 1 \quad 0 \quad 1 \quad 0 \quad \eta$
0010001001	$\overset{6}{\lambda} \begin{array}{c} \text{ⲛ} \text{—} \text{—} \text{ⲛ} \text{ⲛ} \text{ⲛ} \text{ⲛ} \text{ⲛ} \end{array} \overset{\pi}{\eta}$ $\lambda \quad 0 \quad 0 \quad 1 \quad 0 \quad 0 \quad 0 \quad 1 \quad 0 \quad 0 \quad 1 \quad \eta$

Fourth Mode - Heirmologic (Legetos)

B) Medial Cadences on Vou

Note: These formulae are also used for final cadences.

Also note that for the rest of these formulae in heirmologic fourth mode, formulae from Pa can be created by merely taking a formula from Vou and increasing the initial jump by one.

Accented on last syllable:

From Pa

000 $\begin{array}{c} \pi \\ \uparrow \\ 0 \end{array} \overline{\quad} \overline{\quad} \begin{array}{c} \delta \\ \uparrow \\ 0 \end{array}$

From Vou

1 $\begin{array}{c} \delta \\ \uparrow \\ \lambda \end{array} \overline{\quad} \begin{array}{c} \delta \\ \uparrow \\ \lambda \end{array}$

00 $\begin{array}{c} \delta \\ \uparrow \\ \lambda \end{array} \overline{\quad} \overline{\quad} \begin{array}{c} \delta \\ \uparrow \\ \lambda \end{array}$

000 $\begin{array}{c} \delta \\ \uparrow \\ \lambda \end{array} \overline{\quad} \overline{\quad} \overline{\quad} \begin{array}{c} \delta \\ \uparrow \\ \lambda \end{array}$

0000 $\begin{array}{c} \delta \\ \uparrow \\ \lambda \end{array} \overline{\quad} \overline{\quad} \overline{\quad} \overline{\quad} \begin{array}{c} \delta \\ \uparrow \\ \lambda \end{array}$

10001 $\begin{array}{c} \delta \\ \uparrow \\ \lambda \end{array} \overline{\quad} \overline{\quad} \overline{\quad} \overline{\quad} \begin{array}{c} \delta \\ \uparrow \\ \lambda \end{array}$

$\begin{array}{c} \delta \\ \uparrow \\ \lambda \end{array} \overline{\quad} \overline{\quad} \overline{\quad} \overline{\quad} \begin{array}{c} \delta \\ \uparrow \\ \lambda \end{array}$

010001 $\begin{array}{c} \delta \\ \uparrow \\ \lambda \end{array} \overline{\quad} \overline{\quad} \overline{\quad} \overline{\quad} \begin{array}{c} \delta \\ \uparrow \\ \lambda \end{array}$

$\begin{array}{c} \delta \\ \uparrow \\ \lambda \end{array} \overline{\quad} \overline{\quad} \begin{array}{c} \delta \\ \uparrow \\ \lambda \end{array}$

100001 $\begin{array}{c} \delta \\ \uparrow \\ \lambda \end{array} \overline{\quad} \overline{\quad} \overline{\quad} \overline{\quad} \overline{\quad} \begin{array}{c} \delta \\ \uparrow \\ \lambda \end{array}$

$\begin{array}{c} \delta \\ \uparrow \\ \lambda \end{array} \overline{\quad} \overline{\quad} \overline{\quad} \overline{\quad} \overline{\quad} \begin{array}{c} \delta \\ \uparrow \\ \lambda \end{array}$

Fourth Mode - Heirmologic (Legetos)

0010001

0100001

0110001

1010001

00010001

10010001

From Di

10001

010001

100001

0100001

Fourth Mode - Heirmologic (Legetos)

Δ
 δ 0 1 0 0 0 0 1 $\overset{6}{\lambda}$

1010001

Δ
 δ 1 0 1 0 0 0 1 $\overset{6}{\lambda}$

010X0001

Δ
 δ 0 1 0 X 0 0 0 1 $\overset{6}{\lambda}$

Accented on second to last syllable:

From Pa

0

π
 η 0 $\overset{6}{\lambda}$

10

π
 η 1 0 $\overset{6}{\lambda}$

010

π
 η 0 1 0 $\overset{6}{\lambda}$

0100010

π
 η 0 1 0 0 0 1 0 $\overset{6}{\lambda}$

From Vou

0010

$\overset{6}{\lambda}$ 0 0 1 0 $\overset{6}{\lambda}$

0101000010


$\overset{6}{\lambda}$ 0 1 0 1 0 0 0 0 1 0 $\overset{6}{\lambda}$


From Di


0010

Δ
 δ 0 0 1 0 $\overset{6}{\lambda}$

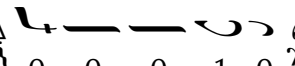
Fourth Mode - Heirmologic (Legetos)

Δ
 δ  $\overset{6}{\lambda}$
 0 0 1 0

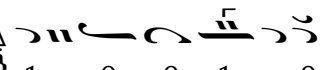

 0 0 1 0

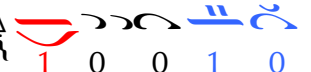
Δ
 δ  $\overset{6}{\lambda}$
 0 0 1 0

00010

Δ
 δ  $\overset{6}{\lambda}$
 0 0 0 1 0

10010


Δ
 δ  $\overset{6}{\lambda}$
 1 0 0 1 0

Δ
 δ  $\overset{6}{\lambda}$
 1 0 0 1 0


 1 1 0


 1 0

0X0010

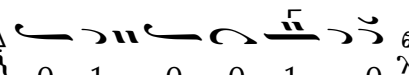
Δ
 δ  $\overset{6}{\lambda}$
 0 X 0 0 1 0


 0 1 0

010010

Δ
 δ  $\overset{6}{\lambda}$
 0 1 0 0 1 0


 0

Δ
 δ  $\overset{6}{\lambda}$
 0 1 0 0 1 0

10X010

Δ
 δ  $\overset{6}{\lambda}$
 1 0 X 0 1 0


 1 0

Fourth Mode - Heirmologic (Legetos)

1 0

1 0

1 0

0000010 Δ
 δ 0 0 0 0 0 1 0 $\frac{6}{\lambda}$

0010010 Δ
 δ 0 0 1 0 0 1 0 $\frac{6}{\lambda}$ 0

1000010 Δ
 δ 1 0 0 0 0 1 0 $\frac{6}{\lambda}$

1010010 Δ
 δ 1 0 1 0 0 1 0 $\frac{6}{\lambda}$ 0

00000010 Δ
 δ 0 0 0 0 0 0 1 0 $\frac{6}{\lambda}$

01000010 Δ
 δ 0 1 0 0 0 0 1 0 $\frac{6}{\lambda}$

1 0 0 1 0

10000010 Δ
 δ 1 0 0 0 0 0 1 0 $\frac{6}{\lambda}$

01010010 Δ
 δ 0 1 0 1 0 0 1 0 $\frac{6}{\lambda}$

10010010 Δ
 δ 1 0 0 1 0 0 1 0 $\frac{6}{\lambda}$

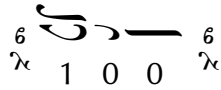
100100010 Δ
 δ 1 0 0 1 0 0 0 1 0 $\frac{6}{\lambda}$

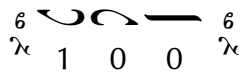
Fourth Mode - Heirmologic (Legetos)

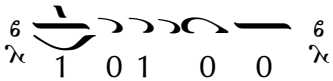
Accented on third to last syllable:

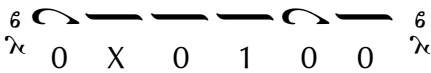
From Vou

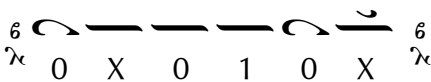
100  




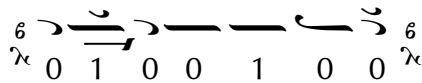


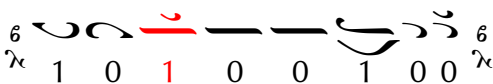
10100 

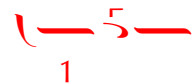
0X0100 

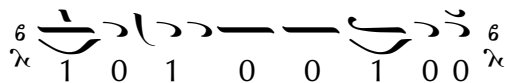
0X010X 

0100100 




10100100 

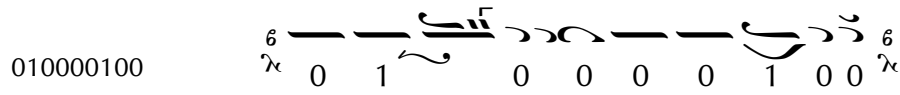




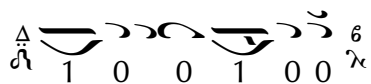
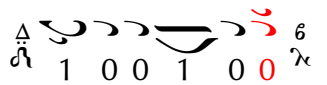
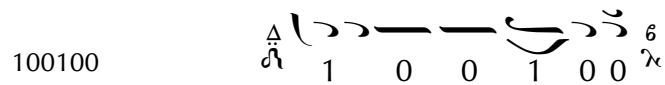
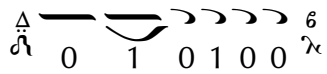
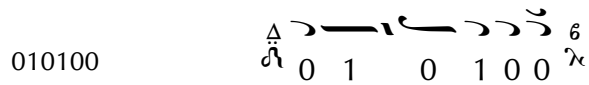
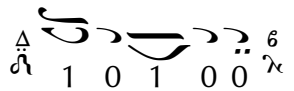
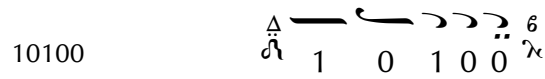
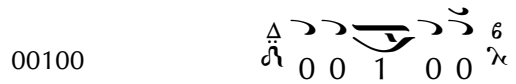
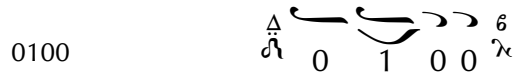
100010100 

100100100 

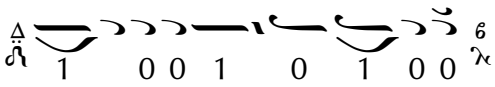
Fourth Mode - Heirmologic (Legetos)

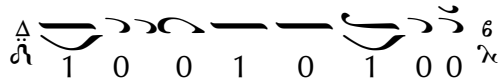


From Di



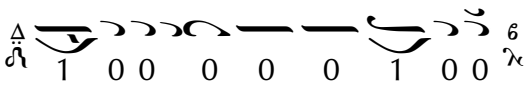
Fourth Mode - Heirmologic (Legetos)

10010100 



10100100 




100010100 

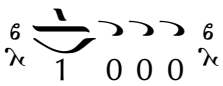
100100100 

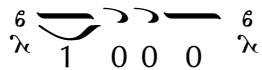
Accented on fourth to last syllable:

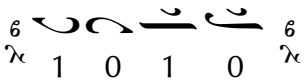
From Pa

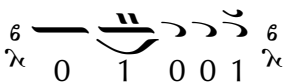
01001 

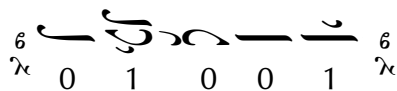
From Vou

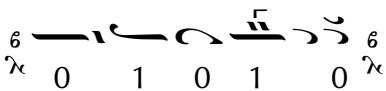
1000 



1010 

01001 



01010 

Fourth Mode - Heirmologic (Legetos)

001001 $\overset{6}{\lambda} \text{ — — — — — } \overset{6}{\lambda}$
 $\underset{\lambda}{0} \quad \underset{0}{} \quad \underset{1}{} \quad \underset{0}{} \quad \underset{0}{} \quad \underset{1}{} \quad \underset{\lambda}{}$

From Di

1001 $\overset{\Delta}{\underset{\lambda}{\text{d}}} \text{ — — — — — } \overset{6}{\lambda}$
 $\underset{\lambda}{1} \quad \underset{0}{} \quad \underset{0}{} \quad \underset{1}{} \quad \underset{\lambda}{}$

1010 $\overset{\Delta}{\underset{\lambda}{\text{d}}} \text{ — — — — — } \overset{6}{\lambda}$ $\overset{\Delta}{\underset{\lambda}{\text{d}}} \text{ — — — — — } \overset{6}{\lambda}$
1 0

01001 $\overset{\Delta}{\underset{\lambda}{\text{d}}} \text{ — — — — — } \overset{6}{\lambda}$ $\overset{\Delta}{\underset{\lambda}{\text{d}}} \text{ — — — — — } \overset{6}{\lambda}$
1

001001 $\overset{\Delta}{\underset{\lambda}{\text{d}}} \text{ — — — — — } \overset{6}{\lambda}$
 $\underset{\lambda}{0} \quad \underset{0}{} \quad \underset{1}{} \quad \underset{0}{} \quad \underset{0}{} \quad \underset{1}{} \quad \underset{\lambda}{}$

001010 $\overset{\Delta}{\underset{\lambda}{\text{d}}} \text{ — — — — — } \overset{6}{\lambda}$ $\overset{\Delta}{\underset{\lambda}{\text{d}}} \text{ — — — — — } \overset{6}{\lambda}$
1 0

10X010 $\overset{\Delta}{\underset{\lambda}{\text{d}}} \text{ — — — — — } \overset{6}{\lambda}$
 $\underset{\lambda}{1} \quad \underset{0}{} \quad \underset{X}{} \quad \underset{0}{} \quad \underset{1}{} \quad \underset{0}{} \quad \underset{\lambda}{}$

$\overset{\Delta}{\underset{\lambda}{\text{d}}} \text{ — — — — — } \overset{6}{\lambda}$
1 0

$\overset{\Delta}{\underset{\lambda}{\text{d}}} \text{ — — — — — } \overset{6}{\lambda}$
1 0

$\overset{\Delta}{\underset{\lambda}{\text{d}}} \text{ — — — — — } \overset{6}{\lambda}$
1 0

$\overset{\Delta}{\underset{\lambda}{\text{d}}} \text{ — — — — — } \overset{6}{\lambda}$
1 0

01001010 $\overset{\Delta}{\underset{\lambda}{\text{d}}} \text{ — — — — — } \overset{6}{\lambda}$
 $\underset{\lambda}{0} \quad \underset{1}{} \quad \text{ — — — — — } \quad \underset{1}{} \quad \underset{0}{} \quad \underset{1}{} \quad \underset{0}{} \quad \underset{\lambda}{}$

10001001 $\overset{\Delta}{\underset{\lambda}{\text{d}}} \text{ — — — — — } \overset{6}{\lambda}$
 $\underset{\lambda}{1} \quad \underset{0}{} \quad \underset{0}{} \quad \underset{0}{} \quad \text{ — — — — — } \quad \underset{1}{} \quad \underset{0}{} \quad \underset{0}{} \quad \underset{1}{} \quad \underset{\lambda}{}$

Fourth Mode - Heirmologic (Legetos)

10001010 $\overset{\Delta}{\underset{\delta}{\lambda}}$ $\overset{\Gamma}{\curvearrowright}$ \curvearrowright \curvearrowright \curvearrowright \curvearrowright \curvearrowright $\overset{\Gamma}{\curvearrowright}$ \curvearrowright $\overset{6}{\lambda}$
 1 0 0 0 1 0 1 0

100001001 $\overset{\Delta}{\underset{\delta}{\lambda}}$ \curvearrowright \curvearrowright \curvearrowright \curvearrowright \curvearrowright \curvearrowright \curvearrowright $\overset{6}{\lambda}$
 1 0 0 0 0 1 0 0 1

Fourth Mode - Heirmologic (Legetos)

C) Medial Cadences on Di

Accented on last syllable:

From Pa

00	π q	
01	π q	
001	π q	
0001	π q	
10001	π q	
0010001	π q	

From Vou

000	ξ λ		
001	ξ λ		
0001	ξ λ		
00001	ξ λ		
	ξ λ		
10001	ξ λ		

Fourth Mode - Heirmologic (Legetos)

$\overset{6}{\lambda} \overline{\overbrace{1} \curvearrowright} \overline{000} \overline{1} \overset{\Delta}{\underset{\cdot}{\delta}}$

010001

$\overset{6}{\lambda} \overline{0} \overline{\overbrace{1} \curvearrowright} \overline{000} \overline{1} \overset{\Delta}{\underset{\cdot}{\delta}}$

$\overset{6}{\lambda} \overline{0} \overline{\overbrace{1} \curvearrowright} \overline{0} \overline{000} \overline{1} \overset{\Delta}{\underset{\cdot}{\delta}}$

100001

$\overset{6}{\lambda} \overline{\overbrace{1} \curvearrowright} \overline{0000} \overline{0} \overline{1} \overset{\Delta}{\underset{\cdot}{\delta}}$

0100001

$\overset{6}{\lambda} \overline{0} \overline{\overbrace{1} \curvearrowright} \overline{0} \overline{0000} \overline{0} \overline{1} \overset{\Delta}{\underset{\cdot}{\delta}}$

10X0X01

$\overset{6}{\lambda} \overline{\overbrace{1} \curvearrowright} \overline{0X} \overline{0X} \overline{0} \overline{1} \overset{\Delta}{\underset{\cdot}{\delta}}$

From Di

000

$\overset{\Delta}{\underset{\cdot}{\delta}} \overline{000} \overset{\Delta}{\underset{\cdot}{\delta}}$

$\overset{\Delta}{\underset{\cdot}{\delta}} \overline{000} \overset{\Delta}{\underset{\cdot}{\delta}}$

00000

$\overset{\Delta}{\underset{\cdot}{\delta}} \overline{00000} \overset{\Delta}{\underset{\cdot}{\delta}}$

01

$\overset{\Delta}{\underset{\cdot}{\delta}} \overline{0} \overline{1} \overset{\Delta}{\underset{\cdot}{\delta}}$

001

$\overset{\Delta}{\underset{\cdot}{\delta}} \overline{001} \overset{\Delta}{\underset{\cdot}{\delta}}$

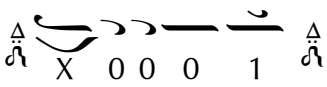
0001

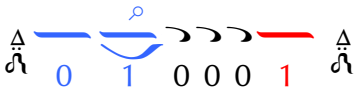
$\overset{\Delta}{\underset{\cdot}{\delta}} \overline{0001} \overset{\Delta}{\underset{\cdot}{\delta}}$


10X01

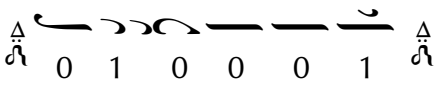
$\overset{\Delta}{\underset{\cdot}{\delta}} \overline{10X01} \overset{\Delta}{\underset{\cdot}{\delta}}$

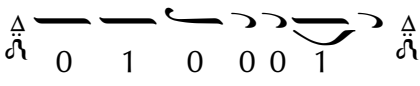
Fourth Mode - Heirmologic (Legetos)

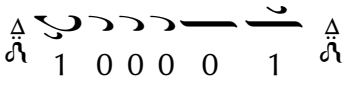
X0001 

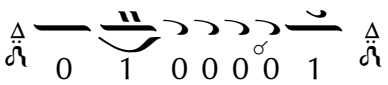
010001 

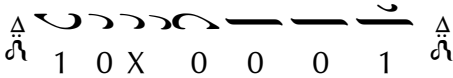


010001 

010001 

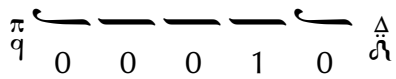
100001 

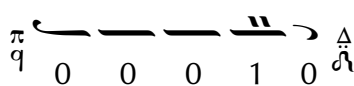
0100001 

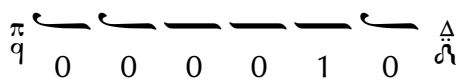
10X0001 

Accented on second to last syllable:

From Pa

00010 



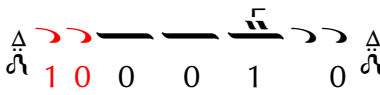

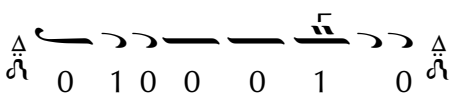
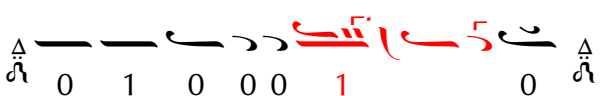

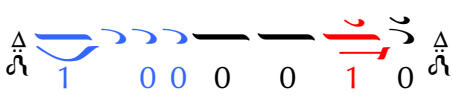
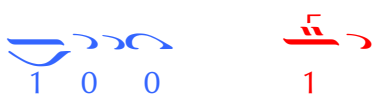
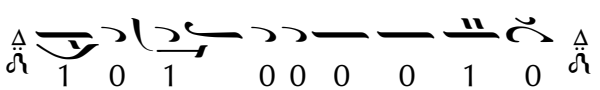
000010 

From Vou

10 

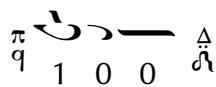
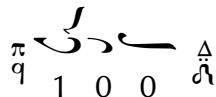
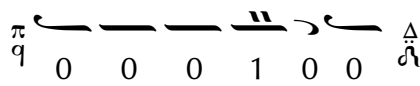
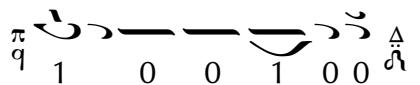
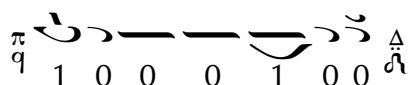


Fourth Mode - Heirmologic (Legetos)

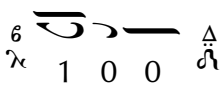
		
0100010		
		
1000010		
		
101000010		

Accented on third to last syllable:

From Pa

100	
	
000100	
100100	
1000100	

From Vou

100	
-----	---

Fourth Mode - Heirmologic (Legetos)

	$\overset{6}{\lambda} \text{ — } \text{ — } \text{ — } \text{ — } \text{ — } \text{ — } \overset{\Delta}{\text{A}}$
	$\underset{\lambda}{0} \ 1 \ 0 \ 0 \ 1 \ 0 \ 0$
0100101	$\overset{6}{\lambda} \text{ — } \text{ — } \text{ — } \text{ — } \text{ — } \text{ — } \overset{\Delta}{\text{A}}$
	$\underset{\lambda}{0} \ 1 \ 0 \ 0 \ 1 \ 0 \ 1$
0000100	$\overset{6}{\lambda} \text{ — } \text{ — } \text{ — } \text{ — } \text{ — } \text{ — } \overset{\Delta}{\text{A}}$
	$\underset{\lambda}{0} \ 0 \ 0 \ 0 \ 1 \ 0 \ 0$
1000100	$\overset{6}{\lambda} \text{ — } \text{ — } \text{ — } \text{ — } \text{ — } \text{ — } \overset{\Delta}{\text{A}}$
	$\underset{\lambda}{1} \ 0 \ 0 \ 0 \ 1 \ 0 \ 0$
000X0100	$\overset{6}{\lambda} \text{ — } \text{ — } \text{ — } \text{ — } \text{ — } \text{ — } \overset{\Delta}{\text{A}}$
	$\underset{\lambda}{0} \ 0 \ 0 \ X \ 0 \ 1 \ 0 \ 0$
101000100	$\overset{6}{\lambda} \text{ — } \text{ — } \text{ — } \text{ — } \text{ — } \text{ — } \overset{\Delta}{\text{A}}$
	$\underset{\lambda}{1} \ 0 \ 1 \ 0 \ 0 \ 0 \ 1 \ 0 \ 0$

From Di

100	$\overset{\Delta}{\text{A}} \text{ — } \text{ — } \text{ — } \overset{\Delta}{\text{A}}$
	$\underset{\text{A}}{1} \ 0 \ 0$
	$\overset{\Delta}{\text{A}} \text{ — } \text{ — } \text{ — } \overset{\Delta}{\text{A}}$
	$\underset{\text{A}}{1} \ 0 \ 0$
	$\overset{\Delta}{\text{A}} \text{ — } \text{ — } \text{ — } \overset{\Delta}{\text{A}}$
	$\underset{\text{A}}{1} \ 0 \ 0$
	$\overset{\Delta}{\text{A}} \text{ — } \text{ — } \text{ — } \overset{\Delta}{\text{A}}$
	$\underset{\text{A}}{1} \ 0 \ 0$
10X	$\overset{\Delta}{\text{A}} \text{ — } \text{ — } \text{ — } \overset{\Delta}{\text{A}}$
	$\underset{\text{A}}{1} \ 0 \ X$
0100	$\overset{\Delta}{\text{A}} \text{ — } \text{ — } \text{ — } \overset{\Delta}{\text{A}}$
	$\underset{\text{A}}{0} \ 1 \ 0 \ 0$

$\overset{\Delta}{\text{A}} \text{ — } \text{ — } \text{ — } \overset{\Delta}{\text{A}}$

$\underset{\text{A}}{1} \ 0$

Fourth Mode - Heirmologic (Legetos)

$\overset{\Delta}{\underset{\text{A}}{\text{A}}} \quad 1 \quad 0 \quad 0 \quad 0 \quad 1 \quad 0 \quad 0 \quad \overset{\Delta}{\underset{\text{A}}{\text{A}}}$



$\overset{\Delta}{\underset{\text{A}}{\text{A}}} \quad 1 \quad 0 \quad 0 \quad 0 \quad 0 \quad 1 \quad 0 \quad 0 \quad \overset{\Delta}{\underset{\text{A}}{\text{A}}}$

1010100

$\overset{\Delta}{\underset{\text{A}}{\text{A}}} \quad 1 \quad 0 \quad 1 \quad 0 \quad 1 \quad 0 \quad 0 \quad \overset{\Delta}{\underset{\text{A}}{\text{A}}}$

01000100

$\overset{\Delta}{\underset{\text{A}}{\text{A}}} \quad 0 \quad 1 \quad 0 \quad 0 \quad 0 \quad 1 \quad 0 \quad 0 \quad \overset{\Delta}{\underset{\text{A}}{\text{A}}}$

000100100

$\overset{\Delta}{\underset{\text{A}}{\text{A}}} \quad 0 \quad 0 \quad 0 \quad 1 \quad 0 \quad 0 \quad 1 \quad 0 \quad 0 \quad \overset{\Delta}{\underset{\text{A}}{\text{A}}}$

Accented on fourth to last syllable:

From Vou

1001

$\overset{6}{\lambda} \quad 1 \quad 0 \quad 0 \quad 1 \quad \overset{\Delta}{\underset{\text{A}}{\text{A}}}$

$\overset{6}{\lambda} \quad 1 \quad 0 \quad 0 \quad 1 \quad \overset{\Gamma}{\overset{\Delta}{\underset{\text{A}}{\text{A}}}}$

$\overset{6}{\lambda} \quad 1 \quad 0 \quad 0 \quad 1 \quad \overset{\Delta}{\underset{\text{A}}{\text{A}}}$



1010

$\overset{6}{\lambda} \quad 1 \quad 0 \quad 1 \quad 0 \quad \overset{\Delta}{\underset{\text{A}}{\text{A}}}$

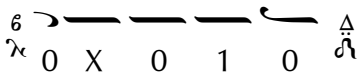
$\overset{6}{\lambda} \quad 1 \quad 0 \quad 1 \quad 0 \quad \overset{\Delta}{\underset{\text{A}}{\text{A}}}$

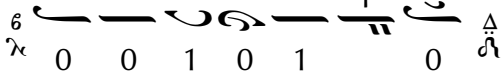
$\overset{6}{\lambda} \quad 1 \quad 0 \quad 1 \quad 0 \quad \overset{\Delta}{\underset{\text{A}}{\text{A}}}$

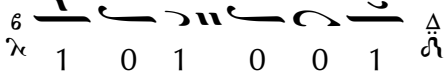
01001

$\overset{6}{\lambda} \quad 0 \quad 1 \quad 0 \quad 0 \quad 1 \quad \overset{\Delta}{\underset{\text{A}}{\text{A}}}$

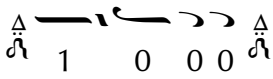
Fourth Mode - Heirmologic (Legetos)

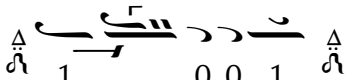
OX010 

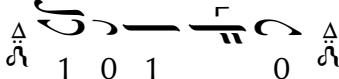
001010 

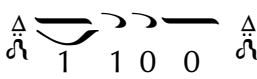
101001 

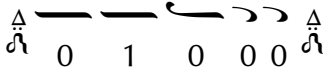
From Di

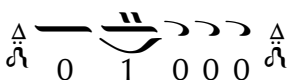
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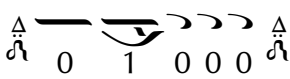
1001 

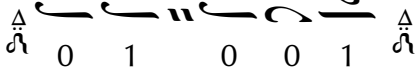
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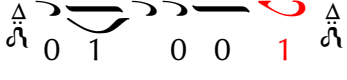
1100 

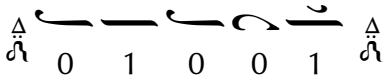
01000 





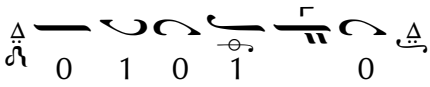
01001 

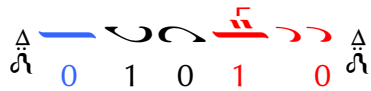




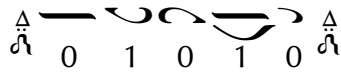

1

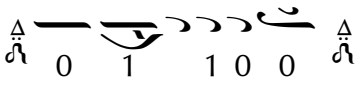
Fourth Mode - Heirmologic (Legetos)

01010 





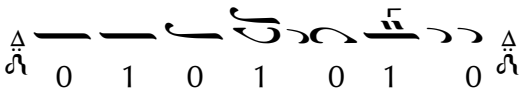


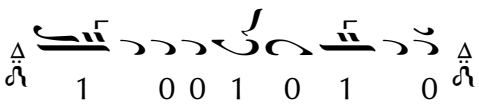
01100 

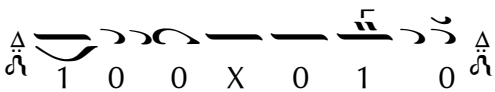
101010 

X0X010 



0101010 

1001010 

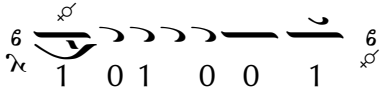
100X010 

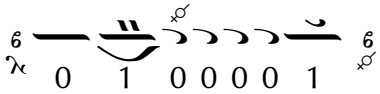
Fourth Mode - Heirmologic (Legetos)

D) Formulae with Fthores

Accented on last syllable:

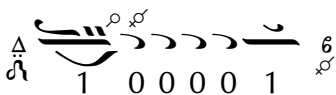
From Vou

10X001 

0100001 

From Di

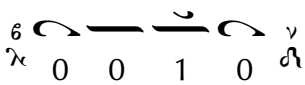
10001 

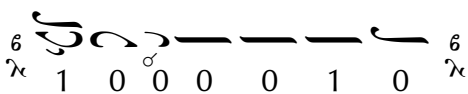
100001 

110001 

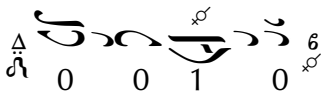
Accented on second to last syllable:

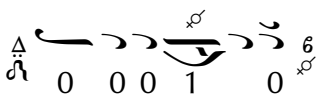
From Vou

0010 

1000010 

From Di

0010 

00010 

Fourth Mode - Heirmologic (Legetos)

100010	
0010010	
01000010	

Accented on third to last syllable:

From Vou

100	
-----	--

From Di

100100	
00100100	

Accented on fourth to last syllable:

From Di

001010	
--------	--

Fourth Mode - Heirmologic (Legetos)

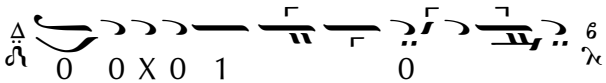
E) Endings for Theotokia*

Accented on last syllable:

(A formula ending in 100 may be used here)

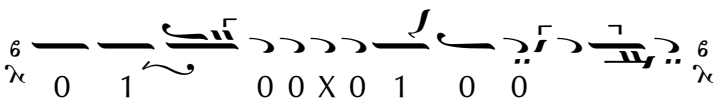
Accented on second to last syllable:

From Di

00X010 

Accented on third to last syllable:

From Vou

0100X0100 

From Di

00100 

100100 

0100100 

1000100 

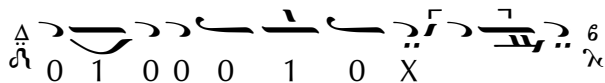


* The formulae in blue in this section are from the Athonite oral tradition, as represented in the book Παρακλητικῆς, Μουσικὸν Ἐγκόλπιον, Πλάγιοι Ἦχοι, Ἱεροθέου Ἱερομονάχου, ἐκδόσεις Ἱ.Μ. Φιλοθέου, Ἅγιον Ὄρος, 2004.

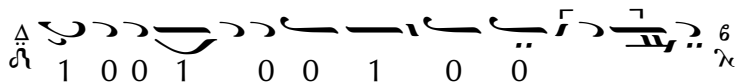
Fourth Mode - Heirmologic (Legetos)



0100010X



100100100



Accented on fourth to last syllable:

From Di

1001



BYZANTINE MUSIC FORMULÆ

Fourth Mode - Heirmologic (Soft Chromatic)

Contents*

A) Cadences on Vou.....	369
B) Cadences on Di.....	372
C 1) Cadences on Zo.....	381
2) Formulae from Zo.....	382
D) Endings for Theotokia	383

Key:

1 = accented syllable

0 = unaccented syllable

X = syllable that may be either
accented or unaccented

Variations of the same formula
are indicated in color

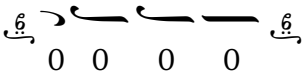
* The Byzantine music formulae herein were extracted from all the heirmologic melodies found in the *Zoe Anastasimatarion* (14th edition, 2002), some melodies of Vol. I of the *Doxastarion* by Petros Peloponnesios (and Keltzanides), and all the heirmologic melodies in Vol. I of *Mousike Kypsele*.

Fourth Mode - Heirmologic (Soft Chromatic)

A) Cadences on Vou

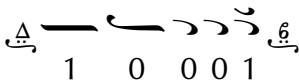
Accented on last syllable:

From Vou

0000 

From Di

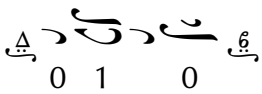
001 

10001 

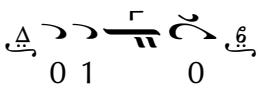
Accented on second to last syllable:


From Di

010 



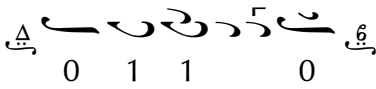


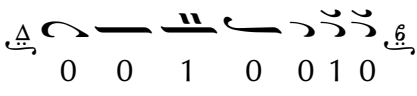


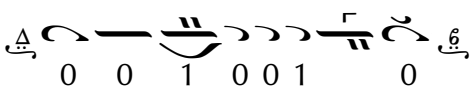


0010 

Fourth Mode - Heirmologic (Soft Chromatic)


0110 

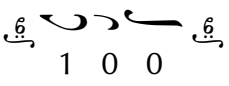
0010010 

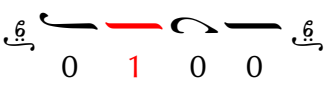


Accented on third to last syllable:

From Vou

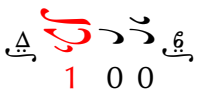
100 

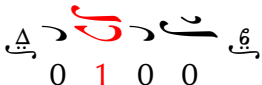


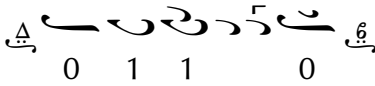
0100 

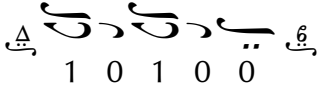


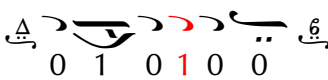
From Di

100 

0100 

0110 

10100 

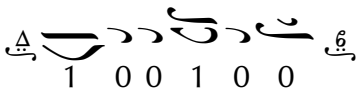
010100 




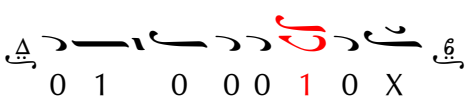





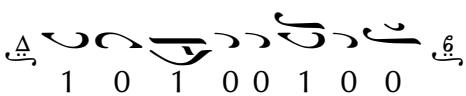
Fourth Mode - Heirmologic (Soft Chromatic)


100100 


010010X 


010010X 

10010100 

10100100 


100100100 

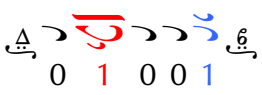





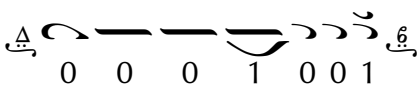
Accented on fourth to last syllable:

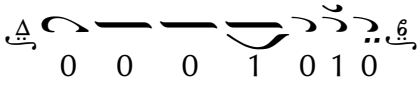
From Di


1001 

01001 



0001001 

0001010 

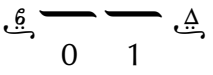
1001001 

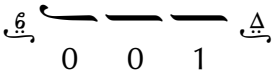
Fourth Mode - Heirmologic (Soft Chromatic)

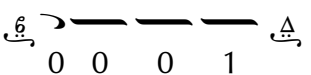
B) Cadences on Di

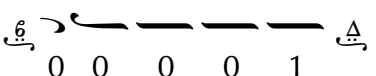
Accented on last syllable:

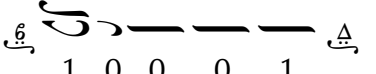
From Vou

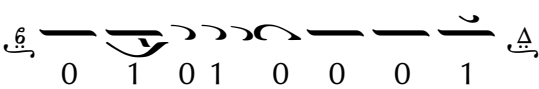
01 

001 

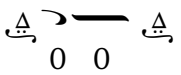
0001 

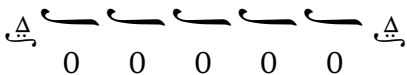
00001 

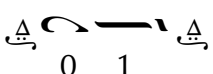
10001 

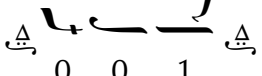
01010001 

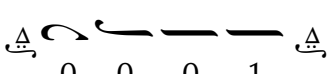
From Di

00 

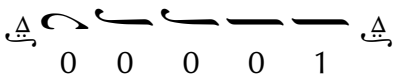
00000 

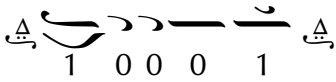
01 

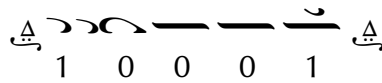
001 

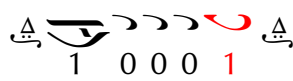
0001 

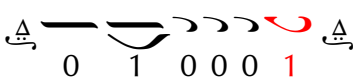
Fourth Mode - Heirmologic (Soft Chromatic)

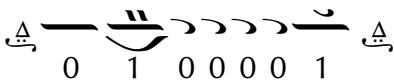
00001 

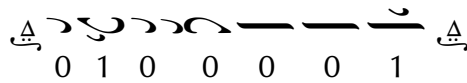
10001 





010001 

0100001 





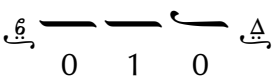


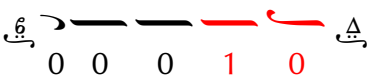
Accented on second to last syllable:

From Vou

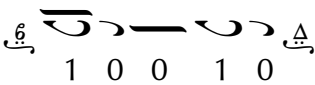
10 



010 

00010 



10010 

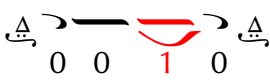

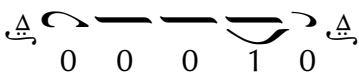
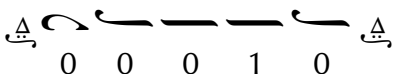
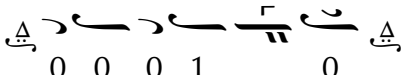
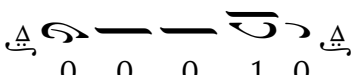
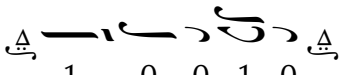
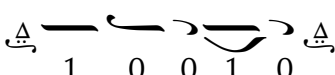
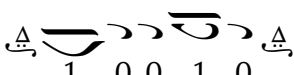
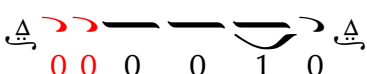
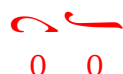

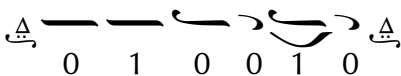
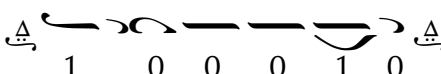
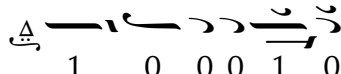
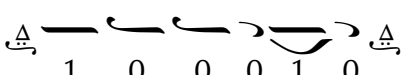


Fourth Mode - Heirmologic (Soft Chromatic)

000010		
010010		
1000010		
10000010		

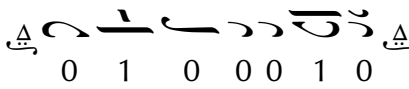
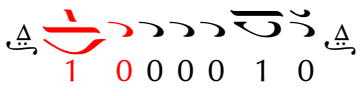
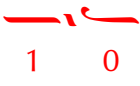
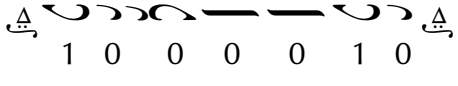
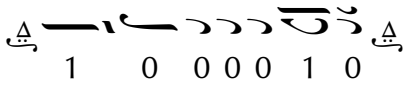
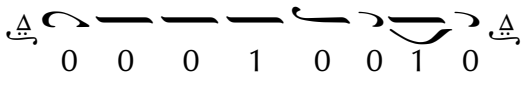

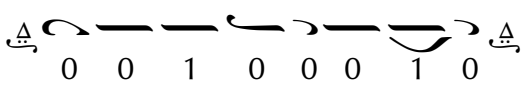
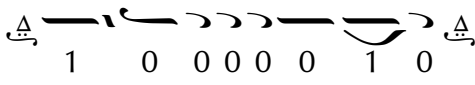
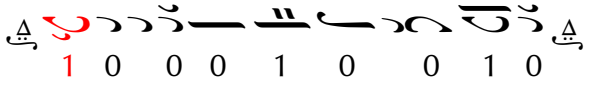

From Di

10	
010	
0010	

Fourth Mode - Heirmologic (Soft Chromatic)

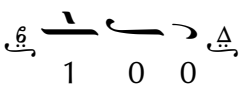
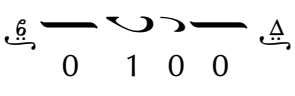
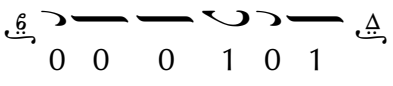
		
00010		
		
		
		
10010		
		
		
000010		
		
010010		
100010		
		
0010010		

Fourth Mode - Heirmologic (Soft Chromatic)

0100010		
1000010		
		
		
00010010		
		
00100010		
10000010		
100010010		

Accented on third to last syllable:

From Vou

100	
0100	
000100	

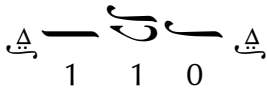
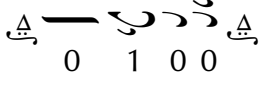
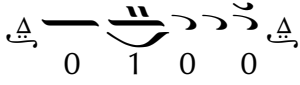
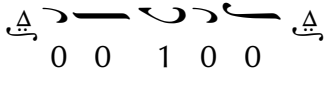

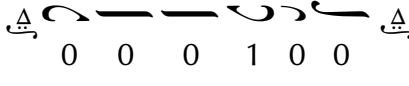
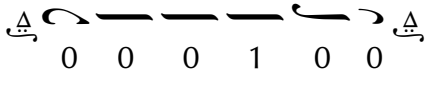
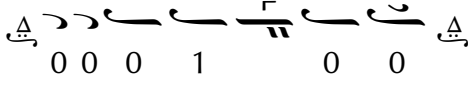

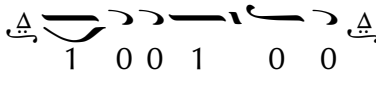
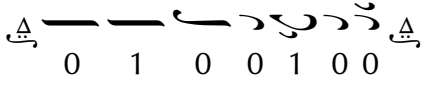
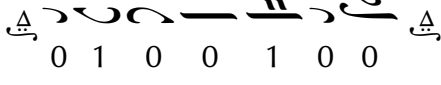
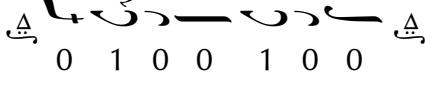
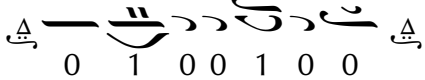
Fourth Mode - Heirmologic (Soft Chromatic)

100100	
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1000100	
00100100	
01000100	
10000100	

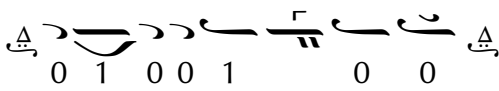
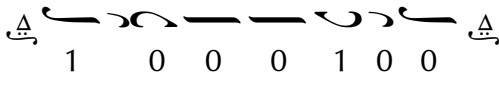
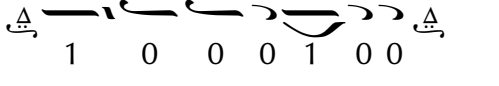
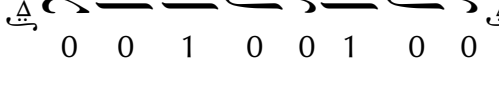

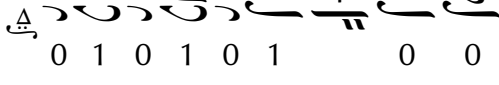
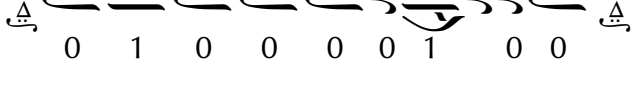
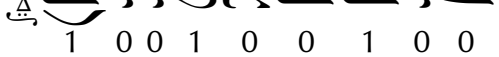
From Di

100	

Fourth Mode - Heirmologic (Soft Chromatic)

110	
	1 1 0
0100	
	0 1 0 0
	
	0 1 0 0
00100	
	0 0 1 0 0
10100	
	1 0 1 0 0
000100	
	0 0 0 1 0 0
	
	0 0 0 1 0 0
000100	
	0 0 0 1 0 0
100100	
	1 0 0 1 0 0
	
	1 0 0 1 0 0
0100100	
	0 1 0 0 1 0 0
	
	0 1 0 0 1 0 0
	
	0 1 0 0 1 0 0
	
	0 1 0 0 1 0 0

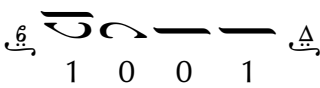
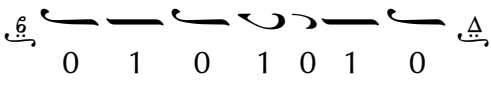
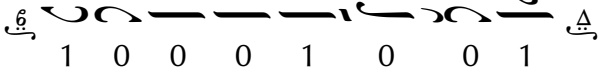
Fourth Mode - Heirmologic (Soft Chromatic)

	
1000100	
	
00100100	
	
01010100	
010000100	
100100100	

1

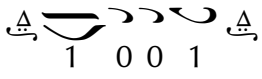
Accented on fourth to last syllable:

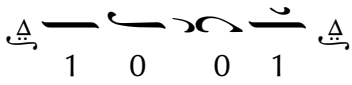
From Vou

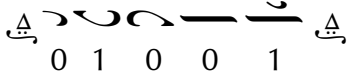
1001	
0101010	
10001001	

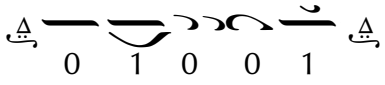
Fourth Mode - Heirmologic (Soft Chromatic)

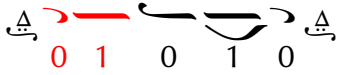
From Di

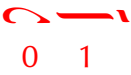
1001 

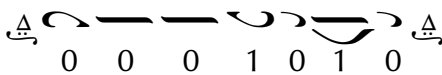


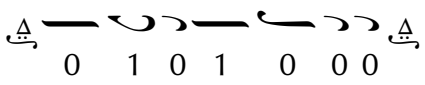
01001 




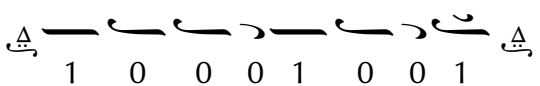
01010 

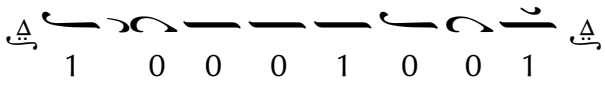


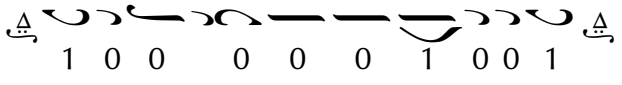
0001010 

0101000 

1001001 

10001001 

10001001 

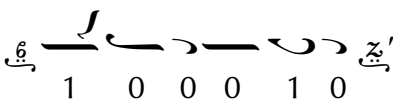
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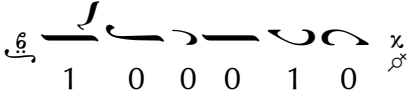
Fourth Mode - Heirmologic (Soft Chromatic)

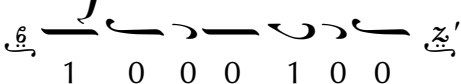
C1) Cadences on Zo

Cadences on Zo are extremely rare in this mode. However, they are common just before the final cadence in Theotokia, in which case they may have a cadence on Zo with a klasma.

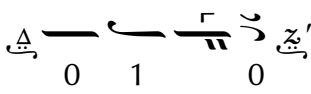
From Vou

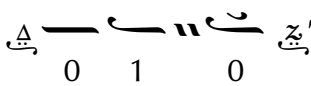
100010 

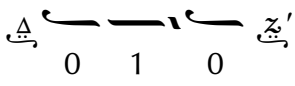
100010 

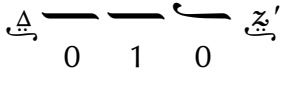
1000100 

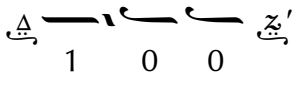
From Di

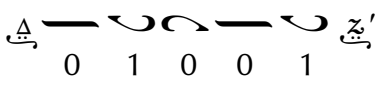
010 

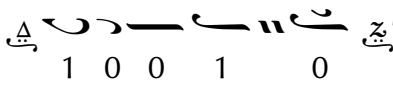


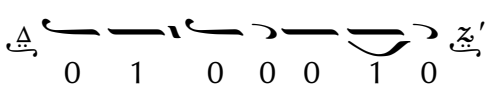




100 

01001 

10010 

0100010 

Fourth Mode - Heirmologic (Soft Chromatic)

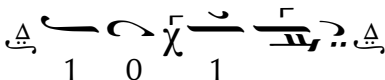
C2) Formulae from Zo

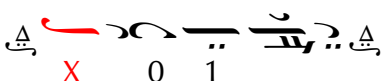
From Vou

010	
0010	
0100	
010010	
0100100	
01001001	
10000010	


D) Endings for Theotokia

Accented on last syllable:

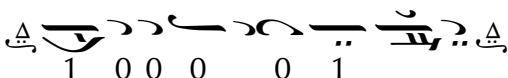
101 

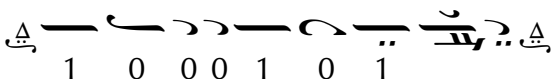
X01 



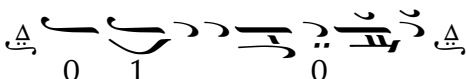
010001 



100001 


1000101 

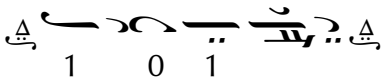
Accented on second to last syllable:

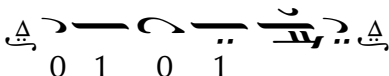
010 

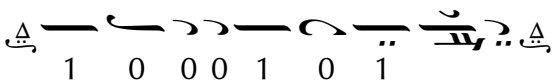
Accented on third to last syllable:

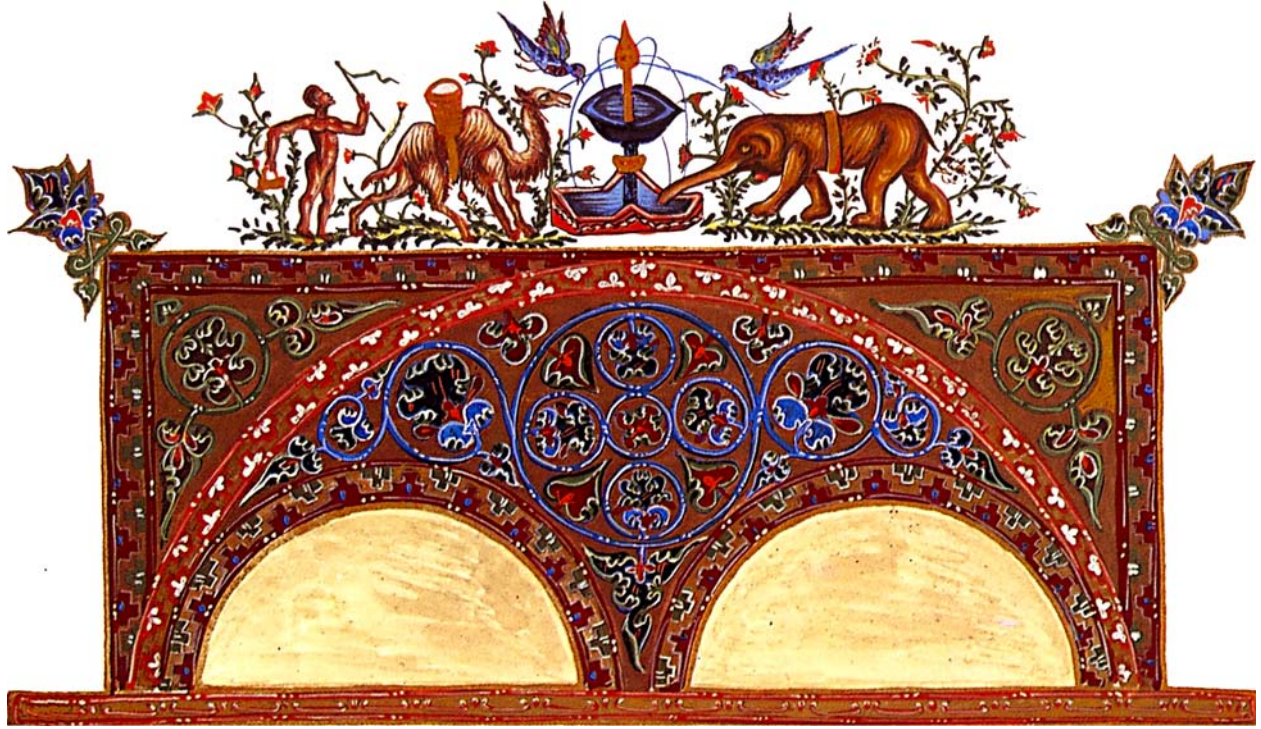
100 



101 

0101 

1000101 



Plagal First Mode



BYZANTINE MUSIC FORMULAE

Plagal First Mode - Sticheraric

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* The Byzantine music formulae herein were extracted from sticheraric melodies found in the *Zoe Anastasi-matarion* (14th edition, 2002) Volume I of *Mousike Kypsele* (1883 edition), and the two-volume *Athonias* (1906 edition) by Petros Philanthidis.

Key:

1 = accented syllable
0 = unaccented syllable
X = syllable that may be either accented or unaccented

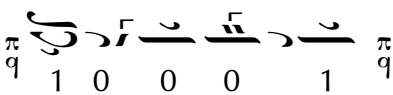
Variations of the same formula are indicated in color

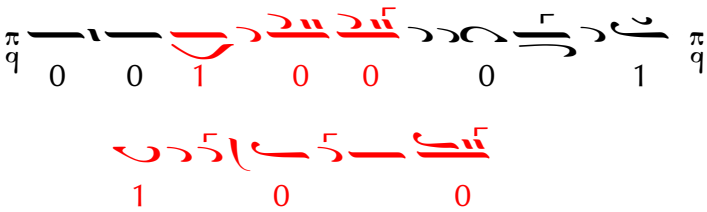
Plagal First Mode - Sticheraric

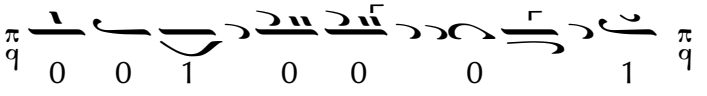
A) Medial Formulae Pa - Pa

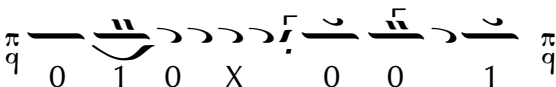
Some of these formulae may be used as initial formulae. There are not many formulae in this section, because melodic phrases in this mode infrequently begin and end on Pa.

Accented on last syllable:


10001 

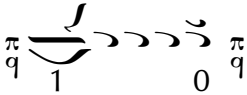
0010001 

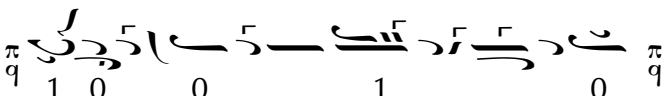
0010001 


010X001 

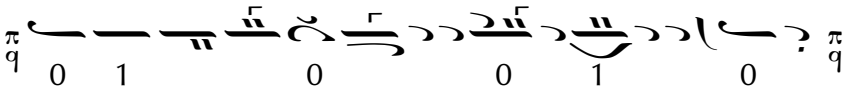
Accented on second to last syllable:

10 



10010 



010010 

Plagal First Mode - Sticheraric

00010010 π
 $\overset{q}{\underset{0}{\text{—}}} \overset{q}{\underset{0}{\text{—}}} \overset{q}{\underset{0}{\text{—}}} \overset{q}{\underset{1}{\text{—}}} \text{—} \text{—} \text{—} \overset{q}{\underset{0}{\text{—}}} \overset{q}{\underset{0}{\text{—}}} \overset{q}{\underset{1}{\text{—}}} \overset{q}{\underset{0}{\text{—}}} \overset{q}{\text{—}}$ $\overset{q}{\underset{0}{\text{—}}}$

Accented on third to last syllable:

100 π
 $\overset{q}{\underset{1}{\text{—}}} \overset{q}{\underset{0}{\text{—}}} \overset{q}{\underset{0}{\text{—}}} \overset{q}{\text{—}}$

0100 π
 $\overset{q}{\underset{0}{\text{—}}} \text{—} \text{—} \text{—} \overset{q}{\underset{1}{\text{—}}} \text{—} \text{—} \text{—} \overset{q}{\underset{0}{\text{—}}} \overset{q}{\underset{0}{\text{—}}} \overset{q}{\text{—}}$ $\overset{q}{\underset{0}{\text{—}}}$

00100 π
 $\overset{q}{\underset{0}{\text{—}}} \overset{q}{\underset{0}{\text{—}}} \overset{q}{\underset{1}{\text{—}}} \text{—} \text{—} \text{—} \overset{q}{\underset{0}{\text{—}}} \overset{q}{\underset{0}{\text{—}}} \overset{q}{\text{—}}$

010100 π
 $\overset{q}{\underset{0}{\text{—}}} \overset{q}{\underset{1}{\text{—}}} \overset{q}{\underset{0}{\text{—}}} \overset{q}{\underset{1}{\text{—}}} \overset{q}{\underset{0}{\text{—}}} \overset{q}{\underset{0}{\text{—}}} \overset{q}{\text{—}}$

1000100 π
 $\overset{q}{\underset{1}{\text{—}}} \overset{q}{\underset{0}{\text{—}}} \overset{q}{\underset{0}{\text{—}}} \overset{q}{\underset{0}{\text{—}}} \overset{q}{\underset{1}{\text{—}}} \text{—} \text{—} \text{—} \overset{q}{\underset{0}{\text{—}}} \overset{q}{\underset{0}{\text{—}}} \overset{q}{\text{—}}$

Accented on fourth to last syllable:

01001 π
 $\overset{q}{\underset{0}{\text{—}}} \overset{q}{\underset{1}{\text{—}}} \text{—} \text{—} \text{—} \overset{q}{\underset{0}{\text{—}}} \overset{q}{\underset{0}{\text{—}}} \overset{q}{\underset{1}{\text{—}}} \overset{q}{\text{—}}$

010X001 π
 $\overset{q}{\underset{0}{\text{—}}} \overset{q}{\underset{1}{\text{—}}} \overset{q}{\underset{0}{\text{—}}} \overset{q}{\underset{X}{\text{—}}} \overset{q}{\underset{0}{\text{—}}} \overset{q}{\underset{0}{\text{—}}} \overset{q}{\underset{1}{\text{—}}} \overset{q}{\text{—}}$

B) Medial Formulae Pa - Di

This section is also almost empty, due to the infrequency of such melodic patterns in this mode.

Accented on last syllable:

0001 π
 $\begin{array}{cccc} \overline{\text{—}} & \overline{\text{—}} & \overline{\text{—}} & \overline{\text{—}} \\ \underset{\text{q}}{\text{0}} & \underset{\text{0}}{\text{0}} & \underset{\text{0}}{\text{0}} & \underset{\text{1}}{\text{1}} \end{array} \overset{\Delta}{\text{a}}$

Accented on second to last syllable:

00 π
 $\begin{array}{ccc} \overline{\text{—}} & \overline{\text{—}} & \overset{\Delta}{\text{a}} \\ \underset{\text{q}}{\text{0}} & \underset{\text{0}}{\text{0}} & \end{array}$

10 π
 $\begin{array}{ccc} \overline{\text{—}} & \overline{\text{—}} & \overset{\Delta}{\text{a}} \\ \underset{\text{q}}{\text{1}} & \underset{\text{0}}{\text{0}} & \end{array}$

10 π
 $\begin{array}{ccc} \overline{\text{—}} & \overline{\text{—}} & \overset{\Delta}{\text{a}} \\ \underset{\text{q}}{\text{1}} & \underset{\text{0}}{\text{0}} & \end{array}$

010 π
 $\begin{array}{ccc} \overline{\text{—}} & \overline{\text{—}} & \overline{\text{—}} \\ \underset{\text{q}}{\text{0}} & \underset{\text{1}}{\text{1}} & \underset{\text{0}}{\text{0}} \end{array} \overset{\Delta}{\text{a}}$

0010 π
 $\begin{array}{cccc} \overline{\text{—}} & \overline{\text{—}} & \overline{\text{—}} & \overline{\text{—}} \\ \underset{\text{q}}{\text{0}} & \underset{\text{0}}{\text{0}} & \underset{\text{1}}{\text{1}} & \underset{\text{0}}{\text{0}} \end{array} \overset{\Delta}{\text{a}}$

100010 π
 $\begin{array}{cccccc} \overline{\text{—}} & \overline{\text{—}} & \overline{\text{—}} & \overline{\text{—}} & \overline{\text{—}} & \overline{\text{—}} \\ \underset{\text{q}}{\text{1}} & \underset{\text{0}}{\text{0}} & \underset{\text{0}}{\text{0}} & \underset{\text{0}}{\text{0}} & \underset{\text{1}}{\text{1}} & \underset{\text{0}}{\text{0}} \end{array} \overset{\Delta}{\text{a}}$

0100010 π
 $\begin{array}{cccccc} \overline{\text{—}} & \overline{\text{—}} & \overline{\text{—}} & \overline{\text{—}} & \overline{\text{—}} & \overline{\text{—}} \\ \underset{\text{q}}{\text{0}} & \underset{\text{1}}{\text{1}} & \underset{\text{0}}{\text{0}} & \underset{\text{0}}{\text{0}} & \underset{\text{0}}{\text{0}} & \underset{\text{1}}{\text{1}} \end{array} \overset{\Delta}{\text{a}}$

Accented on third to last syllable:

100 π
 $\begin{array}{ccc} \overline{\text{—}} & \overline{\text{—}} & \overset{\Delta}{\text{a}} \\ \underset{\text{q}}{\text{1}} & \underset{\text{0}}{\text{0}} & \underset{\text{0}}{\text{0}} \end{array}$

π
 $\begin{array}{ccc} \overline{\text{—}} & \overline{\text{—}} & \overset{\Delta}{\text{a}} \\ \underset{\text{q}}{\text{1}} & \underset{\text{0}}{\text{0}} & \underset{\text{0}}{\text{0}} \end{array}$

Plagal First Mode - Sticheric

000100 π
 $\overset{\frown}{0}$ $\overset{\frown}{0}$ $\overset{\frown}{0}$ $\overset{\frown}{1}$ $\overset{\frown}{0}$ $\overset{\frown}{0}$ $\overset{\Delta}{\mathfrak{A}}$

0100100 π
 $\overset{\frown}{0}$ $\overset{\frown}{1}$ $\overset{\frown}{0}$ $\overset{\frown}{0}$ $\overset{\frown}{1}$ $\overset{\frown}{0}$ $\overset{\frown}{0}$ $\overset{\Delta}{\mathfrak{A}}$

Accented on fourth to last syllable:


001001 π
 $\overset{\frown}{0}$ $\overset{\frown}{0}$ $\overset{\frown}{1}$ $\overset{\frown}{\text{—}}$ $\overset{\frown}{\text{—}}$ $\overset{\frown}{\text{—}}$ $\overset{\frown}{\text{—}}$ $\overset{\frown}{1}$ $\overset{\Delta}{\mathfrak{A}}$

π
 $\overset{\frown}{0}$ $\overset{\frown}{0}$ $\overset{\frown}{1}$ $\overset{\frown}{\text{—}}$ $\overset{\frown}{\text{—}}$ $\overset{\frown}{\text{—}}$ $\overset{\frown}{1}$ $\overset{\Delta}{\mathfrak{A}}$

C) Medial Formulae Pa - Ke

See also sections C1 and C2 for alternate ways the melody can move from Pa to Ke.
Formulae in section J may also be used by adding four to the interval of the first character.


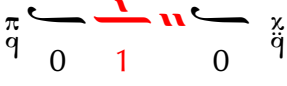

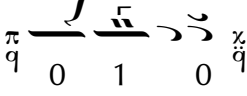
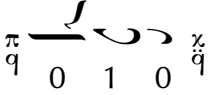

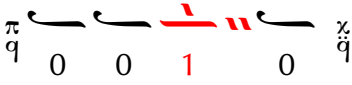

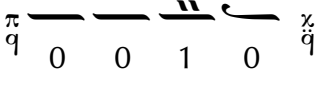
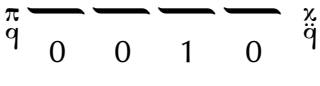
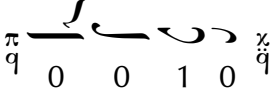
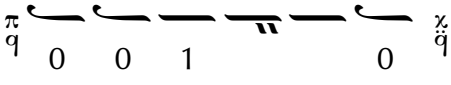
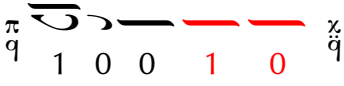
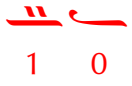
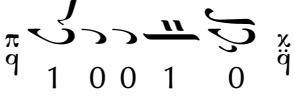
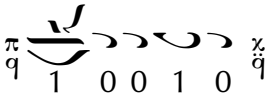
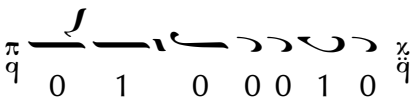
Accented on last syllable:

0	$\pi_q \frac{\overset{\curvearrowright}{\text{—}}}{0} \frac{\times}{q}$	
01	$\pi_q \frac{\text{—}}{0} \frac{\overset{\curvearrowright}{\text{—}}}{1} \frac{\times}{q}$	
001	$\pi_q \frac{\text{—}}{0} \frac{\text{—}}{0} \frac{\overset{\text{〃}}{\text{—}}}{1} \frac{\times}{q}$	
10001	$\pi_q \frac{\overset{\curvearrowright}{\text{—}}}{1} \frac{\text{—}}{0} \frac{\text{—}}{0} \frac{\overset{\curvearrowright}{\text{—}}}{0} \frac{\text{—}}{1} \frac{\times}{q}$	
10001	$\pi_q \frac{\text{—}}{1} \frac{\overset{\text{〃}}{\text{—}}}{0} \frac{\overset{\curvearrowright}{\text{—}}}{0} \frac{\text{—}}{0} \frac{\overset{\curvearrowright}{\text{—}}}{1} \frac{\times}{q}$	
10X01	$\pi_q \frac{\overset{\curvearrowright}{\text{—}}}{1} \frac{\overset{\text{〃}}{\text{—}}}{0} \frac{\text{X}}{0} \frac{\text{—}}{0} \frac{\text{—}}{1} \frac{\times}{q}$	
010001	$\pi_q \frac{\text{—}}{0} \frac{\text{—}}{1} \frac{\overset{\text{〃}}{\text{—}}}{0} \frac{\text{—}}{0} \frac{\text{—}}{0} \frac{\text{—}}{1} \frac{\times}{q}$	
0001001	$\pi_q \frac{\text{—}}{0} \frac{\text{—}}{0} \frac{\text{—}}{0} \frac{\overset{\text{〃}}{\text{—}}}{1} \frac{\text{—}}{0} \frac{\text{—}}{0} \frac{\text{—}}{0} \frac{\overset{\curvearrowright}{\text{—}}}{1} \frac{\times}{q}$	
	$\pi_q \frac{\text{—}}{0} \frac{\text{—}}{0} \frac{\overset{\text{〃}}{\text{—}}}{1} \frac{\text{—}}{0} \frac{\text{—}}{0} \frac{\text{—}}{0} \frac{\text{—}}{1} \frac{\times}{q}$	

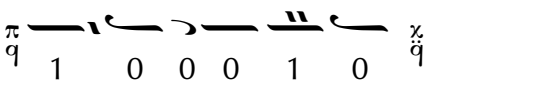
Accented on second to last syllable:

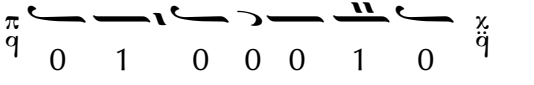
10	$\pi_q \frac{\overset{\curvearrowright}{\text{—}}}{1} \frac{\text{—}}{0} \frac{\times}{q}$	
	$\pi_q \frac{\text{—}}{1} \frac{\overset{\text{〃}}{\text{—}}}{0} \frac{\times}{q}$	

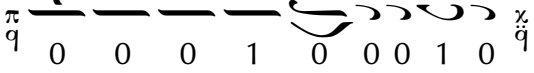
Plagal First Mode - Sticheraric

	π q		$\frac{x}{q}$	
		1 0		
010	π q		$\frac{x}{q}$	
		0 1 0		1
	π q		$\frac{x}{q}$	
		0 1 0		
	π q		$\frac{x}{q}$	
		0 1 0		
X10	π q		$\frac{x}{q}$	
		X 1 0		
0010	π q		$\frac{x}{q}$	
		0 0 1 0		1
	π q		$\frac{x}{q}$	
		0 0 1 0		
	π q		$\frac{x}{q}$	
		0 0 1 0		
	π q		$\frac{x}{q}$	
		0 0 1 0		
	π q		$\frac{x}{q}$	
		0 0 1 0		
10010	π q		$\frac{x}{q}$	
		1 0 0 1 0		1 0
	π q		$\frac{x}{q}$	
		1 0 0 1 0		
	π q		$\frac{x}{q}$	
		1 0 0 1 0		
010010	π q		$\frac{x}{q}$	
		0 1 0 0 1 0		


Plagal First Mode - Sticheraric


100010 


0100010 


000100010 

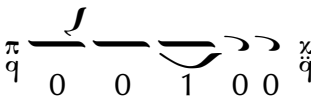
Accented on third to last syllable:


100 


X10 


0100 

X100 

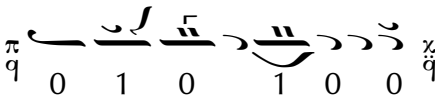
00100 


10100 

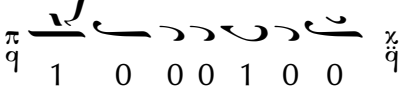





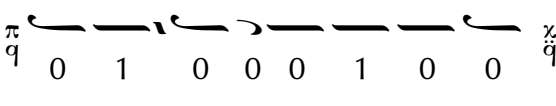
Plagal First Mode - Sticheraric

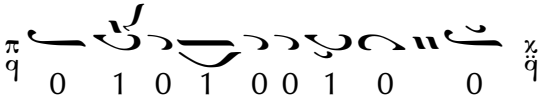
010100 π_q  $\frac{x}{q}$

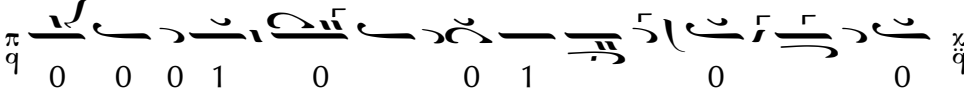
0100100 π_q  $\frac{x}{q}$

1000100 π_q  $\frac{x}{q}$

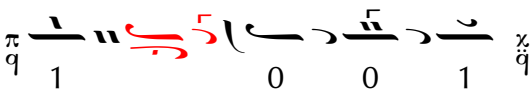

00100100 π_q  $\frac{x}{q}$

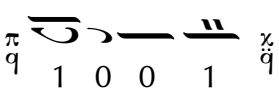
01000100 π_q  $\frac{x}{q}$

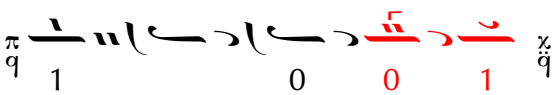
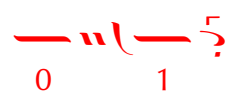
010100100 π_q  $\frac{x}{q}$

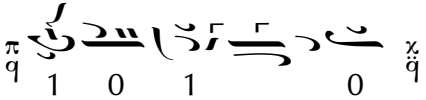
000100100 π_q  $\frac{x}{q}$

Accented on fourth to last syllable:

1001 π_q  $\frac{x}{q}$ 

π_q  $\frac{x}{q}$

1010 π_q  $\frac{x}{q}$ 

1010 π_q  $\frac{x}{q}$

Plagal First Mode - Sticheraric

	π		$\frac{x}{q}$
	q	1 0 1 0	q
X100	π		$\frac{x}{q}$
	q	X 1 0 0	q
01001	π		$\frac{x}{q}$
	q	0 1 0 0 1	q
	π		$\frac{x}{q}$
	q	0 1 0 0 1	q
	π		$\frac{x}{q}$
	q	0 1 0 0 1	q
001001	π		$\frac{x}{q}$
	q	0 0 1 0 0 1	q
1001001	π		$\frac{x}{q}$
	q	1 0 0 1 0 0 1	q
010001001	π		$\frac{x}{q}$
	q	0 1 0 0 0 1 0 0 1	q

Plagal First Mode - Sticheraric

C1) Medial Formulae Pa - Vou

These melodies must be followed by a formula in the following section (ending on Ke)

Two syllables:

00 $\begin{matrix} \pi & \text{—} & \text{—} & \text{6} \\ \eta & 0 & 0 & \lambda \end{matrix}$

10 $\begin{matrix} \pi & \text{—} & \text{—} & \text{6} \\ \eta & 1 & 0 & \lambda \end{matrix}$

Three syllables:

000 $\begin{matrix} \pi & \text{—} & \text{—} & \text{—} & \text{6} \\ \eta & 0 & 0 & 0 & \lambda \end{matrix}$

$\begin{matrix} \text{—} \\ 0 \end{matrix}$

010 $\begin{matrix} \pi & \text{—} & \text{—} & \text{6} \\ \eta & 0 & 1 & 0 & \lambda \end{matrix}$

100 $\begin{matrix} \pi & \text{—} & \text{—} & \text{6} \\ \eta & 1 & 0 & 0 & \lambda \end{matrix}$

$\begin{matrix} \pi & \text{—} & \text{—} & \text{—} & \text{6} \\ \eta & 1 & 0 & 0 & \lambda \end{matrix}$

Four syllables:

0000 $\begin{matrix} \pi & \text{—} & \text{—} & \text{—} & \text{—} & \text{6} \\ \eta & 0 & 0 & 0 & 0 & \lambda \end{matrix}$

0100 $\begin{matrix} \pi & \text{—} & \text{—} & \text{—} & \text{6} \\ \eta & 0 & 1 & 0 & 0 & \lambda \end{matrix}$

0010 $\begin{matrix} \pi & \text{—} & \text{—} & \text{—} & \text{6} \\ \eta & 0 & 0 & 1 & 0 & \lambda \end{matrix}$

Five syllables:

01000 $\begin{matrix} \pi & \text{—} & \text{—} & \text{—} & \text{—} & \text{6} \\ \eta & 0 & 1 & 0 & 0 & \lambda \end{matrix}$

Plagal First Mode - Sticheraric

C2) Medial Formulae Vou - Ke

These melodies must be preceded by a formula in the previous section (ending on Vou)

Accented on last syllable:

01 $\begin{matrix} \overset{6}{\lambda} & \text{---} & \text{---} & \text{---} & \overset{\times}{\underset{\cdot}{q}} \\ \underset{\cdot}{0} & & & \underset{\cdot}{1} & \end{matrix}$

Accented on second to last syllable:

010 $\begin{matrix} \overset{6}{\lambda} & \text{---} & \text{---} & \text{---} & \overset{\times}{\underset{\cdot}{q}} \\ \underset{\cdot}{0} & & \underset{\cdot}{1} & \underset{\cdot}{0} & \end{matrix}$

$\begin{matrix} \overset{6}{\lambda} & \text{---} & \text{---} & \text{---} & \overset{\times}{\underset{\cdot}{q}} \\ \underset{\cdot}{0} & & \underset{\cdot}{1} & \underset{\cdot}{0} & \end{matrix}$

X010 $\begin{matrix} \overset{6}{\lambda} & \text{---} & \text{---} & \text{---} & \overset{\times}{\underset{\cdot}{q}} \\ \underset{\cdot}{X} & \underset{\cdot}{0} & \underset{\cdot}{1} & \underset{\cdot}{0} & \end{matrix}$

Accented on third to last syllable:

0100 $\begin{matrix} \overset{6}{\lambda} & \text{---} & \text{---} & \text{---} & \overset{\times}{\underset{\cdot}{q}} \\ \underset{\cdot}{0} & & \underset{\cdot}{1} & \underset{\cdot}{0} & \end{matrix}$

$\begin{matrix} \overset{6}{\lambda} & \text{---} & \text{---} & \text{---} & \overset{\times}{\underset{\cdot}{q}} \\ \underset{\cdot}{0} & & \underset{\cdot}{1} & \underset{\cdot}{0} & \end{matrix}$

$\begin{matrix} \overset{6}{\lambda} & \text{---} & \text{---} & \text{---} & \overset{\times}{\underset{\cdot}{q}} \\ \underset{\cdot}{0} & & \underset{\cdot}{1} & \underset{\cdot}{0} & \end{matrix}$

0101 $\begin{matrix} \overset{6}{\lambda} & \text{---} & \text{---} & \text{---} & \overset{\times}{\underset{\cdot}{q}} \\ \underset{\cdot}{0} & & \underset{\cdot}{1} & \underset{\cdot}{0} & \end{matrix}$

Accented on fourth to last syllable:

X010 $\begin{matrix} \overset{6}{\lambda} & \text{---} & \text{---} & \text{---} & \overset{\times}{\underset{\cdot}{q}} \\ \underset{\cdot}{X} & \underset{\cdot}{0} & \underset{\cdot}{1} & \underset{\cdot}{0} & \end{matrix}$

Plagal First Mode - Sticheraric

01010

D) Medial Formulae Pa - High Nee

These must be followed by a formula in section L1 or L2.

Accented on last syllable:

(Use a formula below ending in 100 or 1001)

Accented on second to last syllable:

10010	π_q	
-------	---------	--

1010010	π_q	
---------	---------	--

Accented on third to last syllable:

0100	π_q	
------	---------	--

00100	π_q	
-------	---------	--

00000101	π_q	
----------	---------	--

Accented on fourth to last syllable:



1001	π_q	
------	---------	--

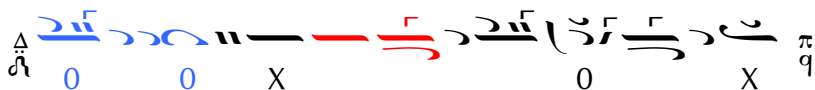



0001010	π_q	
---------	---------	--

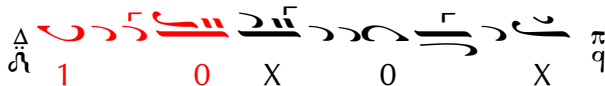

1001010	π_q	
---------	---------	--

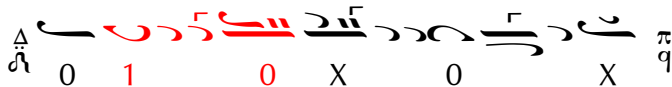

E) Medial Formulae Di - Pa



Accented on last syllable:



00X0X Δ  π


00X0X Δ  π




10X0X Δ  π


010X0X Δ  π


0010X0X Δ  π


1010X0X Δ  π


Plagal First Mode - Sticheraric

Accented on second to last syllable:

0010	 Δ π 0 0 1 0
	 Δ π 0 0 1 0
	 Δ π 0 0 1 0
00010	 Δ π 0 0 0 1 0
100010	 Δ π 1 0 0 0 1 0
010010	 Δ π 0 1 0 0 1 0
	 Δ π 1 0 0
0X0X010	 Δ π 0 X 0 X 0 1 0
	 Δ π 0 X 0
	 Δ π 0 X 0
1X0X010	 Δ π 1 X 0 X 0 1 0
	 Δ π X 0 0
00010010	 Δ π 0 0 0 1 0 0 1 0

Plagal First Mode - Sticheric

00100010

0 0 1 0 0 0 1 0

00X0X010

0 0 X 0 X 0 1 0

0 X 0

0 X 0

01X0X010

0 1 X 0 X 0 1 0

X 0 0

010X0X010

0 1 0 X 0 X 0 1 0

0 X 0

0 X 0

Accented on third to last syllable:

0100

0 1 0 0

1

00100

0 0 1 0 0

00100

0 0 1 0 0

Plagal First Mode - Sticheraric

	Δ		π	
	δ	0 0 1	0	0
01100	Δ		π	
	δ	0 1	1	0
10100	Δ		π	
	δ	1 0 1	0	0
				0 1
00X0X	Δ		π	
	δ	0 0 X	0	X
00X0X	Δ		π	
	δ	0 0 X	0	X
		0 0		
		0 0		
000100	Δ		π	
	δ	0 0 0 1	0	0
X00100	Δ		π	
	δ	X	0 0 1	0 0
010010X	Δ		π	
	δ	0 1 0 0 1	0	X
		0		
0010100	Δ		π	
	δ	0 0 1 0	1	0

Plagal First Mode - Sticheraric

010010X

Δ π_9

0010X0X

Δ π_9

1010X0X

Δ π_9

1010010X

Δ π_9

01000100

Δ π_9

0010010X

Δ π_9

10000100

Δ π_9

Plagal First Mode - Sticheraric

X0001100100 Δ π
 X 0 0 0 1 1 0 0 1 0 X π

Accented on fourth to last syllable:

1001 Δ π
 1 0 0 1 π

10XX Δ π
 1 0 X X π

Δ π
 1 0 0 0 1 π

01001 Δ π
 0 1 0 0 1 π

10001 Δ π
 1 0 0 0 1 π

01010 Δ π π
 0 1 0 1 0 π 1 0

001001 Δ π π
 0 0 1 0 0 1 π 1

Δ π
 0 0 1 0 0 1 π

π
 0 0

π
 0 0 0 0

001010 Δ π
 0 0 1 0 1 0 π

Plagal First Mode - Sticheraric

101010

1 0 1 0 1 0

0001001

0 0 0 1 0 0 1

1001001

1 0 0 1 0 0 1

X001001

X 0 0 1 0 0 1

0X01010

0 X 0 1 0 1 0

0X0X010

0 X 0 1 0

1X0X010


1 X 0 X 0 1 0


01X01010


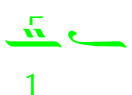
0 1 X 0 1 0 1 0

Plagal First Mode - Sticheraric


01001001


 0 1 0



 0 1 0

Δ  π 

0 1 0 0 1 0 0 1

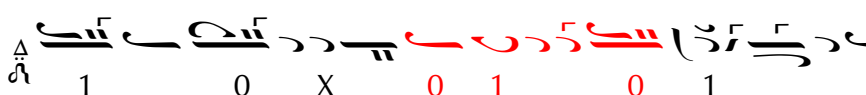

 0

01001001


Δ  π


0 1 0 0 1 0 0 1

10X01010


Δ  π

1 0 X 0 1 0 1 0



 0 1 0



 0 1 0

00X0X010


Δ  π

0 0 X 0 X 0 1 0



 0 X 0



 0 X 0

01X0X010

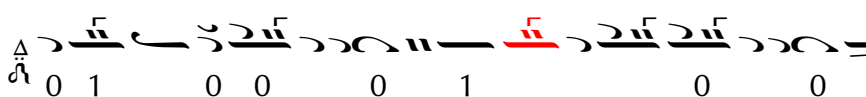
Δ  π

0 1 X 0 X 0 1 0


 X


 0 0

010001001

Δ  π

0 1 0 0 0 1 0 0 1

Plagal First Mode - Sticheraric

101001001

Δ
 δ 1 0 1 0 0 1 0 0 1 π
 q

001001001

Δ
 δ 0 0 1 0 0 1 0 0 1 π
 q

010X0X010

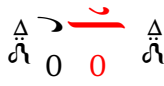

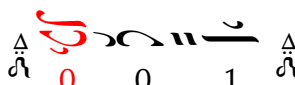

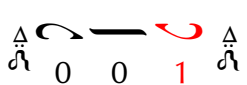

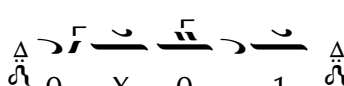
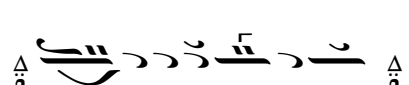
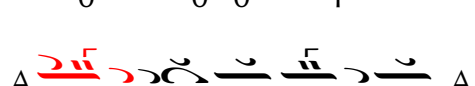

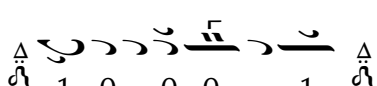
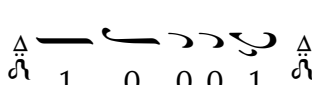
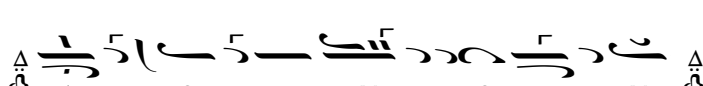
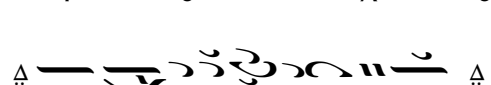
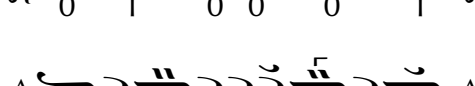
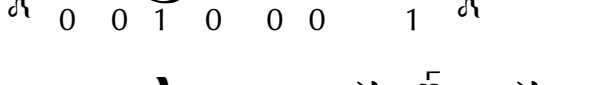
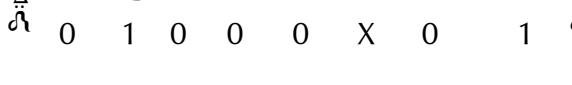
Δ
 δ 0 1 0 X 0 X 0 1 0 π
 q

0 X 0

0 X 0

F) Medial Formulae Di - Di

Accented on last syllable:

00		
001		
		
0X01		
0001		
X0001		
10001		
		
10X0X		
010001		
0010001		
01000X01		
000100100		

Plagal First Mode - Sticheraric

00110010001 $\begin{matrix} \text{A} & \text{---} & \text{---} & \text{---} & \text{---} & \text{---} & \text{---} & \text{---} & \text{---} & \text{---} & \text{A} \\ \text{A} & 0 & 0 & 1 & 1 & 0 & 0 & 1 & 0 & 0 & 0 & 1 \end{matrix}$

Accented on second to last syllable:

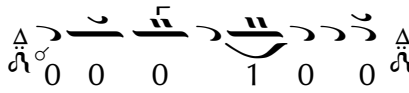
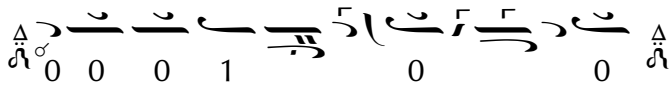
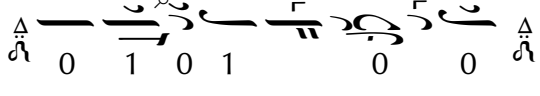
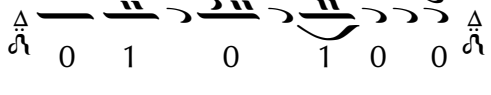
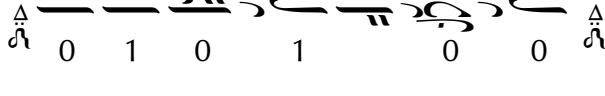

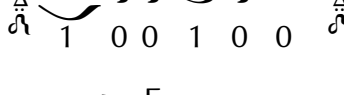

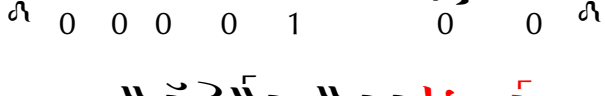
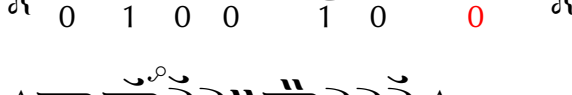

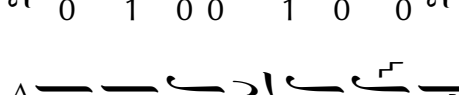
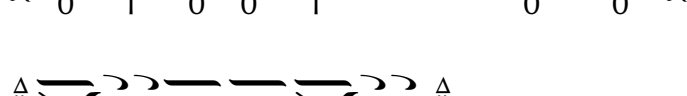
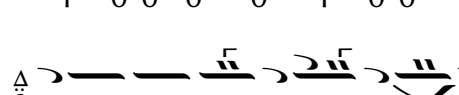

10	$\begin{matrix} \text{A} & \text{---}^{\circ} & \text{---} & \text{A} \\ \text{A} & 1 & 0 & \text{A} \end{matrix}$	
010	$\begin{matrix} \text{A} & \text{---}^{\circ} & \text{---} & \text{---} & \text{---} & \text{---} & \text{---} & \text{A} \\ \text{A} & 0 & 1 & & & & 0 & \text{A} \end{matrix}$	
	$\begin{matrix} \text{A} & \text{---} & \text{---} & \text{---} & \text{A} \\ \text{A} & 0 & 1 & 0 & \text{A} \end{matrix}$	
	$\begin{matrix} \text{A} & \text{---}^{\circ} & \text{---} & \text{---} & \text{---} & \text{---} & \text{---} & \text{A} \\ \text{A} & 0 & 1 & & 0 & & & \text{A} \end{matrix}$	
	$\begin{matrix} \text{---} & \text{---} & \text{---} & \text{---} \\ 0 & & & 0 \end{matrix}$	
	$\begin{matrix} \text{A} & \text{---} & \text{---} & \text{---} & \text{---} & \text{---} & \text{---} & \text{A} \\ \text{A} & 0 & 1 & & 0 & & & \text{A} \end{matrix}$	
0010	$\begin{matrix} \text{A} & \text{---} & \text{---} & \text{---} & \text{---} & \text{---} & \text{---} & \text{A} \\ \text{A} & 0 & 0 & 1 & & 0 & & \text{A} \end{matrix}$	
	$\begin{matrix} \text{A} & \text{---} & \text{---} & \text{---} & \text{---} & \text{---} & \text{---} & \text{A} \\ \text{A} & 0 & 0 & 1 & & 0 & & \text{A} \end{matrix}$	
	$\begin{matrix} \text{A} & \text{---} & \text{---} & \text{---}^{\circ} & \text{---} & \text{A} \\ \text{A} & 0 & 0 & 1 & 0 & \text{A} \end{matrix}$	
	$\begin{matrix} \text{A} & \text{---} & \text{---} & \text{---} & \text{---} & \text{---} & \text{---} & \text{A} \\ \text{A} & 0 & 0 & 1 & & 0 & & \text{A} \end{matrix}$	
	$\begin{matrix} \text{A} & \text{---} & \text{---} & \text{---} & \text{---} & \text{---} & \text{---} & \text{A} \\ \text{A} & 0 & 0 & 1 & & 0 & & \text{A} \end{matrix}$	
	$\begin{matrix} \text{A} & \text{---} & \text{---} & \text{---} & \text{---} & \text{---} & \text{---} & \text{A} \\ \text{A} & 0 & 0 & 1 & 0 & & & \text{A} \end{matrix}$	
	$\begin{matrix} \text{A} & \text{---} & \text{---} & \text{---}^{\circ} & \text{---} & \text{A} \\ \text{A} & 0 & 0 & 1 & 0 & \text{A} \end{matrix}$	

Plagal First Mode - Sticheric

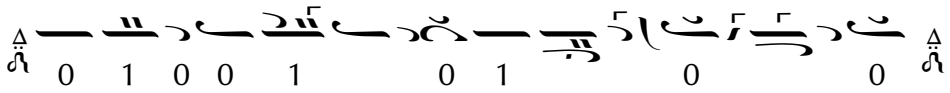
00010	$\overset{\Delta}{\underset{\delta}{\text{A}}}$ $\overset{\Delta}{\underset{\delta}{\text{A}}}$	
	$\overset{\Delta}{\underset{\delta}{\text{A}}}$ $\overset{\Delta}{\underset{\delta}{\text{A}}}$	
	$\overset{\Delta}{\underset{\delta}{\text{A}}}$ $\overset{\Delta}{\underset{\delta}{\text{A}}}$	
10010	$\overset{\Delta}{\underset{\delta}{\text{A}}}$ $\overset{\Delta}{\underset{\delta}{\text{A}}}$	
	$\overset{\Delta}{\underset{\delta}{\text{A}}}$ $\overset{\Delta}{\underset{\delta}{\text{A}}}$	
	$\overset{\Delta}{\underset{\delta}{\text{A}}}$ $\overset{\Delta}{\underset{\delta}{\text{A}}}$	
010010	$\overset{\Delta}{\underset{\delta}{\text{A}}}$ $\overset{\Delta}{\underset{\delta}{\text{A}}}$	
100010	$\overset{\Delta}{\underset{\delta}{\text{A}}}$ $\overset{\Delta}{\underset{\delta}{\text{A}}}$	
	$\overset{\Delta}{\underset{\delta}{\text{A}}}$ $\overset{\Delta}{\underset{\delta}{\text{A}}}$	
00010010	$\overset{\Delta}{\underset{\delta}{\text{A}}}$ $\overset{\Delta}{\underset{\delta}{\text{A}}}$	
010100010	$\overset{\Delta}{\underset{\delta}{\text{A}}}$ $\overset{\Delta}{\underset{\delta}{\text{A}}}$	
0001000010	$\overset{\Delta}{\underset{\delta}{\text{A}}}$ $\overset{\Delta}{\underset{\delta}{\text{A}}}$	
0100001000010010	$\overset{\Delta}{\underset{\delta}{\text{A}}}$ $\overset{\Delta}{\underset{\delta}{\text{A}}}$	

Accented on third to last syllable:


Plagal First Mode - Sticheraric

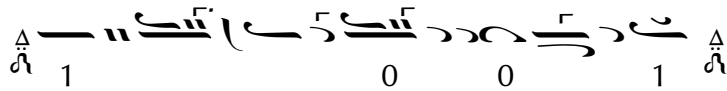
		
		
010100		
		
		
		
100100		
		
0000100		
0100100		
		
		
1000100		
00010100		

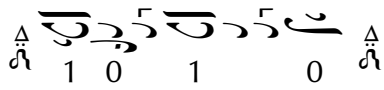
Plagal First Mode - Sticheraric

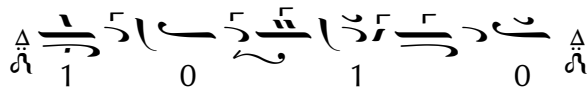
010010100 

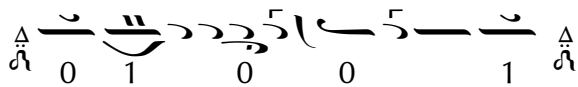
Accented on fourth to last syllable:

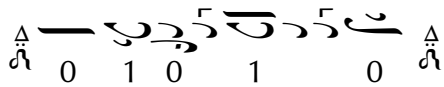
1001 

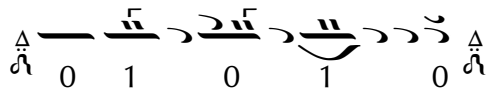


1010 

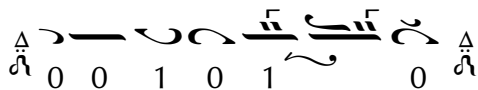


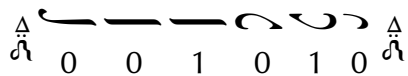
01001 


01010 



001001 

001010 



0001010 








Plagal First Mode - Sticheraric

G) Medial Formulae Di - Ke

This section is small, because melodies in this mode rarely move from Di to Ke.




Accented on last syllable:

0 Δ  0 ξ 









010001 Δ  0  1  0  0  0  1 ξ 

Accented on second to last syllable:

010 Δ  0  1  0 ξ 







Δ  0  1  0  0  ξ 









Δ  0  1  0  0  ξ  0  0  0

Δ  0  1  0  0  0  0  ξ 

 0  0

Δ  0  1  0  0  ξ 

0010 Δ  0  0  1  0  ξ 

100010 Δ  1  0  0  0  1  0  ξ 

 0  0

Plagal First Mode - Sticheric

100010 $\overset{\Delta}{\underset{d}{\text{A}}}$ 1 0 0 1 0 $\frac{x}{q}$

0 0

100010 $\overset{\Delta}{\underset{d}{\text{A}}}$ 1 0 0 1 0 $\frac{x}{q}$

0 0

Accented on third to last syllable:

0100 $\overset{\Delta}{\underset{d}{\text{A}}}$ 0 1 0 0 $\frac{x}{q}$

01000100 $\overset{\Delta}{\underset{d}{\text{A}}}$ 0 1 0 0 0 1 0 0 $\frac{x}{q}$

0 1

Accented on fourth to last syllable:

0001010 $\overset{\Delta}{\underset{d}{\text{A}}}$ 0 0 0 1 0 1 0 $\frac{x}{q}$

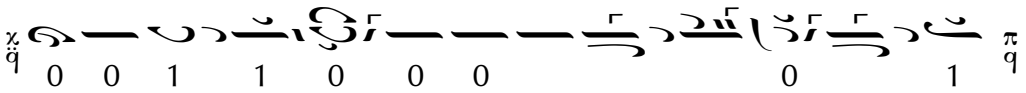
0 0 1 0

Plagal First Mode - Sticheraric

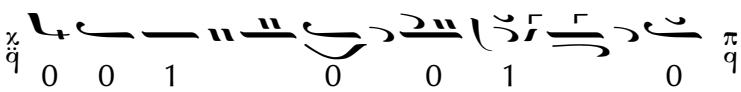
H) Medial Formulae Ke - Pa

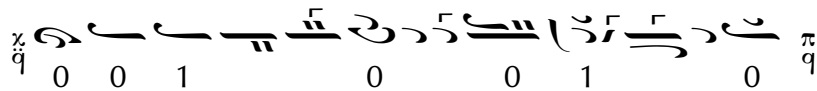
This section is almost empty, because melodies in this mode usually pause at Di before descending to Pa.


Accented on last syllable:

001100001 

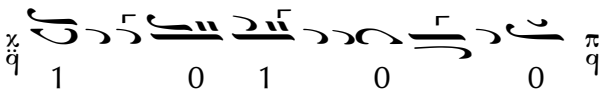
Accented on second to last syllable:

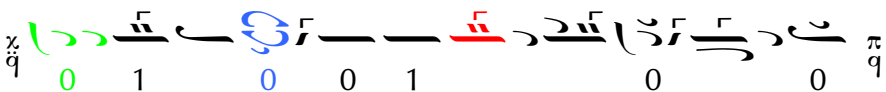
0010010 

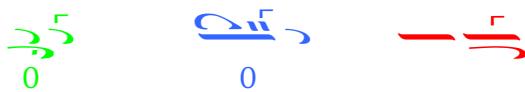


0X0X010 

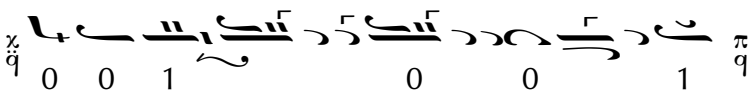
Accented on third to last syllable:

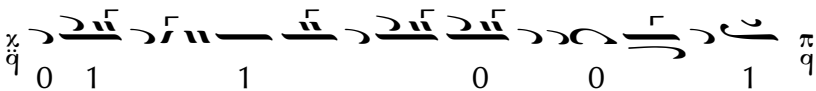
10100 

0100100 



Accented on fourth to last syllable:

001001 

011001 

Plagal First Mode - Sticheraric

0X0X010

01001001

The image displays musical notation for the Plagal First Mode in Sticheraric style. It consists of two rows of notes, each with a rhythmic value below it. The first row is labeled '0X0X010' and the second '01001001'. The notes are represented by stylized symbols with stems and flags. Below the notation is a legend with three entries: a green note with a '0' below it, a blue note with a '0' below it, and a red note with a '1' below it. The notes in the first row are black, while the notes in the second row are colored according to the legend. The rhythmic values 'X' and '1' are placed below the notes in the first row, and '0' and '1' are placed below the notes in the second row. The notes are arranged in a sequence that corresponds to the rhythmic values.

I) Medial Formulae Ke - Di

Accented on last syllable:

0 $\overset{\times}{\underset{\cdot}{q}} \curvearrowright \overset{\Delta}{\mathfrak{A}}$
 0 \mathfrak{A}

$\overset{\times}{\underset{\cdot}{q}} \curvearrowright \overset{\Delta}{\mathfrak{A}}$
 0 \mathfrak{A}

01 $\overset{\times}{\underset{\cdot}{q}} \curvearrowright \overset{\Delta}{\mathfrak{A}}$
 0 1 \mathfrak{A}

000 $\overset{\times}{\underset{\cdot}{q}} \curvearrowright \overset{\Delta}{\mathfrak{A}}$
 0 0 0 \mathfrak{A}

001 $\overset{\times}{\underset{\cdot}{q}} \curvearrowright \overset{\Delta}{\mathfrak{A}}$
 0 0 1 \mathfrak{A}

$\overset{\times}{\underset{\cdot}{q}} \curvearrowright \overset{\Delta}{\mathfrak{A}}$
 0 0 1 \mathfrak{A}

0001 $\overset{\times}{\underset{\cdot}{q}} \curvearrowright \overset{\Delta}{\mathfrak{A}}$
 0 0 0 1 \mathfrak{A}

$\overset{\times}{\underset{\cdot}{q}} \curvearrowright \overset{\Delta}{\mathfrak{A}}$
 0 0 0 1 \mathfrak{A}

00101 $\overset{\times}{\underset{\cdot}{q}} \curvearrowright \overset{\Delta}{\mathfrak{A}}$
 0 0 1 0 1 \mathfrak{A}

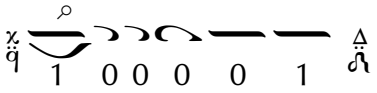
$\overset{\times}{\underset{\cdot}{q}} \curvearrowright \overset{\Delta}{\mathfrak{A}}$
 0 0 1 0 1 \mathfrak{A}

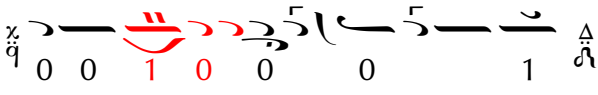

10001 $\overset{\times}{\underset{\cdot}{q}} \curvearrowright \overset{\Delta}{\mathfrak{A}}$
 1 0 0 0 1 \mathfrak{A}

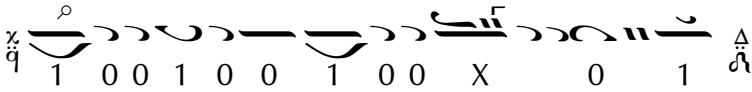
$\overset{\times}{\underset{\cdot}{q}} \curvearrowright \overset{\Delta}{\mathfrak{A}}$
 1 0 0 0 1 \mathfrak{A}

$\overset{\times}{\underset{\cdot}{q}} \curvearrowright \overset{\Delta}{\mathfrak{A}}$
 1 0 0 0

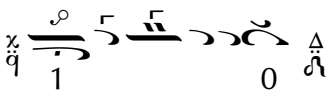
Plagal First Mode - Sticheraric

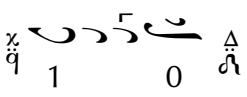
100001 


0010001  

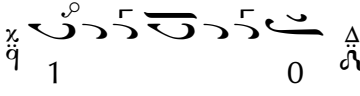
100100100X01 

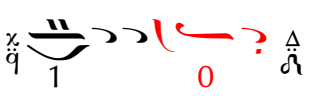
Accented on second to last syllable:


10 




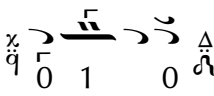












010 





Plagal First Mode - Sticheraric

	$\begin{array}{c} \times \\ \text{q} \end{array}$		$\begin{array}{c} \Delta \\ \text{A} \end{array}$
00010010	$\begin{array}{c} \times \\ \text{q} \end{array}$		$\begin{array}{c} \Delta \\ \text{A} \end{array}$
10010010	$\begin{array}{c} \circ \\ \times \\ \text{q} \end{array}$		$\begin{array}{c} \Delta \\ \text{A} \end{array}$
000010010	$\begin{array}{c} \times \\ \text{q} \end{array}$		$\begin{array}{c} \Delta \\ \text{A} \end{array}$
	$\begin{array}{c} \times \\ \text{q} \end{array}$		$\begin{array}{c} \Delta \\ \text{A} \end{array}$
100010010	$\begin{array}{c} \circ \\ \times \\ \text{q} \end{array}$		$\begin{array}{c} \Delta \\ \text{A} \end{array}$
000100010	$\begin{array}{c} \times \\ \text{q} \end{array}$		$\begin{array}{c} \Delta \\ \text{A} \end{array}$
0000100010	$\begin{array}{c} \times \\ \text{q} \end{array}$		$\begin{array}{c} \Delta \\ \text{A} \end{array}$
100100100010	$\begin{array}{c} \circ \\ \times \\ \text{q} \end{array}$		$\begin{array}{c} \Delta \\ \text{A} \end{array}$

Accented on third to last syllable:

100	$\begin{array}{c} \times \\ \text{q} \end{array}$		$\begin{array}{c} \Delta \\ \text{A} \end{array}$
	$\begin{array}{c} \times \\ \text{q} \end{array}$		$\begin{array}{c} \Delta \\ \text{A} \end{array}$
	$\begin{array}{c} \times \\ \text{q} \end{array}$		$\begin{array}{c} \Delta \\ \text{A} \end{array}$
0100	$\begin{array}{c} \times \\ \text{q} \end{array}$		$\begin{array}{c} \Delta \\ \text{A} \end{array}$

Plagal First Mode - Sticheraric

0 1 0 0

0 1 0 0

0 1 0 0

0101

0 1 0 1

00100

0 0 1 0 0

0

0 0 1 0 0

1 0

00101

0 0 1 0 1

0 0 1 0 1

10100

1 0 1 0 0

000100

0 0 0 1 0 0

0

0 0 0 1 0 0

0X0100

0 X 0 1 0 0

100100

1 0 0 1 0 0

1 0 0 1 0 0

1 0 0 1 0 0

Plagal First Mode - Sticheraric

100110

0000100

0010100

00010100

100100100100100

Accented on fourth to last syllable:

1010

001001

0001010

00001010

1000001010

100100101010

J) Medial Formulae Ke - Ke

Many of these formulae may be used as Pa-Ke formula simply by prefixing them with a jump of five or by adding five to the first character.

Accented on last syllable:

01		
11		
001		
0001		
0001		
X001		

Plagal First Mode - Sticheraric

1001 $\frac{x}{q}$ 1 0 0 1 $\frac{x}{q}$

0 0 1

0 0 1

0 1

X0001 $\frac{x}{q}$ X 0 0 0 1 $\frac{x}{q}$

X 0 0 0 1

0 1

0 1

10001 $\frac{x}{q}$ 1 0 0 0 1 $\frac{x}{q}$

1 0 0 0 1

1

1 0 0 0 1

1 0 0 0 1

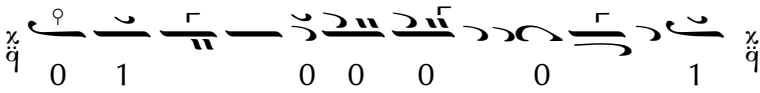
10X0X $\frac{x}{q}$ 1 0 X 0 X $\frac{x}{q}$

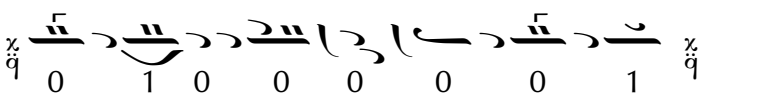
0 X

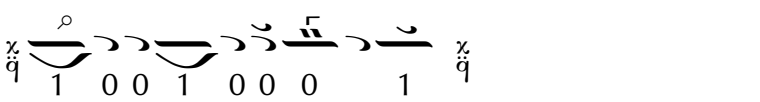
0010001 $\frac{x}{q}$ 0 0 1 0 0 0 1 $\frac{x}{q}$

1

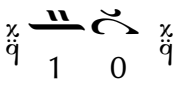
Plagal First Mode - Sticheraric

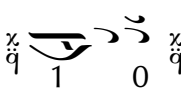
0100001 

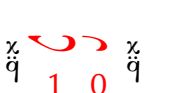
01000001 

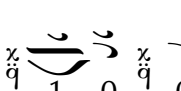
10010001 

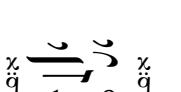
Accented on second to last syllable:

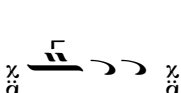
10 

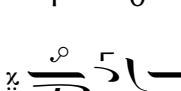


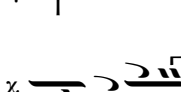


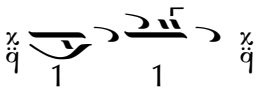


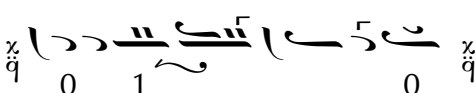











11 

010 




















Plagal First Mode - Sticheraric

$\frac{x}{q}$  $\frac{x}{q}$  $\frac{x}{q}$  $\frac{x}{q}$




$\frac{x}{q}$  $\frac{x}{q}$  $\frac{x}{q}$  $\frac{x}{q}$

$\frac{x}{q}$  $\frac{x}{q}$  $\frac{x}{q}$  $\frac{x}{q}$








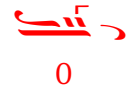
$\frac{x}{q}$  $\frac{x}{q}$  $\frac{x}{q}$  $\frac{x}{q}$  $\frac{x}{q}$  $\frac{x}{q}$  $\frac{x}{q}$  $\frac{x}{q}$  $\frac{x}{q}$  $\frac{x}{q}$  $\frac{x}{q}$





110





$\frac{x}{q}$  $\frac{x}{q}$  $\frac{x}{q}$  $\frac{x}{q}$





0010






$\frac{x}{q}$  $\frac{x}{q}$  $\frac{x}{q}$  $\frac{x}{q}$  $\frac{x}{q}$  $\frac{x}{q}$



$\frac{x}{q}$  $\frac{x}{q}$  $\frac{x}{q}$  $\frac{x}{q}$  $\frac{x}{q}$





$\frac{x}{q}$  $\frac{x}{q}$  $\frac{x}{q}$  $\frac{x}{q}$  $\frac{x}{q}$

$\frac{x}{q}$  $\frac{x}{q}$  $\frac{x}{q}$  $\frac{x}{q}$  $\frac{x}{q}$






$\frac{x}{q}$  $\frac{x}{q}$  $\frac{x}{q}$  $\frac{x}{q}$  $\frac{x}{q}$  $\frac{x}{q}$








X010



$\frac{x}{q}$  $\frac{x}{q}$  $\frac{x}{q}$  $\frac{x}{q}$  $\frac{x}{q}$

10010

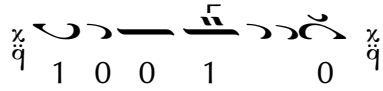
$\frac{x}{q}$  $\frac{x}{q}$  $\frac{x}{q}$  $\frac{x}{q}$  $\frac{x}{q}$  $\frac{x}{q}$

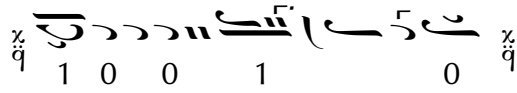
$\frac{x}{q}$  $\frac{x}{q}$  $\frac{x}{q}$  $\frac{x}{q}$  $\frac{x}{q}$  $\frac{x}{q}$

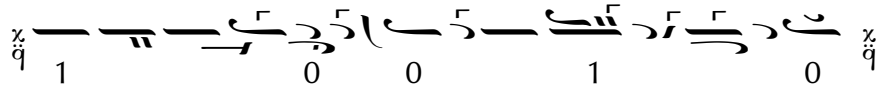


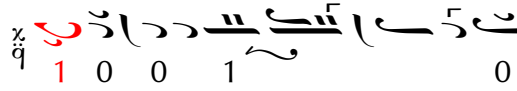


$\frac{x}{q}$  $\frac{x}{q}$  $\frac{x}{q}$  $\frac{x}{q}$  $\frac{x}{q}$  $\frac{x}{q}$

Plagal First Mode - Sticheraric

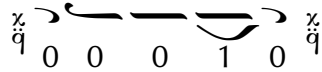
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1 0 0 1 0

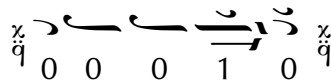
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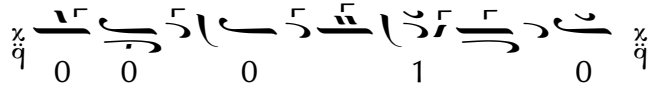
$\frac{x}{q}$  $\frac{x}{q}$
1 0 0 1 0

$\frac{x}{q}$  $\frac{x}{q}$  
1 0 0 1 0 1 1

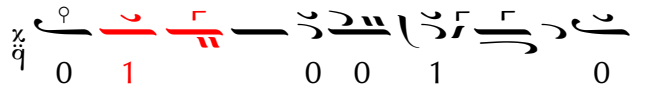

00010


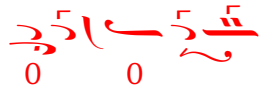
$\frac{x}{q}$  $\frac{x}{q}$
0 0 0 1 0

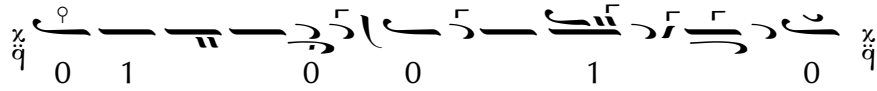
$\frac{x}{q}$  $\frac{x}{q}$
0 0 0 1 0

$\frac{x}{q}$  $\frac{x}{q}$
0 0 0 1 0

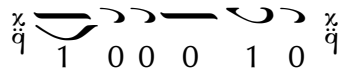
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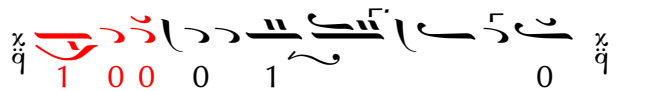

$\frac{x}{q}$  $\frac{x}{q}$ 
0 1 0 0 1 0 1

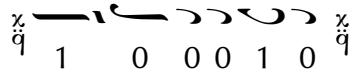
$\frac{x}{q}$  $\frac{x}{q}$ 
0 1 0 0 1 0 0 0

$\frac{x}{q}$  $\frac{x}{q}$
0 1 0 0 1 0

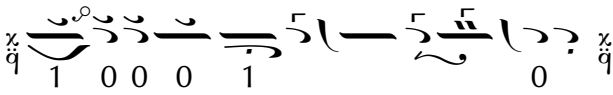
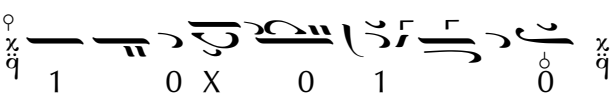

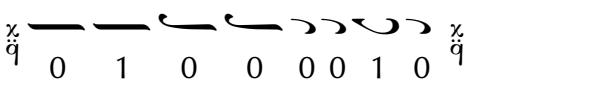

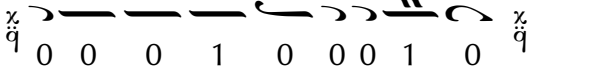
100010

$\frac{x}{q}$  $\frac{x}{q}$
1 0 0 0 1 0

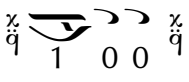
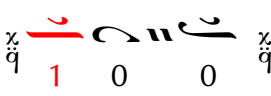
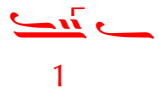
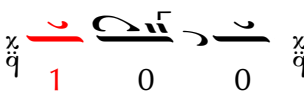

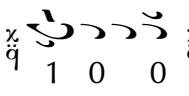
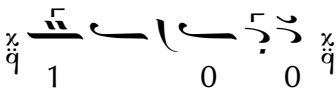
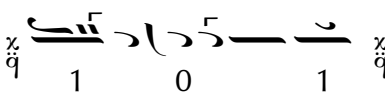
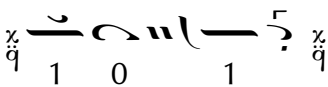
$\frac{x}{q}$  $\frac{x}{q}$ 
1 0 0 0 1 0 1 0 0

$\frac{x}{q}$  $\frac{x}{q}$
1 0 0 0 1 0

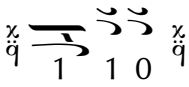
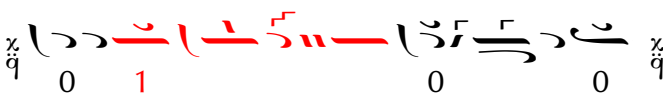



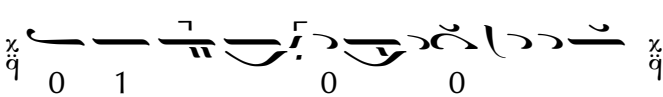
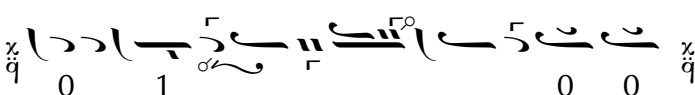
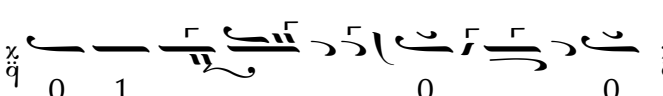



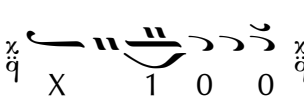
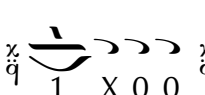



Plagal First Mode - Sticheraric

	
10X010	
0100010	
01000010	
00010010	
000100010	

Accented on third to last syllable:

100		
		
		
		
		
101		
		

Plagal First Mode - Sticheraric

110	$\frac{x}{q}$  $\frac{x}{q}$	
0100	$\frac{x}{q}$  $\frac{x}{q}$	
	$\frac{x}{q}$  $\frac{x}{q}$	
	$\frac{x}{q}$  $\frac{x}{q}$	
	$\frac{x}{q}$  $\frac{x}{q}$	
	$\frac{x}{q}$  $\frac{x}{q}$	
	$\frac{x}{q}$  $\frac{x}{q}$	
	$\frac{x}{q}$  $\frac{x}{q}$	
	$\frac{x}{q}$  $\frac{x}{q}$	
		
X100	$\frac{x}{q}$  $\frac{x}{q}$	
1X00	$\frac{x}{q}$  $\frac{x}{q}$	
00100	$\frac{x}{q}$  $\frac{x}{q}$	
X0100	$\frac{x}{q}$  $\frac{x}{q}$	

Plagal First Mode - Sticheraric

10100	$\frac{x}{q}$ $\frac{x}{q}$	
	$\frac{x}{q}$ $\frac{x}{q}$	
	$\frac{x}{q}$ $\frac{x}{q}$	
10X0X	$\frac{x}{q}$ $\frac{x}{q}$	
000100	$\frac{x}{q}$ $\frac{x}{q}$	
	$\frac{x}{q}$ $\frac{x}{q}$	
	$\frac{x}{q}$ $\frac{x}{q}$	
010100	$\frac{x}{q}$ $\frac{x}{q}$	
	$\frac{x}{q}$ $\frac{x}{q}$	
	$\frac{x}{q}$ $\frac{x}{q}$	
100100	$\frac{x}{q}$ $\frac{x}{q}$	
	$\frac{x}{q}$ $\frac{x}{q}$	
	$\frac{x}{q}$ $\frac{x}{q}$	
0100100	$\frac{x}{q}$ $\frac{x}{q}$	

Plagal First Mode - Sticheric

1000100 $\frac{x}{q}$ — 1 0 0 0 1 — 0 0 $\frac{x}{q}$

X100100 $\frac{x}{q}$ X 1 0 0 1 — 0 0 $\frac{x}{q}$

0 0 0 0 0 0

1 0 0

00100100 $\frac{x}{q}$ 0 0 1 0 0 1 — 0 0 $\frac{x}{q}$

0 0 0 0 0 0

01000100 $\frac{x}{q}$ 0 1 0 0 0 1 0 0 $\frac{x}{q}$

001000100 $\frac{x}{q}$ 0 0 1 0 0 0 1 — 0 0 $\frac{x}{q}$

0 0 0 0 0

0 0

Accented on fourth to last syllable:

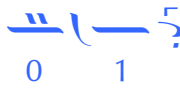
X001 $\frac{x}{q}$ X 0 0 1 $\frac{x}{q}$

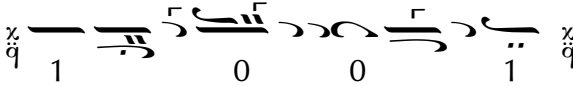
0 0 1

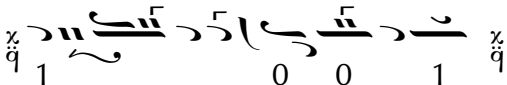
0 0 1

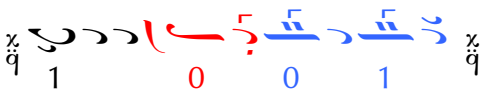
Plagal First Mode - Sticheraric

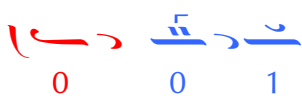
1001

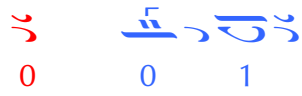







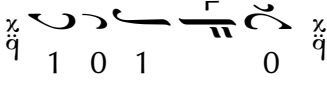


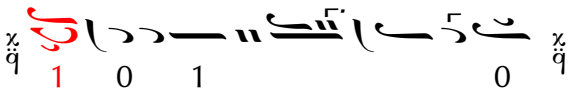





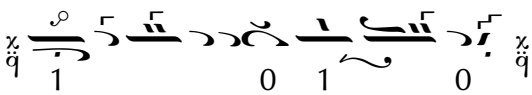


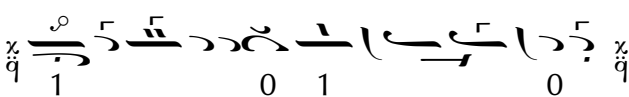
1010



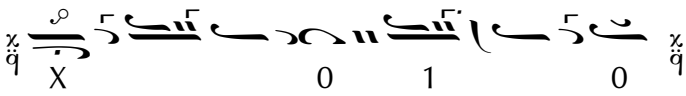









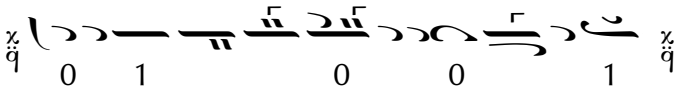
X010



1X00



01001



Plagal First Mode - Sticheraric

	$\frac{x}{q}$ $\frac{x}{q}$	
001010	$\frac{x}{q}$ $\frac{x}{q}$	
X01001	$\frac{x}{q}$ $\frac{x}{q}$	
1001001	$\frac{x}{q}$ $\frac{x}{q}$	
0101001	$\frac{x}{q}$ $\frac{x}{q}$	
00101001	$\frac{x}{q}$ $\frac{x}{q}$	

K) Medial Formulae Ke - High Nee

These must be followed by a formula in section L1 or L2.

Accented on last syllable:

0001		
10001		
010001		
010001		
0100X0X		
00010001		
0001000100		

Accented on second to last syllable:

00	
----	--

Plagal First Mode - Sticheraric

010 $\begin{matrix} \text{X} \\ \text{q} \end{matrix} \overline{\text{—}} \overline{\text{—}} \overline{\text{—}} \text{v}' \\ 0 \quad 1 \quad 0 \quad \text{u}'$

$\begin{matrix} \text{X} \\ \text{q} \end{matrix} \overline{\text{—}} \overline{\text{—}} \overline{\text{—}} \text{v}' \\ 0 \quad 1 \quad 0 \quad \text{u}'$

Accented on third to last syllable:

100 $\begin{matrix} \text{X} \\ \text{q} \end{matrix} \overline{\text{—}} \overline{\text{—}} \overline{\text{—}} \text{v}' \quad \overline{\text{—}} \overline{\text{—}} \quad \overline{\text{—}} \overline{\text{—}} \text{v}' \\ 1 \quad 0 \quad 0 \quad \text{u}' \quad 0 \quad 0 \quad 0 \quad \text{q}'$

0100 $\begin{matrix} \text{X} \\ \text{q} \end{matrix} \overline{\text{—}} \overline{\text{—}} \overline{\text{—}} \overline{\text{—}} \text{v}' \quad \overline{\text{—}} \overline{\text{—}} \overline{\text{—}} \text{v}' \\ 0 \quad 1 \quad 0 \quad 0 \quad \text{u}' \quad 0 \quad 0 \quad \text{q}'$

00100 $\begin{matrix} \text{X} \\ \text{q} \end{matrix} \overline{\text{—}} \overline{\text{—}} \overline{\text{—}} \overline{\text{—}} \overline{\text{—}} \text{v}' \\ 0 \quad 0 \quad 1 \quad 0 \quad 0 \quad \text{u}'$

0100X0X $\begin{matrix} \text{X} \\ \text{q} \end{matrix} \overline{\text{—}} \overline{\text{—}} \overline{\text{—}} \overline{\text{—}} \overline{\text{—}} \text{v}' \quad \overline{\text{—}} \overline{\text{—}} \overline{\text{—}} \overline{\text{—}} \text{v}' \\ 0 \quad 1 \quad 0 \quad 0 \quad \text{X} \quad 0 \quad \text{X} \quad \text{q}'$

00010010X $\begin{matrix} \text{X} \\ \text{q} \end{matrix} \overline{\text{—}} \overline{\text{—}} \overline{\text{—}} \overline{\text{—}} \overline{\text{—}} \overline{\text{—}} \text{v}' \\ 0 \quad 0 \quad 0 \quad 1 \quad 0 \quad 0 \quad 1 \quad 0 \quad \text{X} \quad \text{u}'$

010010010X $\begin{matrix} \text{X} \\ \text{q} \end{matrix} \overline{\text{—}} \overline{\text{—}} \overline{\text{—}} \overline{\text{—}} \overline{\text{—}} \overline{\text{—}} \overline{\text{—}} \text{v}' \\ 0 \quad 1 \quad 0 \quad 0 \quad 1 \quad 0 \quad 0 \quad 1 \quad 0 \quad \text{X} \quad \text{u}'$

000100010X $\begin{matrix} \text{X} \\ \text{q} \end{matrix} \overline{\text{—}} \overline{\text{—}} \overline{\text{—}} \overline{\text{—}} \overline{\text{—}} \overline{\text{—}} \overline{\text{—}} \text{v}' \\ 0 \quad 0 \quad 0 \quad 1 \quad 0 \quad 0 \quad 0 \quad 1 \quad 0 \quad \text{X} \quad \text{u}'$

1001000100 $\begin{matrix} \text{X} \\ \text{q} \end{matrix} \overline{\text{—}} \overline{\text{—}} \overline{\text{—}} \overline{\text{—}} \overline{\text{—}} \overline{\text{—}} \overline{\text{—}} \overline{\text{—}} \text{v}' \\ 1 \quad 0 \quad 0 \quad 1 \quad 0 \quad 0 \quad 0 \quad 1 \quad 0 \quad 0 \quad \text{q}'$

00100011000100

$\begin{matrix} \text{X} \\ \text{q} \end{matrix} \overline{\text{—}} \overline{\text{—}} \overline{\text{—}} \overline{\text{—}} \overline{\text{—}} \overline{\text{—}} \overline{\text{—}} \overline{\text{—}} \overline{\text{—}} \text{v}' \\ 0 \quad 0 \quad 1 \quad 0 \quad 0 \quad 0 \quad 1 \quad 1 \quad 0 \quad 0 \quad 0 \quad 1 \quad 0$

$\overline{\text{—}} \overline{\text{—}} \overline{\text{—}} \text{v}' \\ 0 \quad \text{q}'$

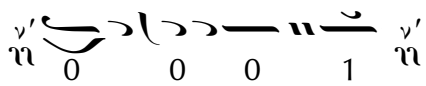
Plagal First Mode - Sticheraric

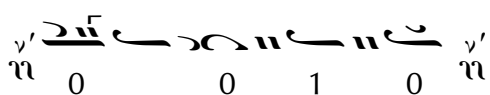
Accented on fourth to last syllable:

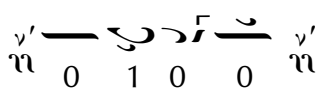
1001 $\frac{x}{q}$ $\frac{\overset{\curvearrowright}{\text{—}}}{1}$ $\frac{\overset{\Gamma}{\text{—}}}{\text{—}}$ \curvearrowright \curvearrowright $\frac{\overset{\Gamma}{\text{—}}}{0\ 0}$ \curvearrowright $\frac{\overset{\curvearrowright}{\text{—}}}{1}$ $\overset{v'}{a}$

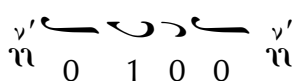
01001 $\frac{x}{q}$ $\frac{\overset{\curvearrowright}{\text{—}}}{0}$ $\frac{\overset{\Gamma}{\text{—}}}{1}$ \curvearrowright \curvearrowright $\frac{\overset{\Gamma}{\text{—}}}{0\ 0}$ \curvearrowright $\frac{\overset{\curvearrowright}{\text{—}}}{1}$ $\overset{v'}{a}$

L1) Medial Formulae High Nee - High Nee

0001 

0010 

0100 

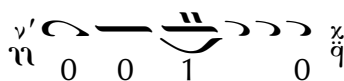


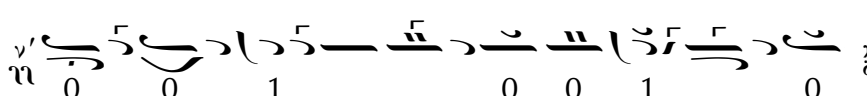
L2) Medial Formulae High Nee - Ke

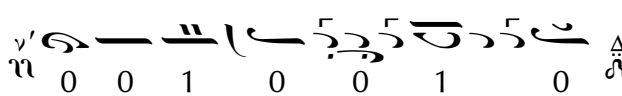
Accented on last syllable:

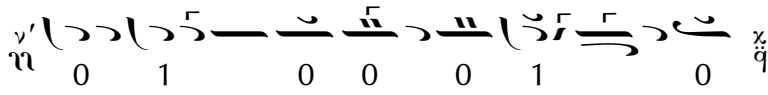
(Use a formula below ending in X0X)

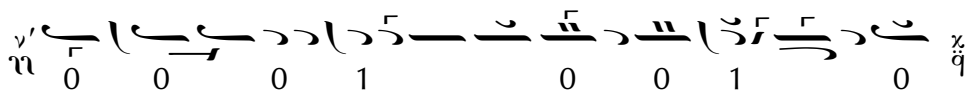
Accented on second to last syllable:

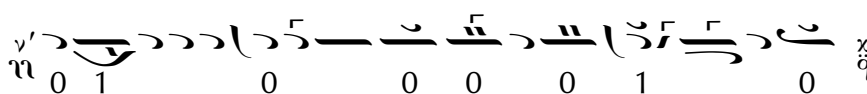
0010 

0010010 




0100010 

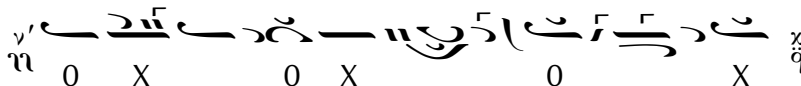
00010010 


01000010 

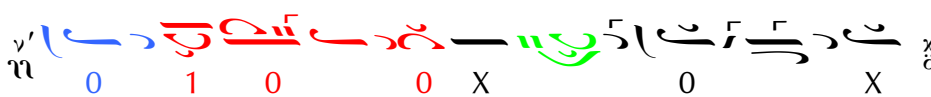
Plagal First Mode - Sticheraric

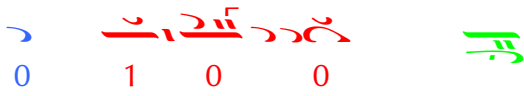
Accented on third to last syllable:


10X0X 

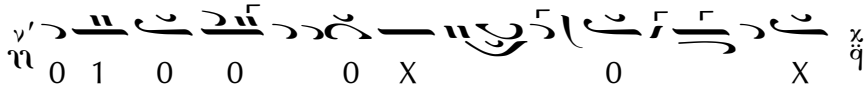
0X0X0X 

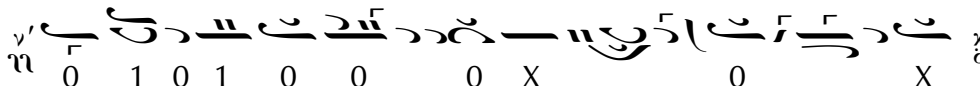
0010X0X 

0100X0X 

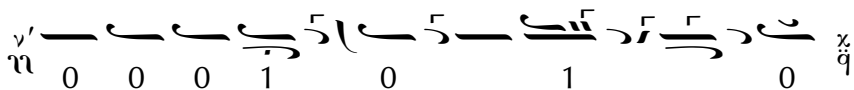


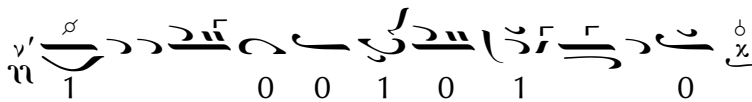


01000X0X 

0101000X0X 

Accented on fourth to last syllable:

0001010 

1001010 

M) Fthoras

Accented on last syllable:

001	
0001	
0X001	
010001	

Accented on second to last syllable:

10		
010		
0010		

Plagal First Mode - Sticheraric

10010	
010010	
000010	
010X010	
0010010	
100010	
1010X010	
00100X010	
100X01000010	

1

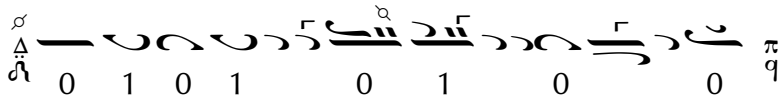
Accented on third to last syllable:

100	
0100	

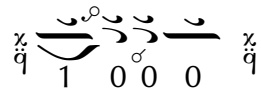
Plagal First Mode - Sticheraric

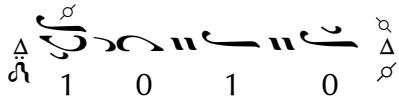
0100	
0100	
0100	
0100	
0X0X	
00100	
00100	
00100	
00110	
10100	
10100	
010100	
00010100	
01000100	

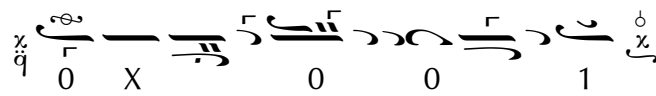
Plagal First Mode - Sticheraric

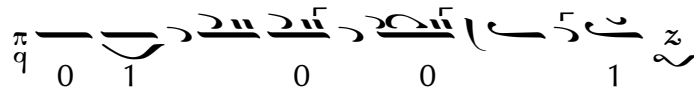
01010100 


Accented on fourth to last syllable:


1000 

1010 

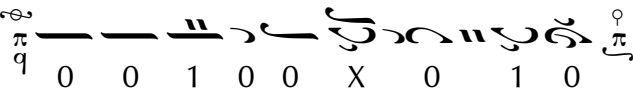
0X001 

01001 

010X010 

1010X010 



00100X010 

Plagal First Mode - Sticheraric

010001 π $\frac{\Delta}{\Delta}$ 0 1 0 0 0 1 $\frac{\Delta}{\Delta}$

010001 $\frac{\Delta}{\Delta}$ 0 1 0 0 0 1 $\frac{\Delta}{\Delta}$

010001 \circ $\frac{\Delta}{\Delta}$ 0 1 2 2 1 1 1 1 $\frac{\Delta}{\Delta}$

010001 0 0 0 2 1 $\frac{\Delta}{\Delta}$

010X01 $\frac{\Delta}{\Delta}$ 0 1 0 X $\frac{\Delta}{\Delta}$

0100001 $\frac{\Delta}{\Delta}$ 0 1 0 0 0 0 1 $\frac{\Delta}{\Delta}$

0100001 2 0 0 1 $\frac{\Delta}{\Delta}$

Accented on second to last syllable:

10 $\frac{\Delta}{\Delta}$ 1 0 $\frac{\Delta}{\Delta}$

10 $\frac{\Delta}{\Delta}$ 1 0 $\frac{\Delta}{\Delta}$

10 $\frac{\Delta}{\Delta}$ 1 0 $\frac{\Delta}{\Delta}$

10 $\frac{\Delta}{\Delta}$ 1 0 $\frac{\Delta}{\Delta}$

Plagal First Mode - Sticheraric

10	$\frac{\times}{q} \frac{\Delta}{\delta} \frac{1}{1} \frac{0}{0} \frac{\Delta}{\delta}$
010	$\frac{\times}{q} \frac{0}{0} \frac{1}{1} \frac{0}{0} \frac{\times}{q}$
010	$\frac{\Delta}{\delta} \frac{0}{0} \frac{1}{1} \frac{0}{0} \frac{\Delta}{\delta}$
010	$\frac{\Delta}{\delta} \frac{0}{0} \frac{1}{1} \frac{0}{0} \frac{\times}{q}$
010	$\frac{\pi}{q} \frac{0}{0} \frac{1}{1} \frac{0}{0} \frac{\times}{q}$
010	$\frac{\Delta}{\delta} \frac{0}{0} \frac{1}{1} \frac{0}{0} \frac{\pi}{q} \frac{\times}{q} \frac{0}{0} \frac{1}{1}$
010	$\frac{\times}{q} \frac{0}{0} \frac{1}{1} \frac{\chi^0}{\chi^0} \frac{0}{0} \frac{1}{1} \frac{\times}{q}$
010	$\frac{\times}{q} \frac{0}{0} \frac{1}{1} \frac{0}{0} \frac{\times}{q}$
010	$\frac{\times}{q} \frac{0}{0} \frac{1}{1} \frac{0}{0} \frac{1}{1} \frac{0}{0} \frac{\times}{q}$
010	$\frac{\pi}{q} \frac{0}{0} \frac{1}{1} \frac{0}{0} \frac{\times}{q}$
010	$\frac{\times}{q} \frac{0}{0} \frac{1}{1} \frac{0}{0} \frac{1}{1} \frac{0}{0} \frac{\times}{q}$
010	$\frac{\Delta}{\delta} \frac{0}{0} \frac{1}{1} \frac{0}{0} \frac{\chi^{\alpha}}{\chi^{\alpha}} \frac{\Delta}{\delta}$
010	$\frac{\times}{q} \frac{0}{0} \frac{1}{1} \frac{0}{0} \frac{\times}{q}$
	$\frac{\times}{q}$

Plagal First Mode - Sticheraric

010 $\overset{\pi}{\underset{q}{\text{C}}}$ $\overset{1}{\text{C}}$ $\overset{0}{\text{C}}$ $\overset{\pi}{\underset{q}{\text{C}}}$

010 $\overset{\Delta}{\underset{q}{\text{C}}}$ $\overset{1}{\text{C}}$ $\overset{0}{\text{C}}$ $\overset{\pi}{\underset{q}{\text{C}}}$

010 $\overset{\circ}{\underset{q}{\text{C}}}$ $\overset{0}{\text{C}}$

$\overset{1}{\text{C}}$

$\overset{2}{\text{C}}$ $\overset{2}{\text{C}}$

$\overset{0}{\text{C}}$ $\overset{1}{\text{C}}$ $\overset{0}{\text{C}}$ $\overset{\circ}{\underset{q}{\text{C}}}$

010 $\overset{\circ}{\underset{q}{\text{C}}}$ $\overset{0}{\text{C}}$ $\overset{1}{\text{C}}$ $\overset{0}{\text{C}}$ $\overset{\circ}{\underset{q}{\text{C}}}$

0010 $\overset{\pi}{\underset{q}{\text{C}}}$ $\overset{0}{\text{C}}$ $\overset{0}{\text{C}}$ $\overset{1}{\text{C}}$ $\overset{0}{\text{C}}$ $\overset{\pi}{\underset{q}{\text{C}}}$

$\overset{0}{\text{C}}$ $\overset{0}{\text{C}}$ $\overset{0}{\text{C}}$ $\overset{0}{\text{C}}$

$\overset{0}{\text{C}}$ $\overset{0}{\text{C}}$

0010 $\overset{\pi}{\underset{q}{\text{C}}}$ $\overset{0}{\text{C}}$ $\overset{0}{\text{C}}$ $\overset{1}{\text{C}}$ $\overset{0}{\text{C}}$ $\overset{\pi}{\underset{q}{\text{C}}}$

0010 $\overset{\pi}{\underset{q}{\text{C}}}$ $\overset{0}{\text{C}}$ $\overset{0}{\text{C}}$ $\overset{1}{\text{C}}$ $\overset{0}{\text{C}}$ $\overset{\Delta}{\underset{q}{\text{C}}}$

0010 $\overset{\Delta}{\underset{q}{\text{C}}}$ $\overset{0}{\text{C}}$ $\overset{0}{\text{C}}$ $\overset{1}{\text{C}}$ $\overset{0}{\text{C}}$ $\overset{\pi}{\underset{q}{\text{C}}}$

0010 $\overset{\pi}{\underset{q}{\text{C}}}$ $\overset{0}{\text{C}}$ $\overset{0}{\text{C}}$ $\overset{1}{\text{C}}$ $\overset{0}{\text{C}}$ $\overset{\pi}{\underset{q}{\text{C}}}$

Plagal First Mode - Sticheraric

0010 Δ π
 $\frac{\Delta}{\delta}$ 0 0 1 0 π
 $\frac{\times}{q}$ 0 0 1 0 $\frac{\times}{q}$

0010 Δ
 $\frac{\Delta}{\delta}$ 0 0 1 1

$\frac{\times}{q}$ 0 π
 $\frac{\times}{q}$ 0 π

0010 $\frac{\circ}{\times}$ $\frac{\times}{q}$
 $\frac{\circ}{\times}$ 0 0 1 2 0 $\frac{\circ}{\times}$ $\frac{\times}{q}$

00010 $\frac{\times}{q}$ π
 $\frac{\times}{q}$ 0 0 0 1 2 0 0 0 1

$\frac{\times}{q}$ π'
 $\frac{\times}{q}$ 0 π'

00010 $\frac{\times}{q}$ $\frac{\times}{q}$
 $\frac{\times}{q}$ 0 0 0 1 0 $\frac{\times}{q}$

10010 $\frac{\circ}{\times}$ $\frac{\times}{q}$ $\frac{\circ}{\times}$
 $\frac{\circ}{\times}$ 1 0 0 1 0 $\frac{\circ}{\times}$ $\frac{\times}{q}$

10010 $\frac{\circ}{\times}$ $\frac{\times}{q}$
 $\frac{\circ}{\times}$ 1 0 0 1 0 $\frac{\circ}{\times}$ $\frac{\times}{q}$

010010 $\frac{\circ}{\times}$ $\frac{\times}{q}$
 $\frac{\circ}{\times}$ 0 1 0 0 1 $\frac{\circ}{\times}$ $\frac{\times}{q}$

$\frac{\circ}{\times}$ $\frac{\times}{q}$ $\frac{\circ}{\times}$ $\frac{\times}{q}$
 $\frac{\circ}{\times}$ 0 0 $\frac{\circ}{\times}$ $\frac{\times}{q}$ 1

100010 $\frac{\times}{q}$ $\frac{\times}{q}$
 $\frac{\times}{q}$ 1 0 0 0 1 0 $\frac{\times}{q}$

100010 $\frac{\circ}{\times}$ $\frac{\times}{q}$
 $\frac{\circ}{\times}$ 1 0 0 0 1 2 0 0 $\frac{\circ}{\times}$ $\frac{\times}{q}$

Plagal First Mode - Sticheraric

Accented on third to last syllable:

Plagal First Mode - Sticheraric

100 $\frac{x}{q}$ 1 0 2

$\frac{x}{q}$ 1 0 0

100 $\frac{x}{q}$ 1 0 1 0 0

$\frac{x}{q}$ 2

0100 $\frac{x}{q}$ 0 1 2 0 0

0100 $\frac{x}{q}$ 0 1 0 1 0 0

0100 $\frac{x}{q}$ 0 1 0 2 0

0 1

0100 $\frac{\pi}{q}$ 0 1 0 2 0

0100 $\frac{x}{q}$ 0 1 0 0 1 0 0

0100 $\frac{\pi}{q}$ 0 1 0 2 0

0100 $\frac{\pi}{q}$ 0 1 0 2 0

0100 $\frac{\Delta}{q}$ 0 1 0 2 0

0100 $\frac{\Delta}{q}$ 0 1 0 0 1 0 0

Plagal First Mode - Sticheraric

0100 $\frac{x}{q}$ $\frac{x}{q}$

$\frac{x}{q}$

$\frac{x}{q}$

0100 $\frac{q}{x}$ $\frac{q}{x}$

0100 $\frac{x}{q}$ $\frac{x}{q}$

$\frac{q}{x}$

0100 $\frac{\Delta}{A}$ $\frac{\pi}{q}$

0100 $\frac{x}{q}$ $\frac{x}{q}$

0100 $\frac{x}{q}$ $\frac{x}{q}$

$\frac{x}{q}$

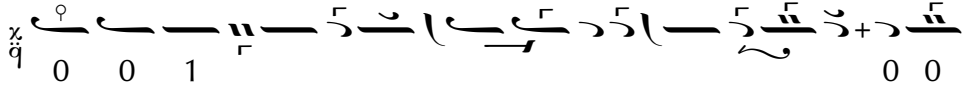
00100 $\frac{\Delta}{A}$ $\frac{x}{q}$

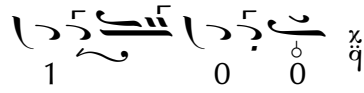
$\frac{x}{q}$

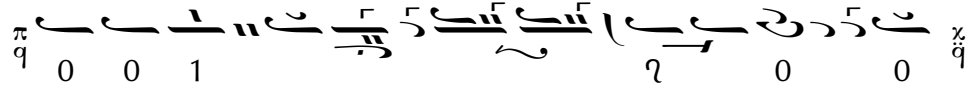
00100 $\frac{x}{q}$ $\frac{x}{q}$

00100 $\frac{x}{q}$ $\frac{x}{q}$

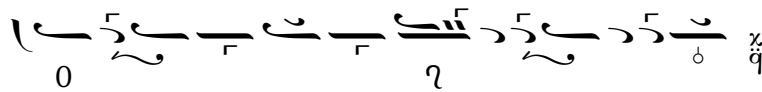
Plagal First Mode - Sticheraric

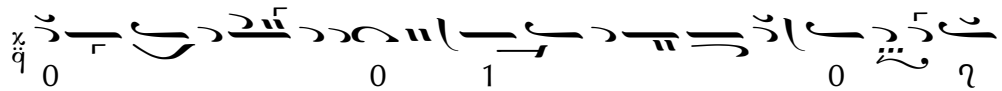
00100 $\frac{\times}{q}$ 

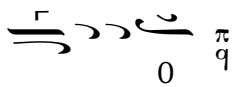


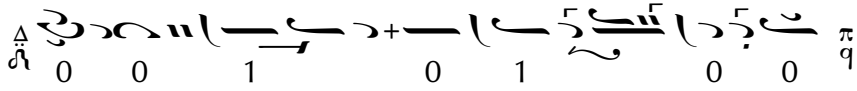
00100 $\frac{\pi}{q}$ 

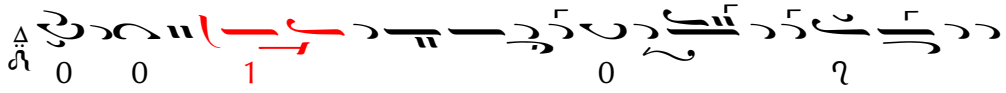
00100 $\frac{\times}{q}$ 



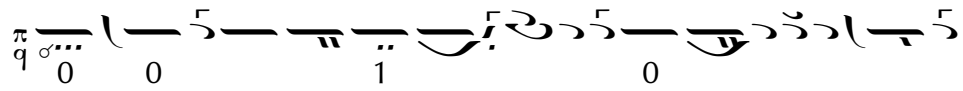
00100 $\frac{\times}{q}$ 

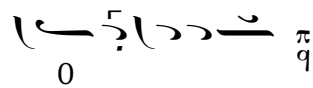


00100 $\frac{\Delta}{q}$ 

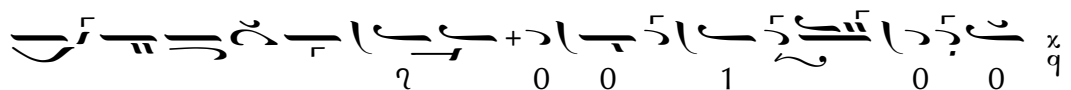
00100 $\frac{\Delta}{q}$ 



00100 $\frac{\pi}{q}$ 



00100 $\frac{\Delta}{q}$ 



Plagal First Mode - Sticheraric

00100

$\overset{\Delta}{\mathcal{A}}$

 0 0 1 0

$\chi\alpha$? 0 0 1

π_q 0 0

00100

π_q

 $\frac{1}{q}$ 1 0 0 1 ?

0 1 0 0 1

$\frac{x}{q}$ 0 ? 0

10100

π_q

 $\frac{1}{q}$ 1 0 1 0

π_q ? 0

10100

$\frac{x}{q}$

 $\frac{x}{q}$ 1 0 1 ?

0 ? 1 0

$\frac{x}{q}$ 1 0 0

000100

$\frac{x}{q}$

 $\frac{x}{q}$ 0 0 0 1 0

? 0

$\frac{x}{q}$ 0 0 1 0 0

Plagal First Mode - Sticheraric

010100 $\frac{\pi}{q}$ 0 1 0 1 0 0 1 0

0 $\frac{\pi}{q}$

100100 $\frac{\pi}{q}$ 1 0 0 1 0 0 $\frac{\pi}{q}$

100100 $\frac{\Delta}{q}$ 1 0 0 1 0 0 0

0 $\frac{\pi}{q}$

0100100 $\frac{\Delta}{q}$ 0 1 0 0 1 0

0 $\frac{\pi}{q}$

0100100 $\frac{\pi}{q}$ 0 1 0 0

1 0 1 0 $\frac{\delta}{\pi q}$

0100100 $\frac{\pi}{q}$ 0 1 0 0 1 0

0 $\frac{\pi}{q}$

00100100 $\frac{\pi}{q}$ 0 0 1 0

0 1 0 0 $\frac{\pi'}{\rho}$

00100100 $\frac{\pi}{q}$ 0 0 1 0 0

Plagal First Mode - Sticheraric

0 1 $\frac{x}{q}$

01010 $\frac{\pi}{q}$ 0 1 0 1 $\frac{\pi}{q}$

01010 $\frac{\Delta}{d}$ 0 1 0 1 0 $\frac{\Delta}{d}$

01010 $\frac{\Delta}{d}$ 0 1 0 1 0 $\frac{x}{q}$

001001 $\frac{\Delta}{d}$ 0 0 1 0 0 1 $\frac{\pi}{q}$

0
ساده

001001 $\frac{x}{q}$ 0 0 1 0

0 1 $\frac{x}{q}$

001001 $\frac{x}{q}$ 0 0 1 2 0 0

1 $\frac{\pi'}{\rho}$

1001001 $\frac{x}{q}$ 1 0 0 1 0

0 1 $\frac{\pi}{q}$ 0

1001010 $\frac{x}{q}$ 1 0 0 1

0 1 0 $\frac{\phi}{q}$

O) Final Cadences

This section was organized by number of syllables rather than by accentuation, since this is the aspect that determines the formulae. Since only three instances of final cadences accentuated on the second to last syllable were found in the books consulted, these have been highlighted.

Three syllables:

100

100

X0X

Five syllables:

00010

01001

10001

X0100

Plagal First Mode - Sticheraric

X0101

10X0X

X0X0X

Six syllables:

000010

000100

000100

100001

Seven syllables:

1000010

Plagal First Mode - Sticheraric

00X0X0X

10X0X0X

1010X0X

Eight syllables:

00010100

00100100

00101100

10010100

10100100

Plagal First Mode - Sticheraric

10101100

Nine syllables:

101000X0X

000100X0X

010100100

010101100

001000X0X

100100X0X

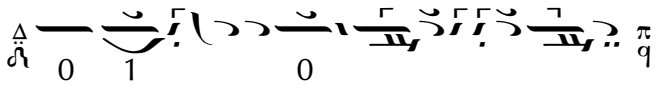
Plagal First Mode - Sticheraric


Ten syllables:

0001000X0X		
0001000X0X		

Plagal First Mode - Sticheraric


P) Final Cadences for Theotokia


010  Musical notation for cadence 010. It starts with a delta symbol and a double bar line. Below the first note is '0', and below the second is '1'. The notation continues with various rhythmic values and a final pi symbol with a subscript 'q'.

X0X  Musical notation for cadence X0X. It starts with a pi symbol with a subscript 'q' and a double bar line. Below the first note is 'X', and below the second is '0'. The notation continues with various rhythmic values, some in red and some in blue, and ends with a pi symbol with a subscript 'q'.

 A small fragment of musical notation consisting of a red double bar line, a red note, and a blue note.

 A small fragment of musical notation consisting of a red double bar line and a red note.

X0X  Musical notation for cadence X0X. It starts with a pi symbol with a subscript 'q' and a double bar line. Below the first note is 'X', and below the second is '0'. The notation continues with various rhythmic values and ends with a pi symbol with a subscript 'q'.

1000101  Musical notation for cadence 1000101. It starts with a delta symbol and a double bar line. Below the first note is '1', and below the second is '0'. The notation continues with various rhythmic values and ends with a pi symbol with a subscript 'q'.

BYZANTINE MUSIC FORMULÆ

Plagal First Mode - Heirmologic

Contents^{*}

A) Medial Cadences on Ke	466
B) Medial Cadences on High Nee.....	479
C) Formula with Fthoras	495
D) Final Cadences	497
E) Cadences for Theotokia	500

Key:

1 = accented syllable

0 = unaccented syllable

X = syllable that may be either
accented or unaccented

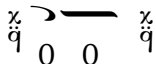
Variations of the same formula
are indicated in color

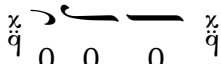
* The Byzantine music formulae herein were extracted from all the heirmologic melodies found in the *Zoe Anastasimatarion* (14th edition, 2002).

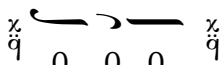
A) Medial Cadences on Ke

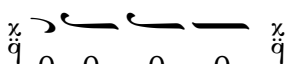
Accented on last syllable:

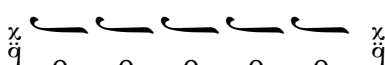
From Ke


00 

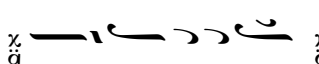
000 

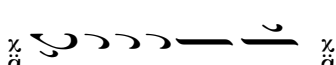


0000 

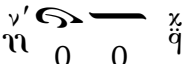
00000 


10001 

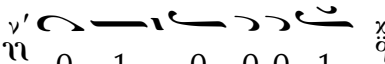



100001 


From Nee

00 

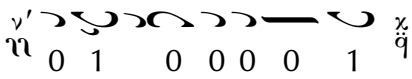
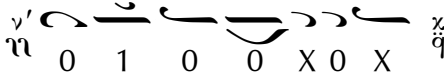
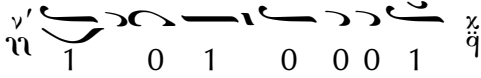
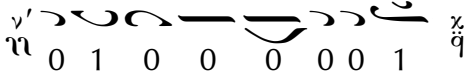
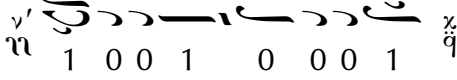
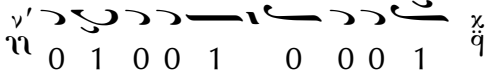
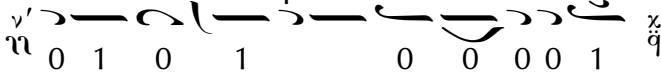
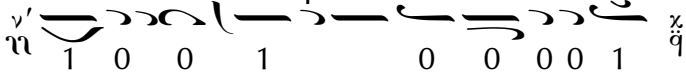
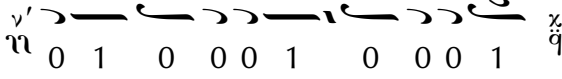
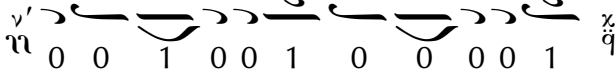
00001 

010001 

0010001 

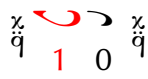



Plagal First Mode - Heirmologic

0100001	
0100X0X	
1010001	
01000001	
10010001	
010010001	
010100001	
100100001	
0100010001	
00100100001	

Accented on second to last syllable:

From Ke

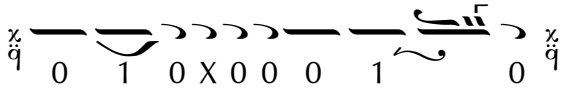
10	
	



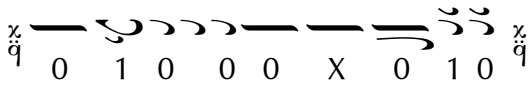
Plagal First Mode - Heirmologic

X010		
0X010		
10010		
010010		
0100010		
010X010		
1000010		
01000010		
01010010		

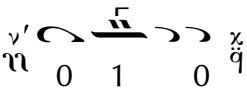
Plagal First Mode - Heirmologic

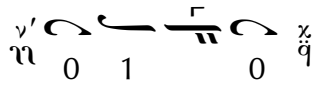
010X00010 

010000010 

01000X010 

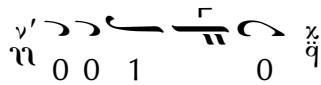
From Nee

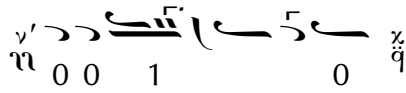
010 




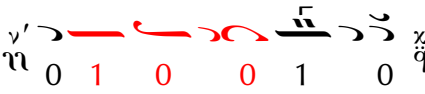

0010  

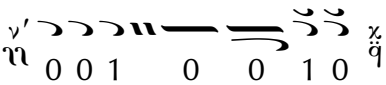




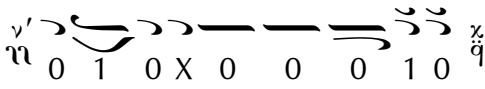
10010 

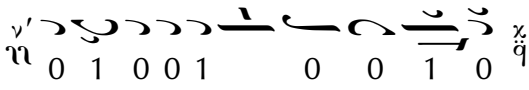
010010  

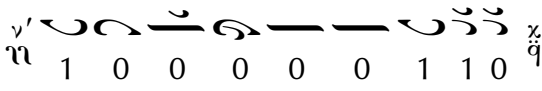
 

0010010 

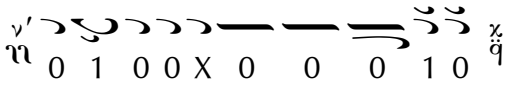
Plagal First Mode - Heirmologic

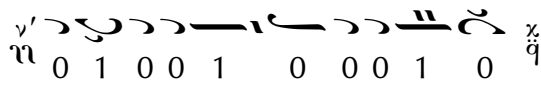
010X00010 

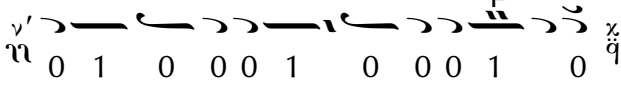
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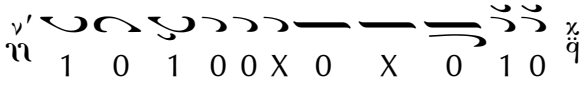
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100100010 

0100X00010 

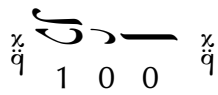


01000100010 

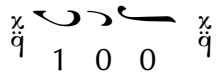
10100X0X010 

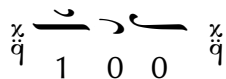
Accented on third to last syllable:

From Ke

100 

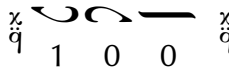
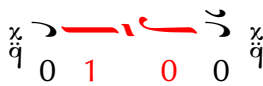

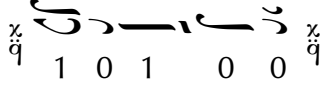

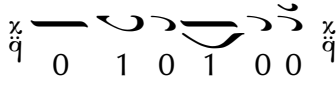

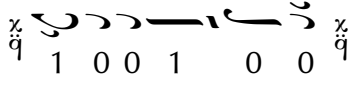
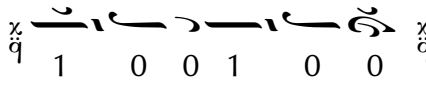

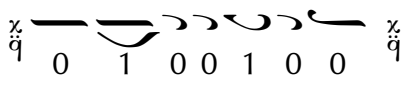

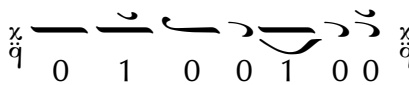







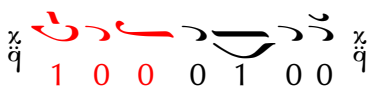
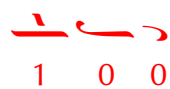



Plagal First Mode - Heirmologic

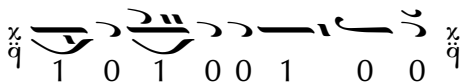
	$\frac{x}{q}$  $\frac{x}{q}$
0100	$\frac{x}{q}$  $\frac{x}{q}$
	$\frac{x}{q}$  $\frac{x}{q}$
10100	$\frac{x}{q}$  $\frac{x}{q}$
010100	$\frac{x}{q}$  $\frac{x}{q}$
	$\frac{x}{q}$  $\frac{x}{q}$
100100	$\frac{x}{q}$  $\frac{x}{q}$
	$\frac{x}{q}$  $\frac{x}{q}$
	$\frac{x}{q}$  $\frac{x}{q}$
	$\frac{x}{q}$  $\frac{x}{q}$
0100100	$\frac{x}{q}$  $\frac{x}{q}$
	$\frac{x}{q}$  $\frac{x}{q}$
	$\frac{x}{q}$  $\frac{x}{q}$
1101100	$\frac{x}{q}$  $\frac{x}{q}$

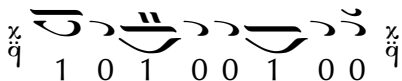


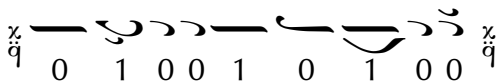
Plagal First Mode - Heirmologic

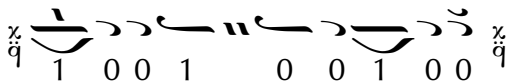
1000100  

 $\frac{x}{q}$

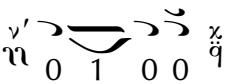
10100100 

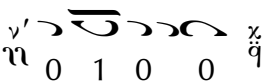
 $\frac{x}{q}$


010010100 

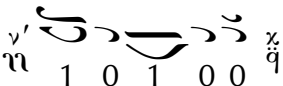
 $\frac{x}{q}$

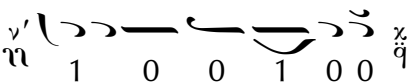
From Nee

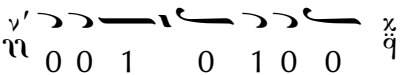
0100 

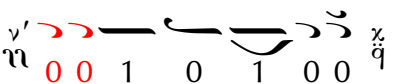
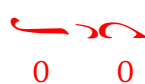
 $\frac{x}{q}$

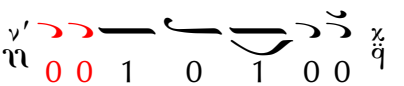
00100 

 $\frac{x}{q}$

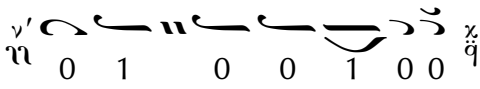
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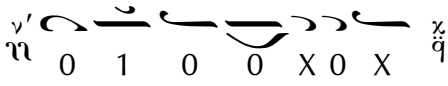
 $\frac{x}{q}$

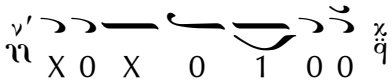
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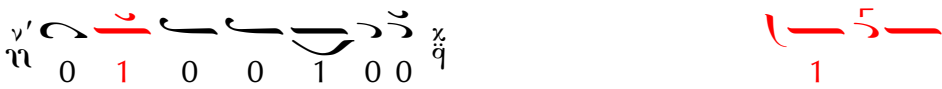
 $\frac{x}{q}$

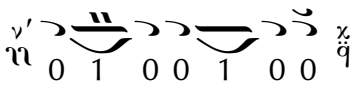
Plagal First Mode - Heirmologic

0100100 

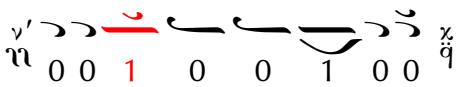
0100X0X 

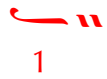
X0X0100 

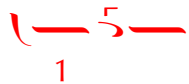
0100100 



10X0100 

00100100 



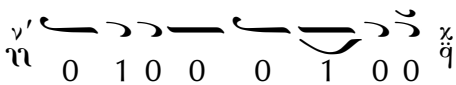


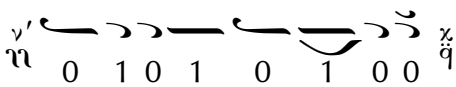




01000100 

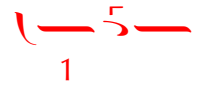




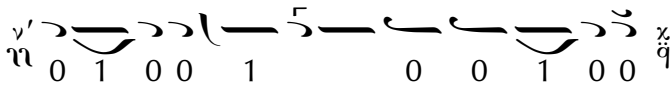
01010100 

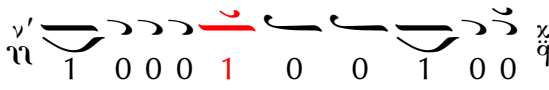
Plagal First Mode - Heirmologic

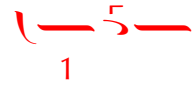
01100100	
10010100	
100X0100	
10100100	
010000100	
010010100	
010100100	
0100X0100	
011000100	
100000100	
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100100100	
0010100100	

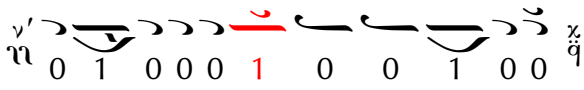


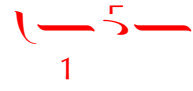
Plagal First Mode - Heirmologic

0100100100 

1000100100 

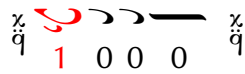


01000100100 

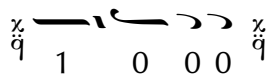


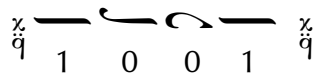
Accented on fourth to last syllable:

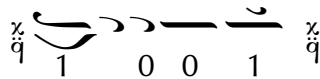
From Ke

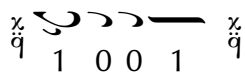
1000 

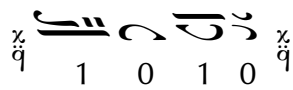


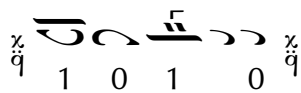


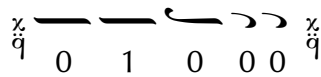
1001 





1010 



01000 



Plagal First Mode - Heirmologic

0100001010 $\overset{\gamma'}{\text{a}} \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \overset{\text{x}}{\text{q}}$
 0 1 0 0 0 0 1 0 1 0

$\overset{\gamma'}{\text{a}} \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \overset{\text{x}}{\text{q}}$
 0 1 0 0 0 1 0 1 0



010X001010 $\overset{\gamma'}{\text{a}} \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \overset{\text{x}}{\text{q}}$
 0 1 0 X 0 0 1 0 1 0

10100X0X010 $\overset{\gamma'}{\text{a}} \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \overset{\text{x}}{\text{q}}$
 1 0 1 0 0 X 0 X 0 1 0

B) Medial Cadences on High Nee

Accented on last syllable:

From Ke

0	$\overset{x}{\underset{q}{\bar{0}}} \overset{v'}{\bar{u}}$	
00	$\overset{x}{\underset{q}{\bar{0}}} \overset{v'}{\bar{0} \bar{0} \bar{u}}$	
01	$\overset{x}{\underset{q}{\bar{0}}} \overset{v'}{\bar{0} \bar{1} \bar{u}}$	
	$\overset{x}{\underset{q}{\bar{0}}} \overset{v'}{\bar{0} \bar{1} \bar{u}}$	
	$\overset{x}{\underset{q}{\bar{0}}} \overset{v'}{\bar{0} \bar{1} \bar{u}}$	
0001	$\overset{x}{\underset{q}{\bar{0}}} \overset{v'}{\bar{0} \bar{0} \bar{0} \bar{1} \bar{u}}$	 1
10001	$\overset{x}{\underset{q}{\bar{1}}} \overset{v'}{\bar{0} \bar{0} \bar{0} \bar{0} \bar{1} \bar{u}}$	
	$\overset{x}{\underset{q}{\bar{1}}} \overset{v'}{\bar{0} \bar{0} \bar{1} \bar{u}}$	
	$\overset{x}{\underset{q}{\bar{1}}} \overset{v'}{\bar{0} \bar{1} \bar{u}}$	
	$\overset{x}{\underset{q}{\bar{1}}} \overset{v'}{\bar{0} \bar{0} \bar{0} \bar{0} \bar{1} \bar{u}}$	
100001	$\overset{x}{\underset{q}{\bar{1}}} \overset{v'}{\bar{0} \bar{0} \bar{0} \bar{0} \bar{0} \bar{0} \bar{1} \bar{u}}$	
	$\overset{x}{\underset{q}{\bar{1}}} \overset{v'}{\bar{0} \bar{0} \bar{0} \bar{0} \bar{1} \bar{u}}$	 1

Plagal First Mode - Heirmologic

	$\begin{matrix} x \\ q \end{matrix}$		
010001	$\begin{matrix} x \\ q \end{matrix}$		
0010001	$\begin{matrix} x \\ q \end{matrix}$		
0100001	$\begin{matrix} x \\ q \end{matrix}$		
1001001	$\begin{matrix} x \\ q \end{matrix}$		
010000001	$\begin{matrix} x \\ q \end{matrix}$		

From Nee

01	$\begin{matrix} u' \\ n \end{matrix}$		
001	$\begin{matrix} u' \\ n \end{matrix}$		
	$\begin{matrix} u' \\ n \end{matrix}$		
0001	$\begin{matrix} u' \\ n \end{matrix}$		
	$\begin{matrix} u' \\ n \end{matrix}$		

Plagal First Mode - Heirmologic

00001	$\overset{\gamma'}{\text{u}} \overbrace{\text{0 0 0 0}}^{\text{—}} \underset{\text{1}}{\text{—}} \overset{\gamma'}{\text{u}}$	
10001	$\overset{\gamma'}{\text{u}} \text{—} \overbrace{\text{0 0 0 1}}^{\text{—}} \overset{\gamma'}{\text{u}}$	
000001	$\overset{\gamma'}{\text{u}} \overbrace{\text{0 0 0 0}}^{\text{—}} \underset{\text{1}}{\text{—}} \overset{\gamma'}{\text{u}}$	
010001	$\overset{\gamma'}{\text{u}} \overbrace{\text{0 1 0 0 0}}^{\text{—}} \underset{\text{1}}{\text{—}} \overset{\gamma'}{\text{u}}$	$\overset{\gamma'}{\text{u}}$ 1
010X01	$\overset{\gamma'}{\text{u}} \text{—} \overbrace{\text{1 0 X 0}}^{\text{—}} \underset{\text{1}}{\text{—}} \overset{\gamma'}{\text{u}}$	— 1
100001	$\overset{\gamma'}{\text{u}} \overbrace{\text{1 0 0 0 0}}^{\text{—}} \underset{\text{1}}{\text{—}} \overset{\gamma'}{\text{u}}$	— 1
110001	$\overset{\gamma'}{\text{u}} \overbrace{\text{1 1 0 0 0}}^{\text{—}} \underset{\text{1}}{\text{—}} \overset{\gamma'}{\text{u}}$	
0100001	$\overset{\gamma'}{\text{u}} \overbrace{\text{0 1 0 0 0 0}}^{\text{—}} \underset{\text{1}}{\text{—}} \overset{\gamma'}{\text{u}}$	
	$\overset{\gamma'}{\text{u}} \text{—} \overbrace{\text{1 0 0 0 0 1}}^{\text{—}} \overset{\gamma'}{\text{u}}$	
010000001	$\overset{\gamma'}{\text{u}} \overbrace{\text{0 1 0 0 0 0 0 0}}^{\text{—}} \underset{\text{1}}{\text{—}} \overset{\gamma'}{\text{u}}$	

Accented on second to last syllable:

From Ke

10	$\overset{x}{\text{q}} \overbrace{\text{1 0}}^{\text{—}} \overset{\gamma'}{\text{u}}$
	$\overset{x}{\text{q}} \overbrace{\text{1 0}}^{\text{—}} \overset{\gamma'}{\text{u}}$

Plagal First Mode - Heirmologic

	$\frac{x}{q}$ $\frac{y'}{n}$
010	$\frac{x}{q}$ $\frac{y'}{n}$
	$\frac{x}{q}$ $\frac{y'}{n}$
	$\frac{x}{q}$ $\frac{y'}{n}$
0010	$\frac{x}{q}$ $\frac{y'}{n}$
00010	$\frac{x}{q}$ $\frac{y'}{n}$
	$\frac{x}{q}$ $\frac{y'}{n}$
	$\frac{x}{q}$ $\frac{y'}{n}$
10010	$\frac{x}{q}$ $\frac{y'}{n}$
	$\frac{x}{q}$ $\frac{y'}{n}$
	$\frac{x}{q}$ $\frac{y'}{n}$
	$\frac{x}{q}$ $\frac{y'}{n}$
	$\frac{x}{q}$ $\frac{y'}{n}$
	$\frac{x}{q}$ $\frac{y'}{n}$
	$\frac{x}{q}$ $\frac{y'}{n}$
000010	$\frac{x}{q}$ $\frac{y'}{n}$
00X010	$\frac{x}{q}$ $\frac{y'}{n}$



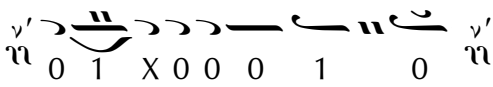
Plagal First Mode - Heirmologic

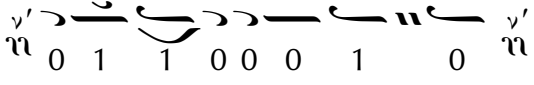
010010		
100010		
0100010		
1000010		
100X010		

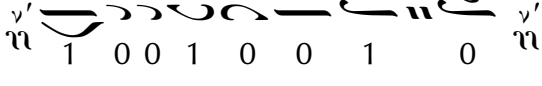
Plagal First Mode - Heirmologic

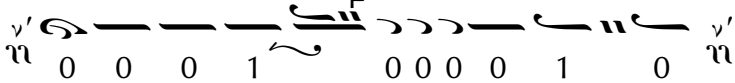
	$\begin{array}{c} \overset{\gamma'}{\text{u}} \text{---} \text{---} \text{---} \overset{\gamma'}{\text{u}} \\ 0 \quad 0 \quad 1 \quad 0 \end{array}$	
0X010	$\begin{array}{c} \overset{\gamma'}{\text{u}} \text{---} \text{---} \text{---} \text{---} \overset{\gamma'}{\text{u}} \\ 0 \text{ X } 0 \quad 1 \quad 0 \end{array}$	
00010	$\begin{array}{c} \overset{\gamma'}{\text{u}} \text{---} \text{---} \text{---} \text{---} \overset{\gamma'}{\text{u}} \\ 0 \quad 0 \quad 0 \quad 1 \quad 0 \end{array}$	
	$\begin{array}{c} \overset{\gamma'}{\text{u}} \text{---} \text{---} \text{---} \text{---} \overset{\gamma'}{\text{u}} \\ 0 \quad 0 \quad 0 \quad 1 \quad 0 \end{array}$	$\begin{array}{c} \text{---} \text{---} \\ 1 \quad 0 \end{array}$
	$\begin{array}{c} \overset{\gamma'}{\text{u}} \text{---} \text{---} \text{---} \text{---} \overset{\gamma'}{\text{u}} \\ 0 \quad 0 \quad 0 \quad 1 \quad 0 \end{array}$	
	$\begin{array}{c} \overset{\gamma'}{\text{u}} \text{---} \text{---} \text{---} \text{---} \overset{\gamma'}{\text{u}} \\ 0 \quad 0 \quad 0 \quad 1 \quad 0 \end{array}$	
10010	$\begin{array}{c} \overset{\gamma'}{\text{u}} \text{---} \text{---} \text{---} \text{---} \overset{\gamma'}{\text{u}} \\ 1 \quad 0 \quad 0 \quad 1 \quad 0 \end{array}$	
	$\begin{array}{c} \overset{\gamma'}{\text{u}} \text{---} \text{---} \text{---} \text{---} \overset{\gamma'}{\text{u}} \\ 1 \quad 0 \quad 0 \quad 1 \quad 0 \end{array}$	
	$\begin{array}{c} \text{---} \text{---} \text{---} \text{---} \\ 1 \quad 0 \quad 1 \quad 0 \end{array}$	
	$\begin{array}{c} \text{---} \text{---} \text{---} \text{---} \\ 1 \quad 0 \end{array}$	
	$\begin{array}{c} \overset{\gamma'}{\text{u}} \text{---} \text{---} \text{---} \text{---} \overset{\gamma'}{\text{u}} \\ 1 \quad 0 \quad 0 \quad 1 \quad 0 \end{array}$	
000010	$\begin{array}{c} \overset{\gamma'}{\text{u}} \text{---} \text{---} \text{---} \text{---} \text{---} \overset{\gamma'}{\text{u}} \\ 0 \quad 0 \quad 0 \quad 0 \quad 1 \quad 0 \end{array}$	
	$\begin{array}{c} \overset{\gamma'}{\text{u}} \text{---} \text{---} \text{---} \text{---} \text{---} \overset{\gamma'}{\text{u}} \\ 0 \quad 0 \quad 0 \quad 0 \quad 1 \quad 0 \end{array}$	
010010	$\begin{array}{c} \overset{\gamma'}{\text{u}} \text{---} \text{---} \text{---} \text{---} \text{---} \overset{\gamma'}{\text{u}} \\ 0 \quad 1 \quad 0 \quad 0 \quad 1 \quad 0 \end{array}$	

Plagal First Mode - Heirmologic

01X00010 

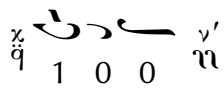
01100010 

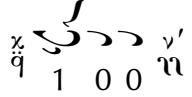
10010010 

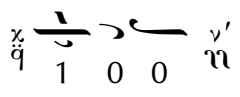
0001000010 

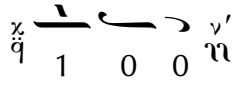
Accented on third to last syllable:

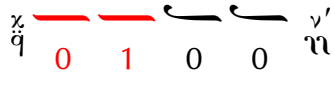
From Ke


100 

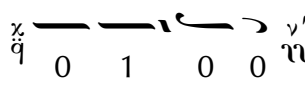


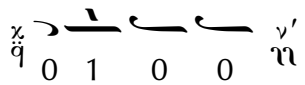


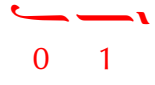


0100 









Plagal First Mode - Heirmologic

$\overset{x}{\underset{q}{\bar{1}}}$ — $\overset{\bar{1}}{\cup}$ \cup \cup — $\bar{1}$ \cup \cup $\overset{v'}{\bar{1}}$
 0 1 0 0 0 0 1 0 0 $\bar{1}$

010010100

$\overset{x}{\underset{q}{\bar{1}}}$ — $\overset{\bar{1}}{\cup}$ \cup \cup \cup — $\bar{1}$ \cup \cup $\overset{v'}{\bar{1}}$
 0 1 0 0 1 0 1 0 0 $\bar{1}$

100100100

$\overset{x}{\underset{q}{\bar{1}}}$ \cup \cup $\overset{\bar{1}}{\cup}$ \cup \cup — — \cup \cup $\overset{v'}{\bar{1}}$
 1 0 0 1 0 0 1 0 0 $\bar{1}$

From Nee

100

$\overset{v'}{\bar{1}}$ \cup \cup — $\overset{v'}{\bar{1}}$
 1 0 0 $\bar{1}$

$\overset{v'}{\bar{1}}$ \cup \cup — $\overset{v'}{\bar{1}}$
 1 0 0 $\bar{1}$

$\bar{1}$
0

$\overset{v'}{\bar{1}}$ \cup \cup — $\overset{v'}{\bar{1}}$
 1 0 0 $\bar{1}$

$\overset{v'}{\bar{1}}$ \cup \cup — $\overset{v'}{\bar{1}}$
 1 0 0 $\bar{1}$

$\overset{v'}{\bar{1}}$ — \cup \cup — $\overset{v'}{\bar{1}}$
 1 0 0 $\bar{1}$

0100

$\overset{v'}{\bar{1}}$ \cup $\bar{1}$ \cup — $\overset{v'}{\bar{1}}$
 0 1 0 0 $\bar{1}$

$\overset{v'}{\bar{1}}$ — $\bar{1}$ \cup \cup — $\overset{v'}{\bar{1}}$
 0 1 0 0 $\bar{1}$

$\bar{1}$
1

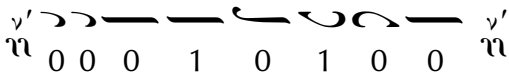
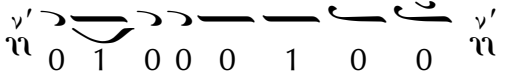
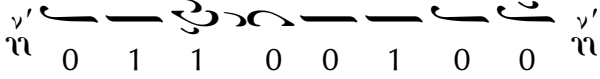
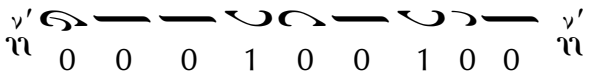
$\bar{1}$
1

010X

$\overset{v'}{\bar{1}}$ — — \cup — $\overset{v'}{\bar{1}}$
 0 1 0 X $\bar{1}$

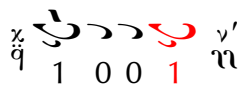

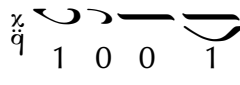
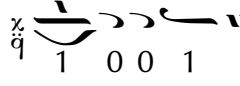
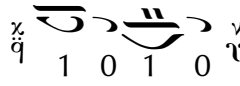


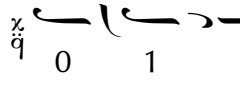


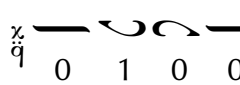
$\bar{1}$
0 1

Plagal First Mode - Heirmologic

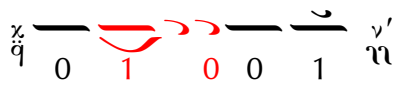
00010100	$\overset{\gamma'}{\alpha}$  $\overset{\gamma'}{\alpha}$
01000100	$\overset{\gamma'}{\alpha}$  $\overset{\gamma'}{\alpha}$
01100100	$\overset{\gamma'}{\alpha}$  $\overset{\gamma'}{\alpha}$
000100100	$\overset{\gamma'}{\alpha}$  $\overset{\gamma'}{\alpha}$

Accented on fourth to last syllable:

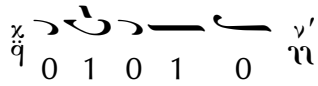
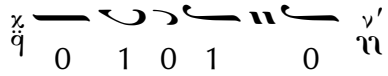
From Ke

1001	$\overset{\chi}{\eta}$  $\overset{\gamma'}{\alpha}$	
	$\overset{\chi}{\eta}$  $\overset{\gamma'}{\alpha}$	
	$\overset{\chi}{\eta}$  $\overset{\gamma'}{\alpha}$	
1010	$\overset{\chi}{\eta}$  $\overset{\gamma'}{\alpha}$	
01001	$\overset{\chi}{\eta}$  $\overset{\gamma'}{\alpha}$	
	$\overset{\chi}{\eta}$  $\overset{\gamma'}{\alpha}$	
	$\overset{\chi}{\eta}$  $\overset{\gamma'}{\alpha}$	
	$\overset{\chi}{\eta}$  $\overset{\gamma'}{\alpha}$	

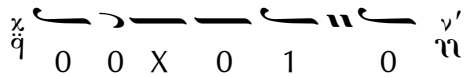
Plagal First Mode - Heirmologic



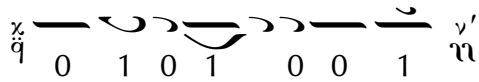
01010



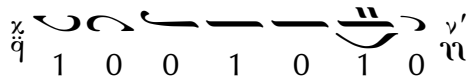
00X010



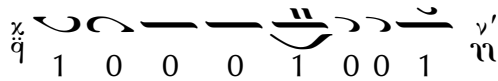
0101001



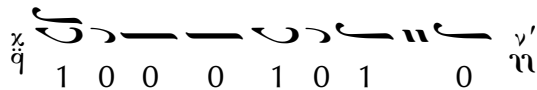
1001010



10001001

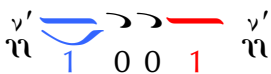
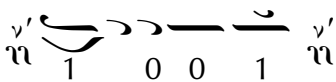


10001010

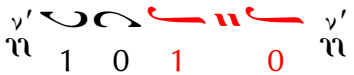
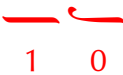


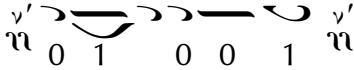
From Nee

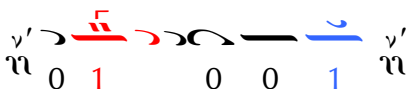
1001



Plagal First Mode - Heirmologic

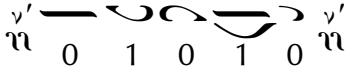
1010 $\overset{\gamma'}{\alpha}$  $\overset{\gamma'}{\alpha}$ 

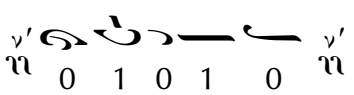
01001 $\overset{\gamma'}{\alpha}$  $\overset{\gamma'}{\alpha}$

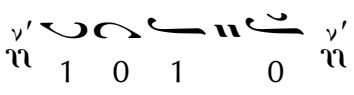
$\overset{\gamma'}{\alpha}$  $\overset{\gamma'}{\alpha}$

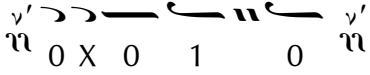
 1  1

 1

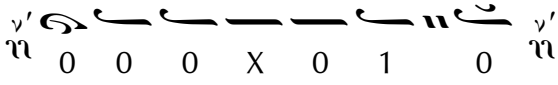
01010 $\overset{\gamma'}{\alpha}$  $\overset{\gamma'}{\alpha}$

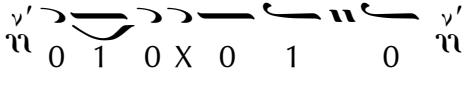
$\overset{\gamma'}{\alpha}$  $\overset{\gamma'}{\alpha}$


$\overset{\gamma'}{\alpha}$  $\overset{\gamma'}{\alpha}$


0X010 $\overset{\gamma'}{\alpha}$  $\overset{\gamma'}{\alpha}$

10X010 $\overset{\gamma'}{\alpha}$  $\overset{\gamma'}{\alpha}$

000X010 $\overset{\gamma'}{\alpha}$  $\overset{\gamma'}{\alpha}$

010X010 $\overset{\gamma'}{\alpha}$  $\overset{\gamma'}{\alpha}$

$\overset{\gamma'}{\alpha}$  $\overset{\gamma'}{\alpha}$

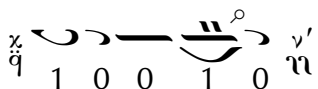
01001010 $\overset{\gamma'}{\alpha}$  $\overset{\gamma'}{\alpha}$

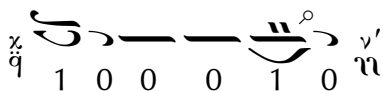
Plagal First Mode - Heirmologic



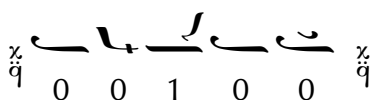
C) Formula with Fthoras

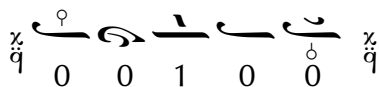
Accented on second to last syllable:

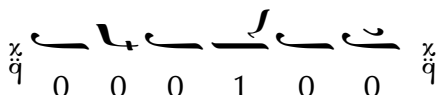
10010 

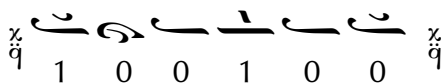
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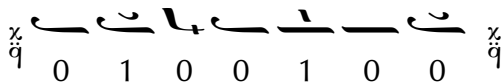
Accented on third to last syllable:

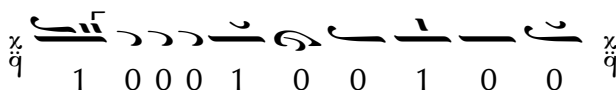
00100 

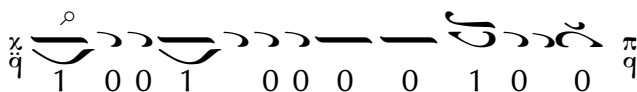


000100 

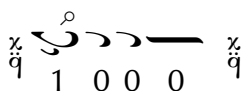
100100 

0100100 

10001100100 

10010000100 

Accented on fourth to last syllable:

1000 

Plagal First Mode - Heirmologic

01001001



Plagal First Mode - Heirmologic

D) Final Cadences

Accented on last syllable:

From Ke

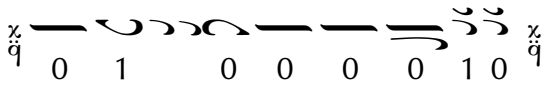
010001	
100001	
1010001	
10X0001	
10100001	
110X0001	

Accented on second to last syllable:

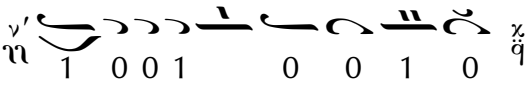
From Ke

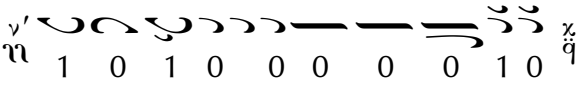
00010		
10010		
010010		
100010		
1000010		

Plagal First Mode - Heirmologic

01000010 

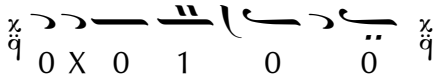
From Nee

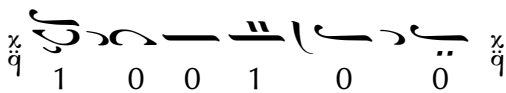
10010010 

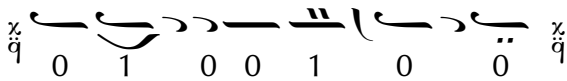
1010000010 

Accented on third to last syllable:

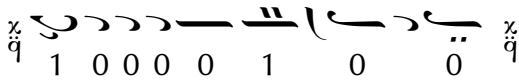
From Ke

0X0100 

100100 

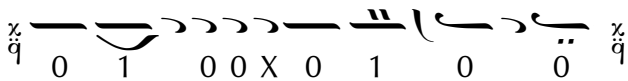
0100100 

10X0100 

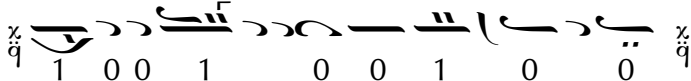
10000100 

10100100 



0100X0100 

010100100 

100100100 

Plagal First Mode - Heirmologic

10X0X0100 $\overset{\times}{\underset{\cdot}{\underset{\cdot}{q}}}$ $\overset{\times}{\underset{\cdot}{\underset{\cdot}{q}}}$

1010000100 $\overset{\times}{\underset{\cdot}{\underset{\cdot}{q}}}$ $\overset{\times}{\underset{\cdot}{\underset{\cdot}{q}}}$

Accented on fourth to last syllable:

From Ke

0001001 $\overset{\times}{\underset{\cdot}{\underset{\cdot}{q}}}$ $\overset{\times}{\underset{\cdot}{\underset{\cdot}{q}}}$

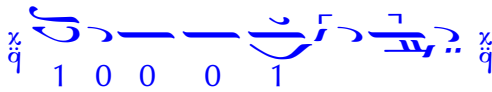
10001001 $\overset{\times}{\underset{\cdot}{\underset{\cdot}{q}}}$ $\overset{\times}{\underset{\cdot}{\underset{\cdot}{q}}}$

E) Cadences for Theotokia*


Accented on last syllable:

From Ke

10001 

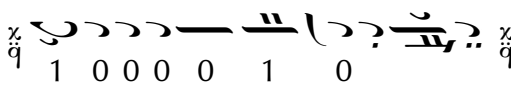
10001 

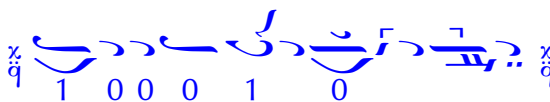
From Nee

010001 

Accented on second to last syllable:

From Ke

1000010 

100010 

From Nee

1000010 

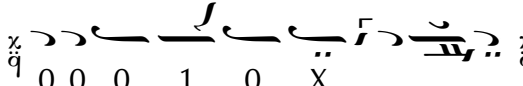
100100010 


* The formulae in blue in this section are from the Athonite oral tradition, as represented in the book *Παρακλητικῆς, Μουσικὸν Ἐγκόλπιον, Πλάγιοι Ἦχοι*, Ἱεροθέου Ἱερομονάχου, ἐκδόσεις Ἱ.Μ. Φιλοθέου, Ἄγιον Ὄρος, 2004.

Plagal First Mode - Heirmologic


Accented on third to last syllable:

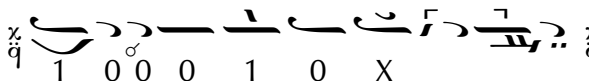
From Ke

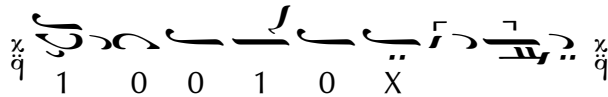
00010X  $\frac{x}{q}$
 0 0 0 1 0 X

100100  $\frac{x}{q}$
 1 0 0 1 0 0

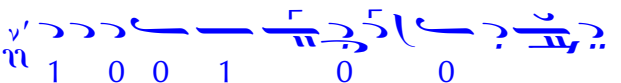
 $\frac{x}{q}$
 1 0 0 1 0 0

1000100  $\frac{x}{q}$
 1 0 0 0 1 0 0


100010X  $\frac{x}{q}$
 1 0 0 0 1 0 X

 $\frac{x}{q}$
 1 0 0 1 0 X

From Nee


100100  $\frac{x}{q}$
 1 0 0 1 0 0


 $\frac{x}{q}$
 1 0 0 1 0 0

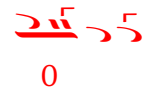
0100100  $\frac{x}{q}$
 0 1 0 0 1 0 0

 $\frac{x}{q}$
 1 0 0 0 1 0 0

1000100

 $\frac{x}{q}$
 1 0 0 0 1 0 0

 $\frac{x}{q}$
 1 0 0 0 1 0

 $\frac{x}{q}$
 0

Plagal First Mode - Heirmologic

Accented on fourth to last syllable:

1001

1 0 0 1

BYZANTINE MUSIC FORMULÆ

Plagal First Mode - Verses (Tetraphonos)

Contents^{*}

A) Cadences on Di	504
B) Cadences on Ke	510
C) Cadences on High Neē	514
D) Formulae with Fthoras	516
E) Final Cadences	517

Key:

1 = accented syllable

0 = unaccented syllable

X = syllable that may be either
accented or unaccented

Variations of the same formula
are indicated in color

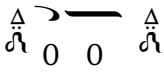
* The Byzantine music formulae herein were extracted from all the verses found in the *Zoe Anastasimatarion* (14th edition, 2002), the *Anastasimatarion* of Petros Peloponnesios (Mousike Bibliothek), and the *Neon Anastasimatarion* by Petros Ephesios. These formulae are applicable only to the brief verses (that are not immediately followed by troparia) of Psalms 140, 141, and 129 chanted in the beginning of Vespers immediately after "Lord I Have Cried" and the brief verses of Psalms 148, 149, and 150 chanted in Orthros immediately after "Let Every Breath."

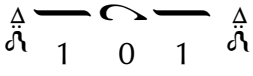
Plagal First Mode - Verses (Tetraphonos)

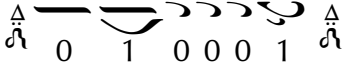
A) Cadences on Di


Accented on last syllable:

From Di

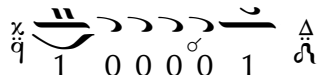
00 

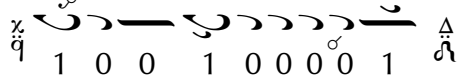
101 

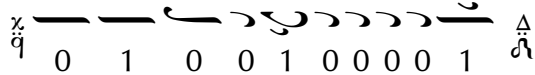
010001 

0100101 

From Ke

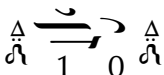
100001 


100100001 

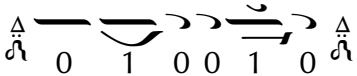
0100100001 


Accented on second to last syllable:

From Di

10 

10010 


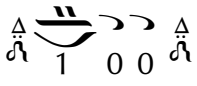
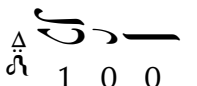
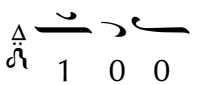
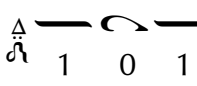
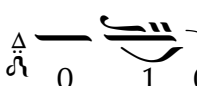
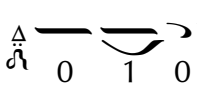
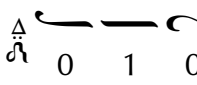
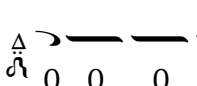
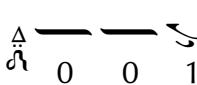
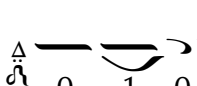
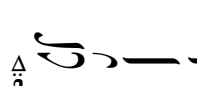
010010 


1

Plagal First Mode - Verses (Tetraphonos)

Accented on third to last syllable:

From Di

100	
	
	
	
101	
0100	
	
0101	
000100	
001X00	
0100101	
1000100	


0

Plagal First Mode - Verses (Tetrachordos)

$\overset{\Delta}{\underset{\text{d}}{\text{A}}} \text{ — } \text{ — } \text{ — } \text{ — } \text{ — } \overset{\Delta}{\underset{\text{d}}{\text{A}}}$
 1 0 0 0 1 0 0

00100100

$\overset{\Delta}{\underset{\text{d}}{\text{A}}} \text{ — } \text{ — } \text{ — } \text{ — } \text{ — } \text{ — } \text{ — } \overset{\Delta}{\underset{\text{d}}{\text{A}}}$
 0 0 1 0 0 1 0 0

10000100

$\overset{\Delta}{\underset{\text{d}}{\text{A}}} \text{ — } \text{ — } \text{ — } \text{ — } \text{ — } \text{ — } \text{ — } \overset{\Delta}{\underset{\text{d}}{\text{A}}}$
 1 0 0 0 0 1 0 0

From Ke

100

$\overset{\times}{\underset{\text{q}}{\text{q}}} \text{ — } \text{ — } \text{ — } \text{ — } \text{ — } \overset{\Delta}{\underset{\text{d}}{\text{A}}}$
 1 0 0

$\overset{\times}{\underset{\text{q}}{\text{q}}} \text{ — } \text{ — } \text{ — } \text{ — } \text{ — } \overset{\Delta}{\underset{\text{d}}{\text{A}}}$
 1 0 0

0

$\overset{\times}{\underset{\text{q}}{\text{q}}} \text{ — } \text{ — } \text{ — } \text{ — } \text{ — } \overset{\Delta}{\underset{\text{d}}{\text{A}}}$
 1 0 0

0100

$\overset{\times}{\underset{\text{q}}{\text{q}}} \text{ — } \text{ — } \text{ — } \text{ — } \text{ — } \overset{\Delta}{\underset{\text{d}}{\text{A}}}$
 0 1 0 0

1100

$\overset{\times}{\underset{\text{q}}{\text{q}}} \text{ — } \text{ — } \text{ — } \text{ — } \text{ — } \overset{\Delta}{\underset{\text{d}}{\text{A}}}$
 1 1 0 0

00100

$\overset{\times}{\underset{\text{q}}{\text{q}}} \text{ — } \text{ — } \text{ — } \text{ — } \text{ — } \overset{\Delta}{\underset{\text{d}}{\text{A}}}$
 0 0 1 0 0

10100

$\overset{\times}{\underset{\text{q}}{\text{q}}} \text{ — } \text{ — } \text{ — } \text{ — } \text{ — } \overset{\Delta}{\underset{\text{d}}{\text{A}}}$
 1 0 1 0 0

000100

$\overset{\times}{\underset{\text{q}}{\text{q}}} \text{ — } \text{ — } \text{ — } \text{ — } \text{ — } \overset{\Delta}{\underset{\text{d}}{\text{A}}}$
 0 0 0 1 0 0

010100

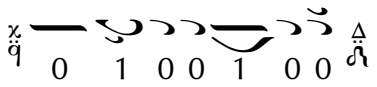
$\overset{\times}{\underset{\text{q}}{\text{q}}} \text{ — } \text{ — } \text{ — } \text{ — } \text{ — } \overset{\Delta}{\underset{\text{d}}{\text{A}}}$
 0 1 0 1 0 0

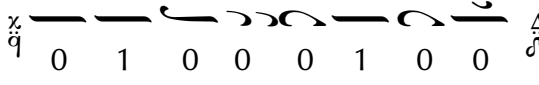
1

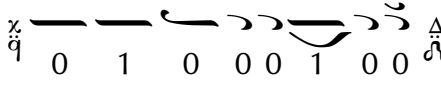
0X0100

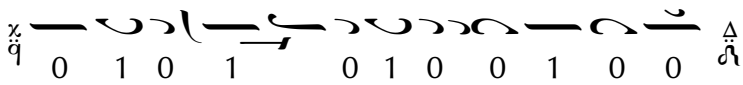
$\overset{\times}{\underset{\text{q}}{\text{q}}} \text{ — } \text{ — } \text{ — } \text{ — } \text{ — } \overset{\Delta}{\underset{\text{d}}{\text{A}}}$
 0 X 0 1 0 0

Plagal First Mode - Verses (Tetraphonos)

0100100 

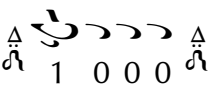
01000100 




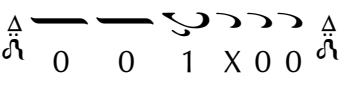
01010100100 


Accented on fourth to last syllable:

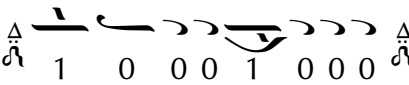
From Di

1000 


01000 

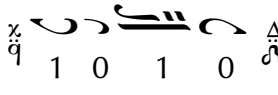
001X00 

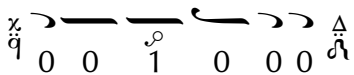
010X010 

10001000 

From Ke

1000 

1010 

001000 

Plagal First Mode - Verses (Tetraphonos)

0101010 $\begin{array}{c} \times \\ \dot{q} \end{array} \overline{\quad} \overline{\quad} \overline{\quad} \overline{\quad} \overline{\quad} \overline{\quad} \overline{\quad} \overline{\quad} \begin{array}{c} \Delta \\ \dot{a} \end{array}$
 0 1 0 1 0 1 0

0101001010 $\begin{array}{c} \times \\ \dot{q} \end{array} \overline{\quad} \overline{\quad} \overline{\quad} \overline{\quad} \overline{\quad} \overline{\quad} \overline{\quad} \overline{\quad} \overline{\quad} \overline{\quad} \overline{\quad} \overline{\quad} \overline{\quad} \overline{\quad} \overline{\quad} \overline{\quad} \overline{\quad} \overline{\quad} \overline{\quad} \begin{array}{c} \Delta \\ \dot{a} \end{array}$
 0 1 0 1 0 0 1 0 1 0

010100X010 $\begin{array}{c} \times \\ \dot{q} \end{array} \overline{\quad} \begin{array}{c} \Delta \\ \dot{a} \end{array}$
 0 1 0 1 0 0 X 0 1 0

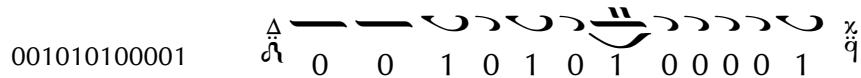
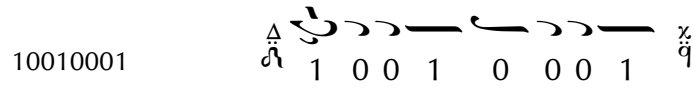
Plagal First Mode - Verses (Tetraphonos)

B) Cadences on Ke

These are used as initial formulae.

Accented on last syllable:

From Di

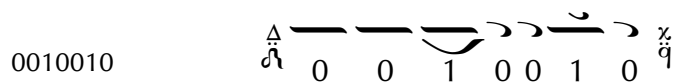


From Ke

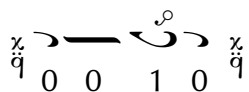
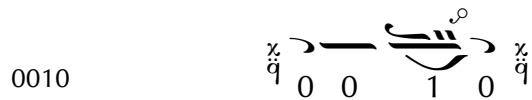


Accented on second to last syllable:

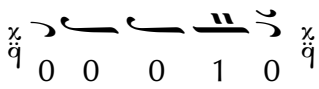
From Di

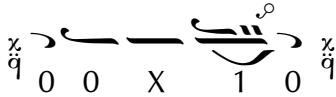


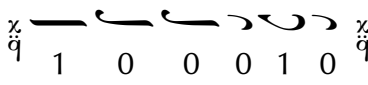
From Ke

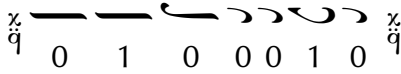


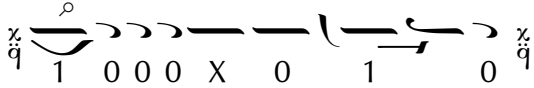
Plagal First Mode - Verses (Tetraphonos)

00010 

00X10 


10010 

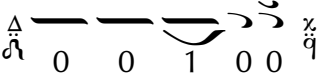
010010 

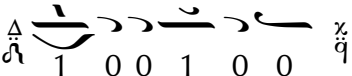
1000X10 

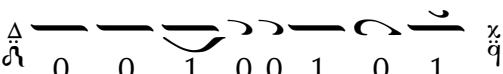
Accented on third to last syllable:

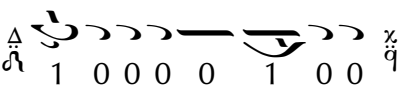
From Di

0100 

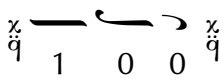
00100 


100100 

00100101 

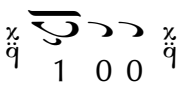
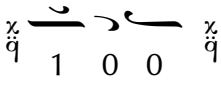
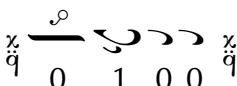
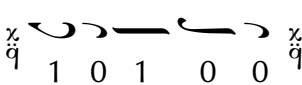
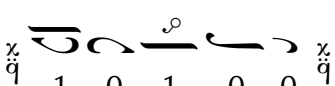
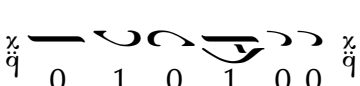
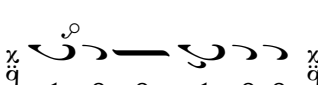


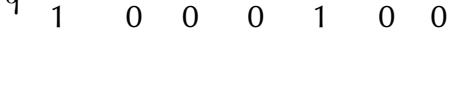
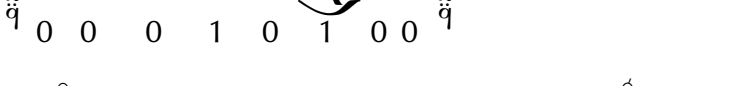
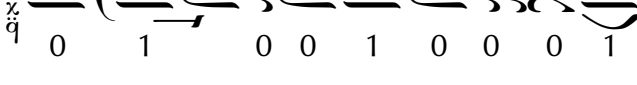
10000100 

From Ke

100 



Plagal First Mode - Verses (Tetraphonos)

	
	
0100	
10100	
	
010100	
100100	
0010100	
1000100	
00010100	
01001000100	
	

Accented on fourth to last syllable:

From Di

Plagal First Mode - Verses (Tetraphonos)

1000 $\overset{\Delta}{\underset{\text{A}}{\text{A}}} \begin{array}{cccc} \text{—} & \text{—} & \text{—} & \text{—} \\ 1 & 0 & 0 & 0 \end{array} \overset{\times}{\underset{\text{q}}{\text{q}}}$

01010 $\overset{\Delta}{\underset{\text{A}}{\text{A}}} \begin{array}{cccccc} \text{—} & \text{—} & \text{—} & \text{—} & \text{—} & \text{—} \\ 0 & 0 & 1 & 0 & 1 & 0 \end{array} \overset{\times}{\underset{\text{q}}{\text{q}}}$

From Ke

1001 $\overset{\times}{\underset{\text{q}}{\text{q}}} \begin{array}{cccc} \overset{\circ}{\text{—}} & \text{—} & \text{—} & \text{—} \\ 1 & 0 & 0 & 1 \end{array} \overset{\times}{\underset{\text{q}}{\text{q}}}$

1010 $\overset{\times}{\underset{\text{q}}{\text{q}}} \begin{array}{cccc} \overset{\circ}{\text{—}} & \text{—} & \text{—} & \text{—} \\ 1 & 0 & 1 & 0 \end{array} \overset{\times}{\underset{\text{q}}{\text{q}}}$

01000 $\overset{\times}{\underset{\text{q}}{\text{q}}} \begin{array}{cccc} \text{—} & \text{—} & \text{—} & \text{—} \\ 0 & 1 & 0 & 0 \end{array} \overset{\times}{\underset{\text{q}}{\text{q}}}$

01001 $\overset{\times}{\underset{\text{q}}{\text{q}}} \begin{array}{cccc} \text{—} & \text{—} & \text{—} & \text{—} \\ 0 & \text{1} & 0 & 0 \end{array} \overset{\times}{\underset{\text{q}}{\text{q}}}$

1

01010 $\overset{\times}{\underset{\text{q}}{\text{q}}} \begin{array}{cccc} \text{—} & \text{—} & \text{—} & \text{—} \\ 0 & 1 & 0 & 1 \end{array} \overset{\times}{\underset{\text{q}}{\text{q}}}$

001001 $\overset{\times}{\underset{\text{q}}{\text{q}}} \begin{array}{cccc} \text{—} & \text{—} & \text{—} & \text{—} \\ 0 & 0 & 1 & 0 \end{array} \overset{\times}{\underset{\text{q}}{\text{q}}}$

101000 $\overset{\times}{\underset{\text{q}}{\text{q}}} \begin{array}{cccc} \text{—} & \text{—} & \text{—} & \text{—} \\ 1 & 0 & 1 & 0 \end{array} \overset{\times}{\underset{\text{q}}{\text{q}}}$

01001000 $\overset{\times}{\underset{\text{q}}{\text{q}}} \begin{array}{cccc} \text{—} & \text{—} & \text{—} & \text{—} \\ 0 & 1 & 0 & 0 \end{array} \overset{\times}{\underset{\text{q}}{\text{q}}}$

$\overset{\times}{\underset{\text{q}}{\text{q}}} \begin{array}{cccc} \text{—} & \text{—} & \text{—} & \text{—} \\ 0 & 1 & 0 & 0 \end{array} \overset{\times}{\underset{\text{q}}{\text{q}}}$

1000X010 $\overset{\times}{\underset{\text{q}}{\text{q}}} \begin{array}{cccc} \overset{\circ}{\text{—}} & \text{—} & \text{—} & \text{—} \\ 1 & 0 & 0 & 0 \end{array} \overset{\times}{\underset{\text{q}}{\text{q}}}$

01000001001 $\overset{\times}{\underset{\text{q}}{\text{q}}} \begin{array}{cccc} \text{—} & \text{—} & \text{—} & \text{—} \\ 0 & 1 & 0 & 0 \end{array} \overset{\times}{\underset{\text{q}}{\text{q}}}$

Plagal First Mode - Verses (Tetrachonos)

C) Cadences on High Nee

Accented on last syllable:

From Ke

10001 $\overset{\times}{\underset{\text{q}}{\text{q}}} \curvearrowright \text{---} \text{---} \text{---} \text{---} \overset{\gamma'}{\text{n}}$
 1 0 0 0 1

From High Nee

01 $\overset{\gamma'}{\text{n}} \text{---} \text{---} \overset{\gamma'}{\text{n}}$
 0 1

Accented on second to last syllable:

From Ke

10 $\overset{\times}{\underset{\text{q}}{\text{q}}} \text{---} \text{---} \text{---} \overset{\gamma'}{\text{n}}$
 1 0

0010 $\overset{\times}{\underset{\text{q}}{\text{q}}} \text{---} \text{---} \text{---} \text{---} \overset{\gamma'}{\text{n}}$
 0 0 1 0

00010 $\overset{\times}{\underset{\text{q}}{\text{q}}} \text{---} \text{---} \text{---} \text{---} \text{---} \overset{\gamma'}{\text{n}}$
 0 0 0 1 0

From High Nee

10010 $\overset{\gamma'}{\text{n}} \text{---} \text{---} \text{---} \text{---} \text{---} \overset{\gamma'}{\text{n}}$
 1 0 0 1 0

$\overset{\gamma'}{\text{n}} \text{---} \text{---} \text{---} \text{---} \text{---} \overset{\gamma'}{\text{n}}$
 1 0 0 1 0

010010 $\overset{\gamma'}{\text{n}} \text{---} \text{---} \text{---} \text{---} \text{---} \overset{\gamma'}{\text{n}}$
 0 1 0 0 1 0

100010 $\overset{\gamma'}{\text{n}} \text{---} \text{---} \text{---} \text{---} \text{---} \overset{\gamma'}{\text{n}}$
 1 0 0 0 1 0

0100010 $\overset{\gamma'}{\text{n}} \text{---} \text{---} \text{---} \text{---} \text{---} \text{---} \overset{\gamma'}{\text{n}}$
 0 1 0 0 0 1 0

Plagal First Mode - Verses (Tetrachonos)

Accented on third to last syllable:

From Ke

100 $\overset{\times}{\underset{\grave{q}}{\bar{\cup}}} \rightarrow \bar{\cup} \rightarrow \bar{\cup} \quad \overset{\vee'}{\bar{\cup}}$
 1 0 0

$\overset{\times}{\underset{\grave{q}}{\bar{\cup}}} \rightarrow \bar{\cup} \rightarrow \bar{\cup} \quad \overset{\vee'}{\bar{\cup}}$
 1 0 0

Accented on fourth to last syllable:

From High Nee

1010 $\overset{\vee'}{\bar{\cup}} \rightarrow \bar{\cup} \rightarrow \bar{\cup} \rightarrow \bar{\cup} \rightarrow \bar{\cup} \quad \overset{\vee'}{\bar{\cup}}$
 1 0 1 0

Plagal First Mode - Verses (Tetrachordos)

D) Formulae with Fthoras

0001 $\begin{array}{c} \overset{\rho}{\Delta} \\ \underset{\delta}{\delta} \end{array} \begin{array}{c} \curvearrowright \\ 0 \end{array} \begin{array}{c} \curvearrowright \\ 0 \end{array} \begin{array}{c} \text{—} \\ 0 \end{array} \begin{array}{c} \overset{\rho}{\text{—}} \\ 1 \end{array} \begin{array}{c} \Delta \\ \underset{\delta}{\delta} \end{array}$

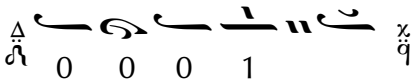
010 $\begin{array}{c} \overset{\rho}{\Delta} \\ \underset{\delta}{\delta} \end{array} \begin{array}{c} \text{—} \\ 0 \end{array} \begin{array}{c} \text{—} \\ 1 \end{array} \begin{array}{c} \text{—} \\ 0 \end{array} \begin{array}{c} \overset{\rho}{\text{—}} \\ 1 \end{array} \begin{array}{c} \Delta \\ \underset{\delta}{\delta} \end{array}$


Plagal First Mode - Verses (Tetraphonos)

E) Final Cadences

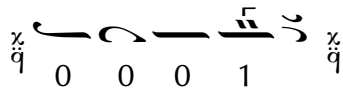
Accented on last syllable:

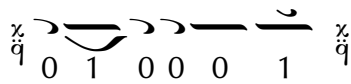
From Di

0001 

010001 

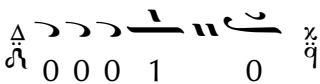
From Ke

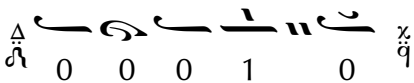
0001 

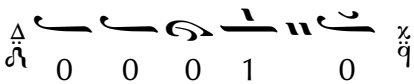
010001 

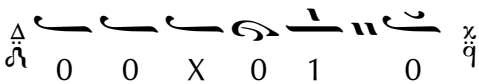
Accented on second to last syllable:

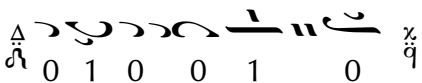
From Di

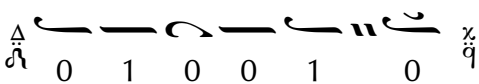
00010 





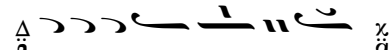
00X010 

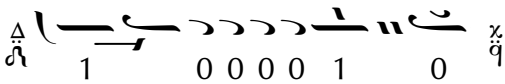
010010 




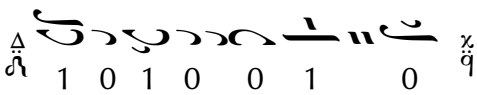
Plagal First Mode - Verses (Tetraphonos)

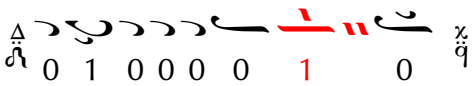
100010  $\frac{x}{q}$

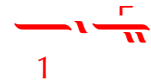
 $\frac{x}{q}$


1000010  $\frac{x}{q}$

 $\frac{x}{q}$

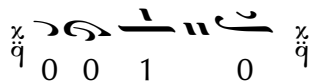
1010010  $\frac{x}{q}$

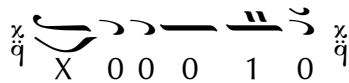
01000010  $\frac{x}{q}$

 $\frac{x}{q}$

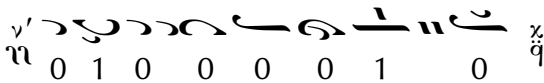
 $\frac{x}{q}$

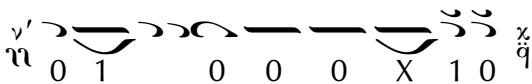
From Ke

0010  $\frac{x}{q}$

X00010  $\frac{x}{q}$

From High Nee

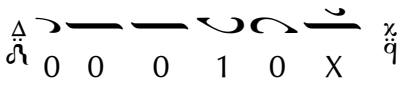
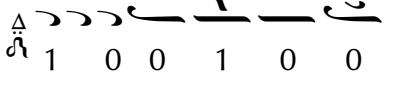
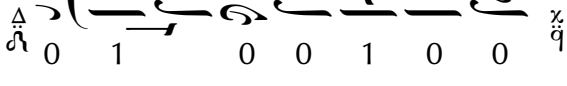
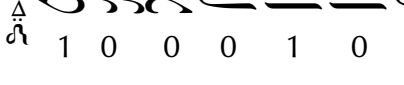
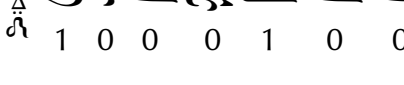
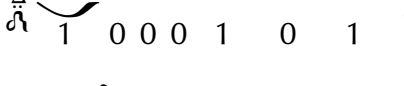
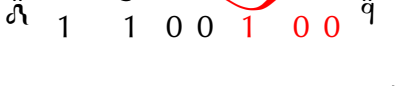

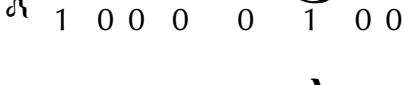
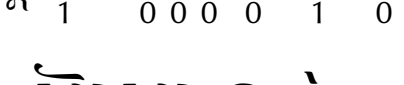
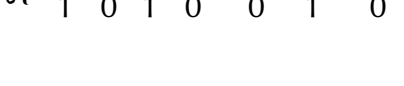
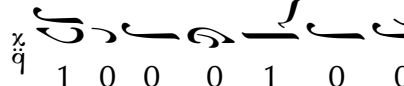
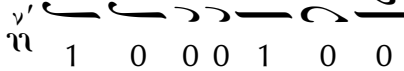
01000010  $\frac{x}{q}$

01000X10  $\frac{x}{q}$

Accented on third to last syllable:

From Di

Plagal First Mode - Verses (Tetraphonos)

00010X		
100100		
0100100		
1000100		
		
1000101		
1100100		
10000100		
		
10100100		
<u>From Ke</u>		
1000100		
<u>From High Nee</u>		
1000100		

Accented on fourth to last syllable:

Plagal First Mode - Verses (Tetraphonos)

From Di

1001	
01001	
00X010	
001001001	
001001010	

From Ke

0100X010	
----------	--

From High Nee

100001010	



Plagal Second Mode



BYZANTINE MUSIC FORMULAE

Plagal Second Mode - Sticheraric

Contents*

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A) Accented on Last Syllable	524
B) Accented on Second to Last Syllable	529
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D) Accented on Fourth to Last Syllable	538
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F) Accented on Second to Last Syllable	546
G) Accented on Third to Last Syllable	555
H) Accented on Fourth to Last Syllable	563
<u>Medial Cadences on Ke</u>	
I) Accented on Last Syllable	569
J) Accented on Second to Last Syllable	573
K) Accented on Third to Last Syllable	579
L) Accented on Fourth to Last Syllable	583
<u>Other Formulae</u>	
M) Fthoras	585
N) Old (slow) Sticheraric Formulae	590
<u>Ending Cadences</u>	
O) Final Cadences	602
P) Final Cadences for Theotokia	607

* The Byzantine music formulae herein were extracted from sticheraric melodies found in the *Zoe Anastasi-matarion* (14th edition, 2002) Volume I of *Mousike Kypsele* (1883 edition), and the first volume of *Athonias* (1906 edition) by Petros Philanthidis.

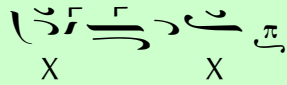
Key:

1 = accented syllable
0 = unaccented syllable
X = syllable that may be either
 accented or unaccented

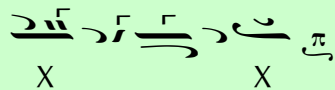
Variations of the same formula
are indicated in color

Medial Cadences on Pa

Note that all plagal second cadences with a "kylisma" of the old notation:



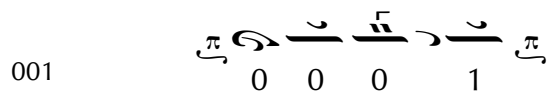
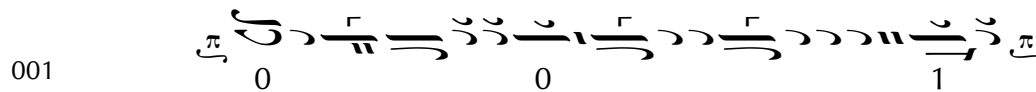
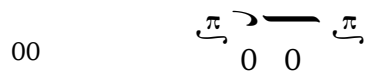
may be substituted by either of the following two cadences:



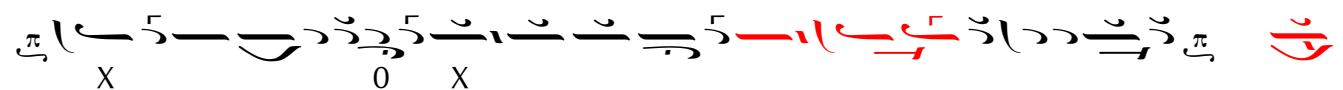
Also note that when using this melodic formula, it is usually the second to last syllable that is accented. It is only occasionally used for a word accented on the last syllable. Since such instances sound as if the melody incorrectly accentuates the text, these instances are highlighted in this section.

A) Accented on Last Syllable

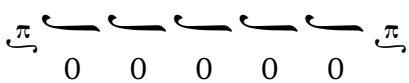
Pa - Pa



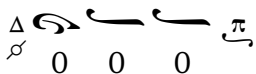
X0X



Plagal Second Mode - Sticheraric

00000 π  π

Di - Pa

000 Δ  π


0001 Δ  π

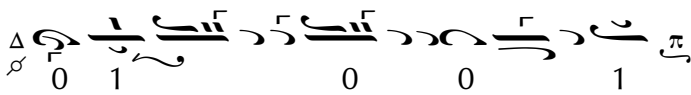
10XX Δ  π 


00X0X Δ  π






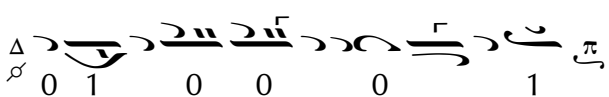


01001 Δ  π

10001 Δ  π

 π



010001 Δ  π

Plagal Second Mode - Sticheric

Δ

Δ

001001 Δ

100001 Δ

0010XX Δ

110001 Δ

0010001 Δ

0100001 Δ

Δ

Plagal Second Mode - Sticheric

X010001	
	X 0 1 0 0 0 1
1000001	
	1 0 0 0 0 0 0 1
1000001	
	1 0 0 0 0 0 0 1
1000001	
	1 0 0 0 0 0 1
	0 0 0 0 0 0 0
	0 0 0 0 0 0 0
10000001	
	1 0 0 0 0 0 0 1
	0 0 0 0 0 0 0
	0 0 0 0 0 0 0
10001001	
	1 0 0 0 1 0 0 1
X0100001	
	X 0 1 0 0 0 0 1
	0 0

Plagal Second Mode - Sticheraric

0 0

0X010001

Ke - Pa

This section is almost empty because melodies in this mode rarely move from Ke directly to Pa.

100001

10001001

Plagal Second Mode - Sticheraric

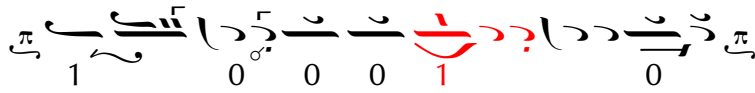
B) Accented on Second to Last Syllable

Pa - Pa

Most of these melodies may also be used as initial formulae.

10		10	
010		10	
0010			
1010			
00010			
01010			
10010			
010010			
100010			

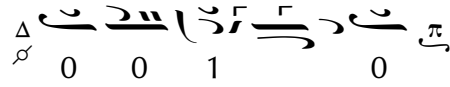
Plagal Second Mode - Sticheraric

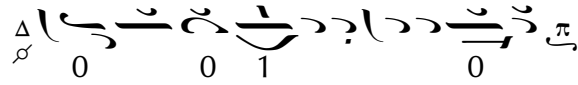
π  π
 1 0 0 0 1 0


 1

Di - Pa

0010

Δ  π
 ρ 0 0 1 0

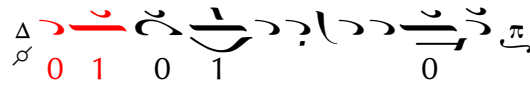
Δ  π
 ρ 0 0 1 0

10XX

Δ  π
 ρ 1 0 X X


 1 0

01010

Δ  π
 ρ 0 1 0 1 0



 0 1


 0 1

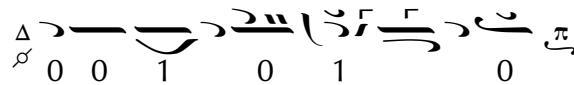
10010

Δ  π
 ρ 1 0 0 1 0


 0 0

Δ  π
 ρ 1 0 0 1 0

001010

Δ  π
 ρ 0 0 1 0 1 0

Δ  π
 ρ 0 0 1 0 1 0


 0 0 1 0

Plagal Second Mode - Sticheric

0010XX

0 1 0

0 0 1 0 X X

1 0

010010

0 1 0 0 1 0

0

0 1 0 0 1 0

0 1 0 0 1 0

100010

1 0 0 0 1 0

1 0 0

0 0

110010

1 1 0 0 1 0

0100010

0 1 0 0 0 1 0

0

0 1 0 0 0 1 0

1001010

1 0 0 1 0 1 0

1 0 0 1 0

0 1 0

Plagal Second Mode - Sticheraric

X010010

1000010

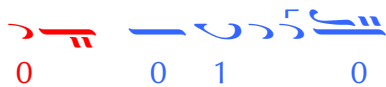
X0100010

10000010

10000010

10001010

Plagal Second Mode - Sticheric



0X010010 $\overset{\Delta}{\sigma}$ π

Ke - Pa

This section is almost empty because melodies in this mode rarely move from Ke directly to Pa.

010X010 $\overset{x}{\sigma}$ π

Plagal Second Mode - Sticheraric

C) Accented on Third to Last Syllable

Pa - Pa

Most of these melodies may also be used as initial formulae.

100

1 0 0

1 0 0

1 0 0

X0X

X 0 X

0100

0 1 0 0

010100

0 1 0 1 0 0

100100

1 0 0 1 0 0

0

00010100

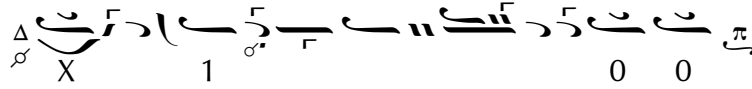
0 0 0 1 0 1 0 0

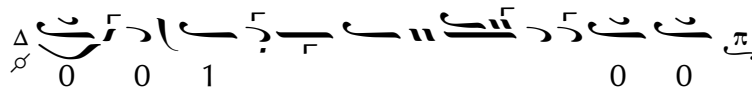
Di - Pa


100

1 0 0

Plagal Second Mode - Sticheric

X100 

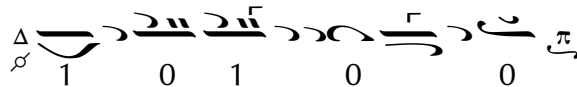
00100 

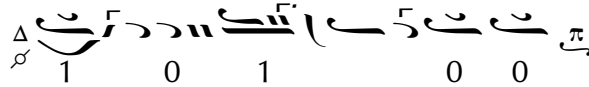
00X0X 

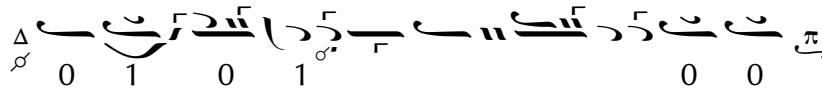


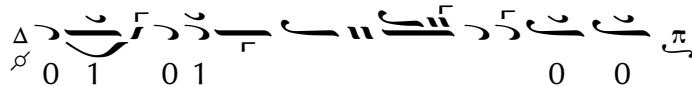


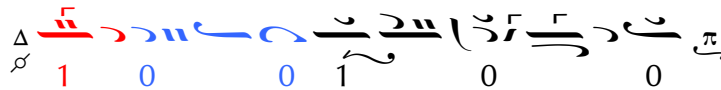


10100 



010100 



100100 

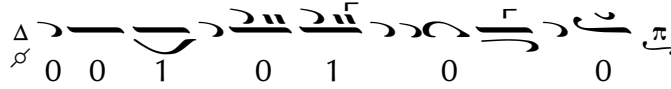


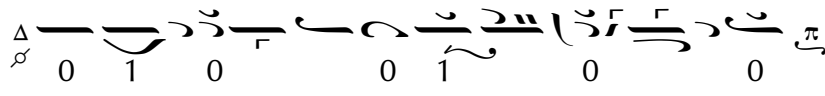


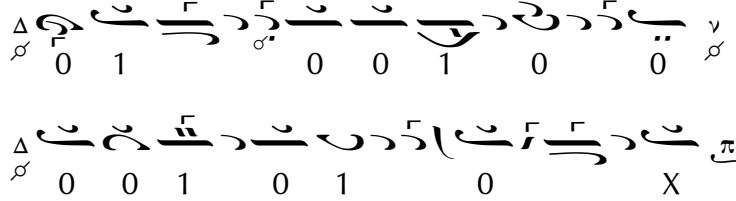


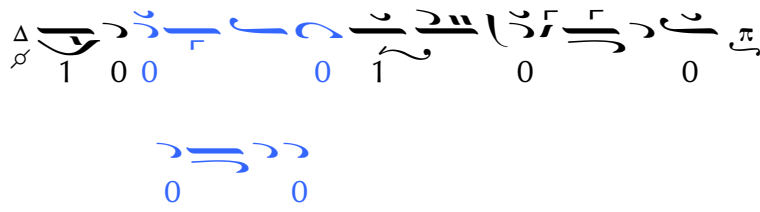


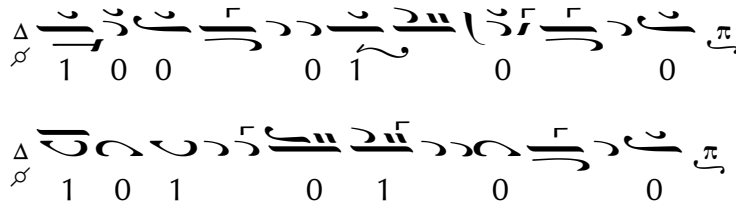
Plagal Second Mode - Sticheraric

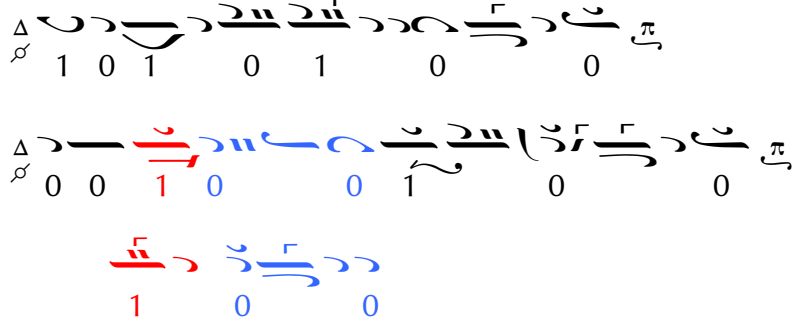
0010100 

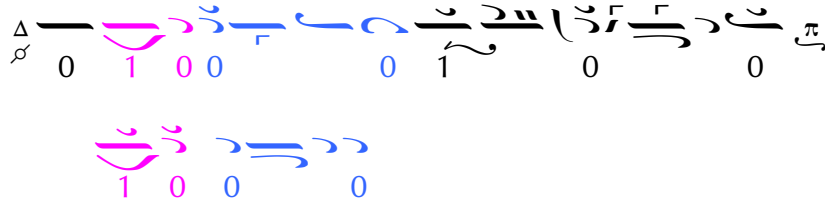
0100100 

001010X 

1000100 

1010100 

00100100 

01000100 

Ke - Pa

This section is almost empty because melodies in this mode rarely move from Ke directly to Pa.

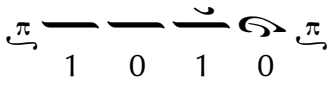
Plagal Second Mode - Sticheraric

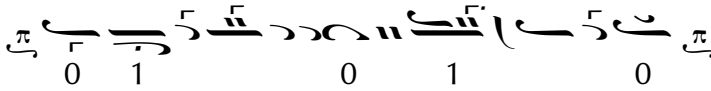
00100



D) Accented on Fourth to Last Syllable

Pa - Pa

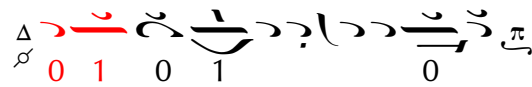
1010 

01010 

Di - Pa

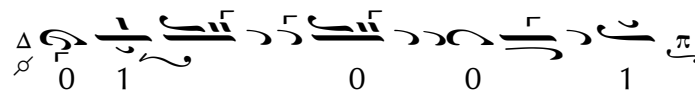
10XX 

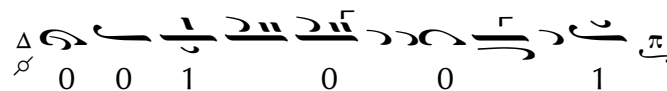
1001 

01010 






01001 

001001 

001010 





Plagal Second Mode - Sticheraric

0010XX

0 0 1 0 X X

1 0

1001010

1 0 0 1 0 1 0

1 0 0 1 0 0 1 0

0 1 0

10001001

1 0 0 0 1 0 0 1

10001010

1 0 0 0 1 0 1 0

0 0 1 0

0 1 0

Ke - Pa

This section is almost empty because melodies in this mode rarely move from Ke directly to Pa.

010X010

0 1 0 X 0 1 0

1000X001

1 0 0 0 X 0 0 1

Medial Cadences on Di

E) Accented on Last Syllable

Pa - Di

01		
001		
0X01		
0X01		
1001		
01001		
01X0X		
10001		

Plagal Second Mode - Sticheraric

	π		
001001	π		
	π		
	π		
010001	π		
	π		
101001	π		
	π		
0010001	π		
	π		
0100001	π		
00010001	π		

Di - Di

This section is large because melodies in this mode frequently have more than one consecutive medial cadence on Di.

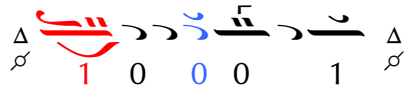
00000	Δ		
001	Δ		


Plagal Second Mode - Sticheraric

	Δ ρ 0 0 1 ρ	
0001	Δ ρ 0 0 0 1 ρ	
	Δ ρ 0 0 0 1 ρ	Δ ρ 0 1 ρ
	Δ ρ 0 0 0 1 ρ	
00001	Δ ρ 0 0 0 0 1 ρ	
	Δ ρ 0 0 0 0 1 ρ	Δ ρ 1 ρ
10001	Δ ρ 1 0 0 0 1 ρ	Δ ρ 0 0 ρ
	Δ ρ 1 0 0 0 1 ρ	Δ ρ 0 0 ρ
	Δ ρ 1 0 0 0 1 ρ	
	Δ ρ 1 0 0 0 1 ρ	Δ ρ 1 ρ
	Δ ρ 1 0 0 0 1 ρ	Δ ρ 1 0 ρ

Plagal Second Mode - Sticheraric

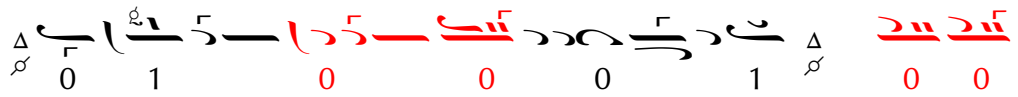


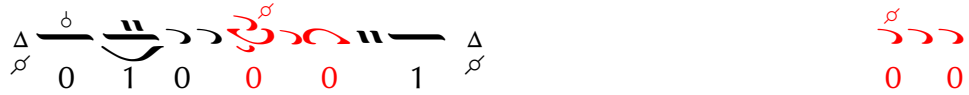


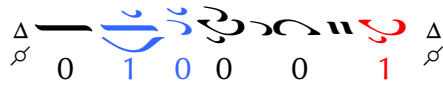




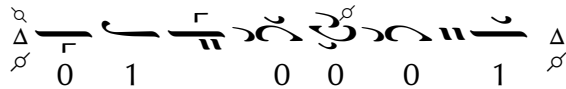
010001









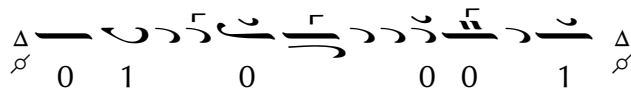












Plagal Second Mode - Sticheraric

100001	Δ ρ 1 0 0 0 0 1 ρ
0010001	Δ ρ 0 0 1 0 0 0 1 ρ
00010001	Δ ρ 0 0 0 1 0 0 0 1 ρ
01010001	Δ ρ 0 1 0 1 0 0 0 1 ρ
000100001	Δ ρ 0 0 0 1 0 0 0 0 1 ρ

Ke - Di

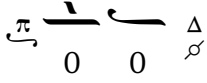
01	Δ ρ 0 1 ρ	Δ ρ 0 1 ρ	
10001	Δ ρ 1 0 0 0 1 ρ	Δ ρ 1 0 0 0 1 ρ	
010001	Δ ρ 1 0 0 0 1 ρ		
010001	Δ ρ 0 1 0 0 0 1 ρ		ρ 0
100001	Δ ρ 1 0 0 0 0 1 ρ		
X00X0X	Δ ρ X 0 0 X 0 X ρ		ρ 0
X00X0X	Δ ρ X 0 0 X 0 X ρ		ρ 0
0010X0X	Δ ρ 0 0 1 0 X 0 X ρ		

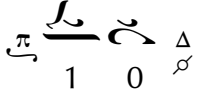
Plagal Second Mode - Sticheraric

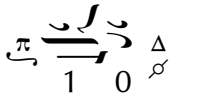
0100X01	
0100X0X	
1000X0X	
00100X01	


F) Accented on Second to Last Syllable

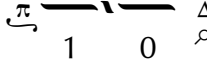
Pa - Di

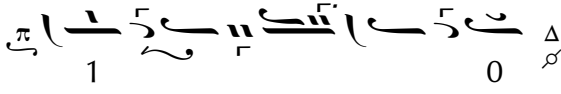
00 

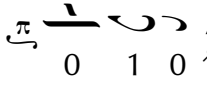
10 

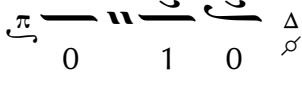


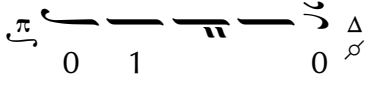


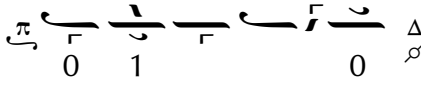


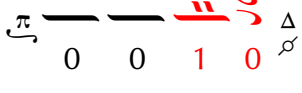


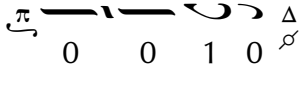
010 

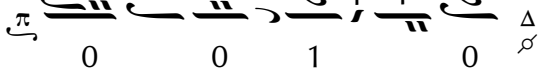


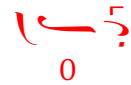
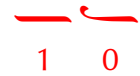




0010 



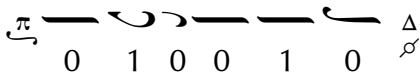
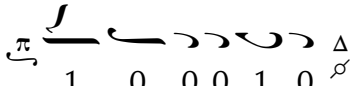
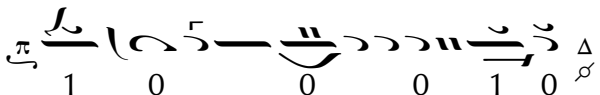
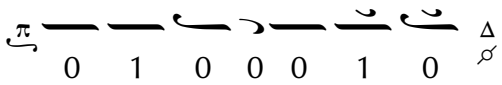

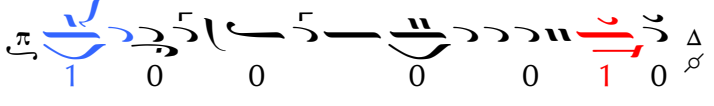

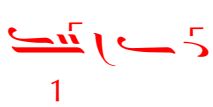
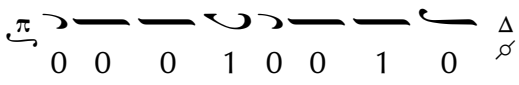
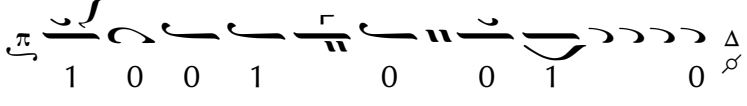
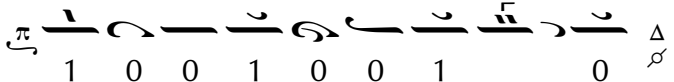


Plagal Second Mode - Sticheraric

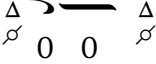
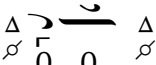
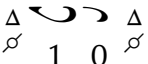
0X10	
00010	
01010	
10010	
001010	

Plagal Second Mode - Sticheraric

010010	π 
	0 1 0 0 1 0 Δ σ
100010	π 
	1 0 0 0 1 0 Δ σ
	π 
	1 0 0 0 1 0 Δ σ
0100010	π 
	0 1 0 0 0 1 0 Δ σ
010X010	π 
	0 1 0 X 0 1 0 Δ σ
1000010	π 
	1 0 0 0 0 1 0 Δ σ
	 
	1 1
00010010	π 
	0 0 0 1 0 0 1 0 Δ σ
10010010	π 
	1 0 0 1 0 0 1 0 Δ σ
	π 
	1 0 0 1 0 0 1 0 Δ σ

Di - Di

This section is large because melodies in this mode frequently have more than one consecutive medial cadence on Di.

00	Δ 
	σ 0 0 σ
	Δ 
	σ 0 0 σ
10	Δ 
	σ 1 0 σ

Plagal Second Mode - Sticheric

Δ
 α 1 0 α

Δ
 α 1 0 α

Δ
 α 1 0 α

α
 1

α
 1

Δ
 α 1 0 α

010

Δ
 α 0 1 0 α

Δ
 α 0 1 0 α

Δ
 α 0 1 0 α

α
 0

Δ
 α 0 1 0 α

Δ
 α 0 1 0 α

Δ
 α 0 1 0 α

Δ
 α 0 1 0 α

α
 0 1

0010

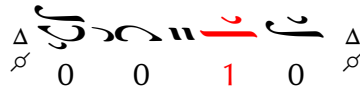

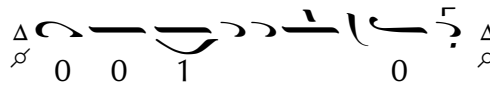
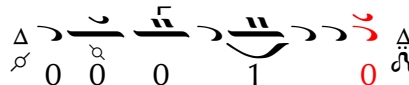



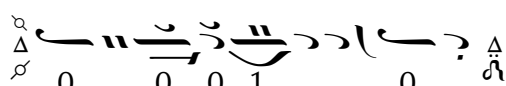
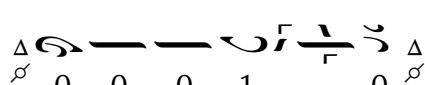
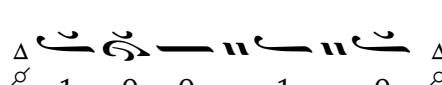
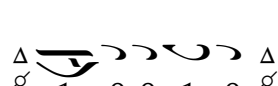
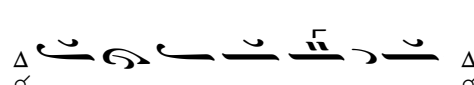
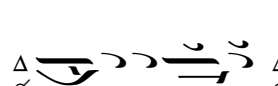
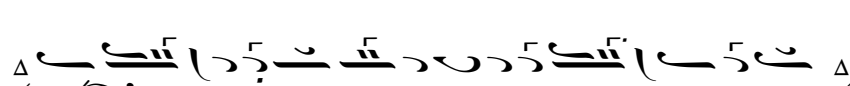
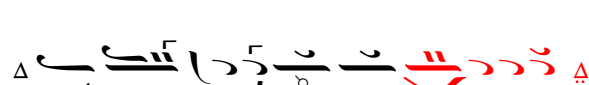


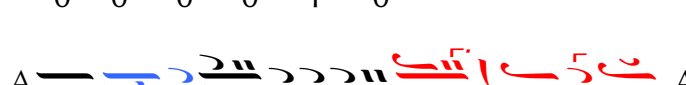
Δ
 α 0 0 1 0 α

Δ
 α 0 0 1 0 α

α
 1

Δ
 α 0 0 1 0 α


Plagal Second Mode - Sticheric

		
		
00010		
		
		
		
10010		
		
		
		
X0010		
		
000010		
010010		

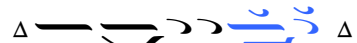
Plagal Second Mode - Sticheraric


1



1 0

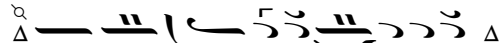

1 0


1 0

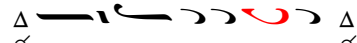

0 1 0 0 1 0


1 0


0 1 0 0 1 0



0 1 0 0 1 0

100010


1 0 0 0 1 0



1


X00010


X 0 0 0 1 0



0


0


0

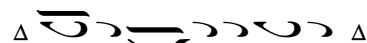

X 0 0 0 1 0

0010010



0 0 1 0 0 1 0


1 0

1010010


1 0 1 0 0 1 0

010X010


0 1 0 X 0 1 0

Plagal Second Mode - Sticheraric

Δ ————— Δ
 ρ 0 1 0 X 0 1 0 ρ
0 1 0 1 0 1 0

Δ ————— Δ
 ρ 0 1 0 X 0 1 0 ρ

0100010
 Δ ————— Δ
 ρ 0 1 0 0 0 1 0 ρ

01000010
 Δ ————— Δ
 ρ 0 1 0 0 0 0 1 0 ρ

01010010
 Δ ————— Δ
 ρ 0 1 0 1 0 0 1 0 ρ

Ke - Di

00
 Δ ————— Δ
 ρ 0 0 ρ

Δ ————— Δ
 ρ 0 0 ρ

10
 Δ ————— Δ
 ρ 1 0 ρ

010
 Δ ————— Δ
 ρ 0 1 0 ρ

110
 Δ ————— Δ
 ρ 1 1 0 ρ

0010
 Δ ————— Δ
 ρ 0 0 1 0 ρ

0X010
 Δ ————— Δ
 ρ 0 X 0 1 0 ρ 1 0

Plagal Second Mode - Sticheraric

1 0

10010

1 0 0 1 0

1 0 0 1 0

1

1 0

1

1 0

1

1 0

00X0X0

0 0 X 0 X 0

010010

0 1 0 0 1 0

100010

1 0 0 0 1 0

1 0 0 0 0 1 0

10X010

1 0 X 0 1 0

0

1 0

1 0

1 0

1 0

Plagal Second Mode - Sticheric

000X010

$\overset{x}{\curvearrowright}$
 $\overset{\Delta}{\curvearrowleft}$

100X010

$\overset{x}{\curvearrowright}$
 $\overset{\Delta}{\curvearrowleft}$

100X010

$\overset{x}{\curvearrowright}$
 $\overset{\Delta}{\curvearrowleft}$

1010010

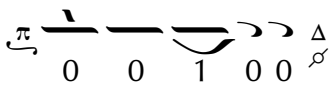

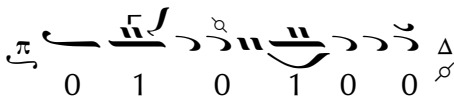
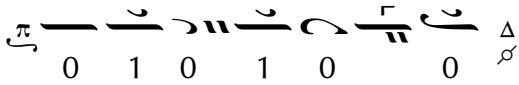

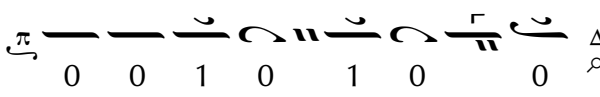
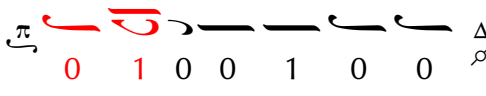
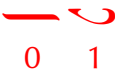
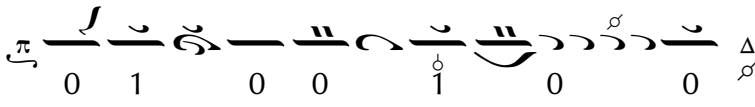
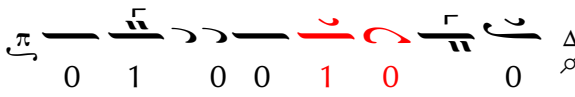

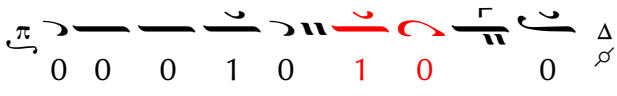

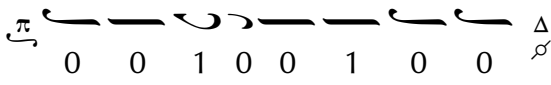
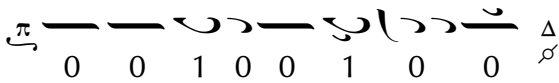
$\overset{\circ}{x}$
 $\overset{\Delta}{\curvearrowleft}$

G) Accented on Third to Last Syllable

Pa - Di

100		
0100		
0X01		
0X01		
0X10		
00100		

Plagal Second Mode - Sticheraric

		
10100		
010100		
		
100100		
0010100		
0100100		
		
		
00010100		
00100100		
		

Di - Di

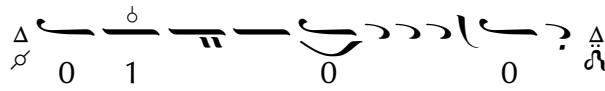
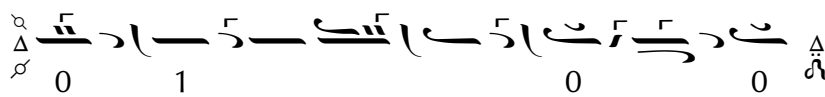
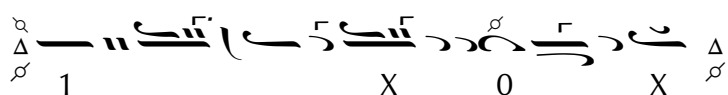
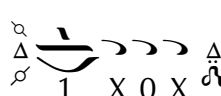
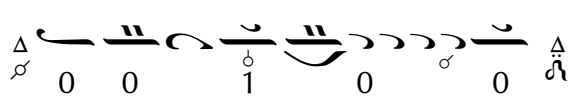
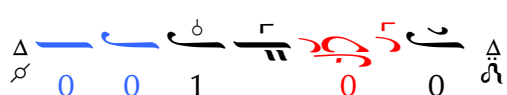


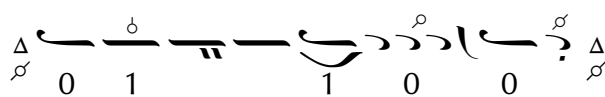




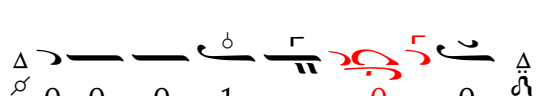

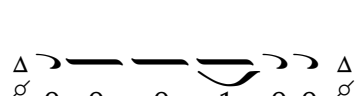
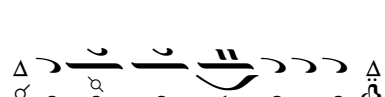
This section is large because melodies in this mode frequently have more than one consecutive medial cadence on Di.

100		
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Plagal Second Mode - Sticheraric

0100

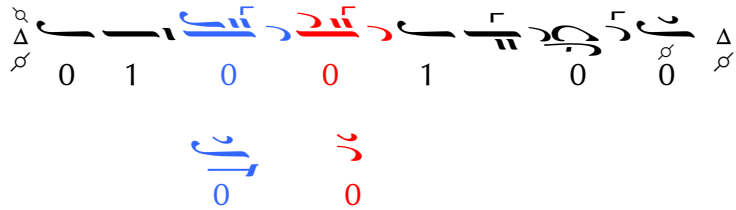
Plagal Second Mode - Sticheric

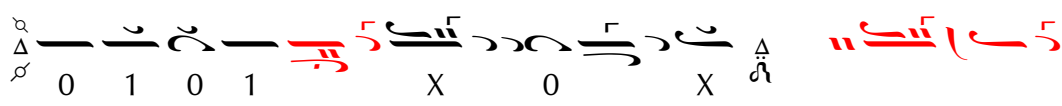
		
		
1X0X		
		
00100		
		
		
01100		
10100		
		
		
000100		
		
		

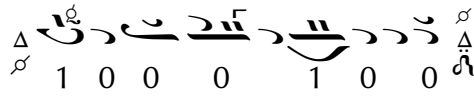
Plagal Second Mode - Sticheraric

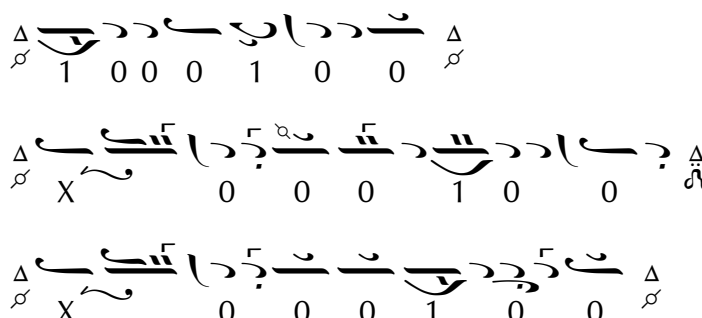
010100	Δ Δ 0 1 0 1 0 0	 1 0
	Δ Δ 0 1 0 1 0 0	
	Δ Δ 0 1 0 1 0 0	
	Δ Δ 0 1 0 1 0 0	
	 1 0 1 0	
100100	Δ Δ 1 0 0 1 0 0	 0
	Δ Δ 1 0 0 1 0 0	
	Δ Δ 1 0 0 1 0 0	
	Δ Δ 1 0 0 1 0 0	
	 0	
	 0	
101X0X	Δ Δ 1 0 1 X 0 X	

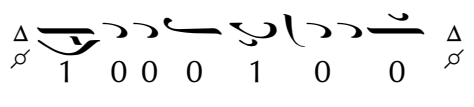
Plagal Second Mode - Sticheric

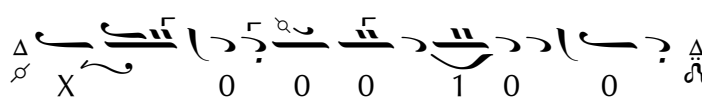
0100100 

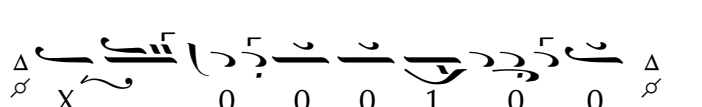
0101X0X  **5 7**

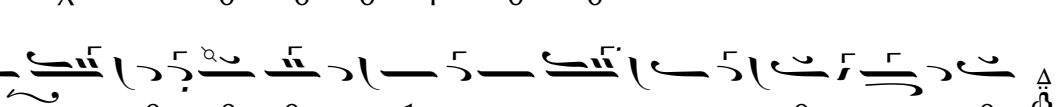
1000100 

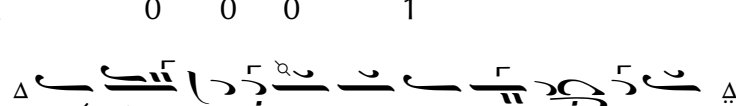
X000100 

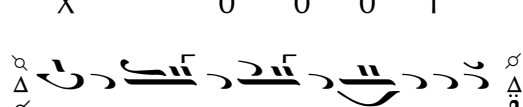
 1 0 0 0 1 0 0

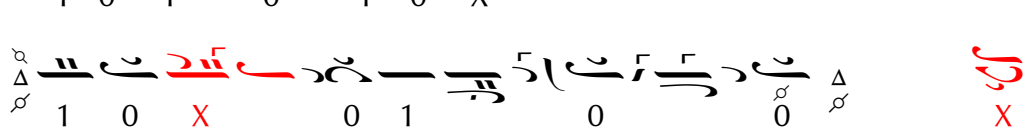
 X 0 0 0 1 0 0

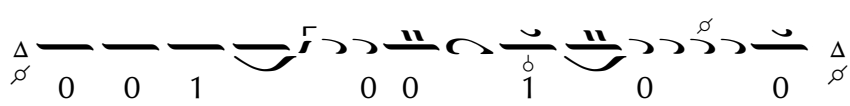
 X 0 0 0 1 0 0

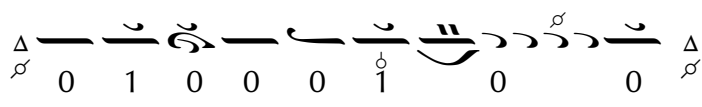
 X 0 0 0 1 0 0

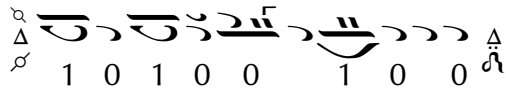
 X 0 0 0 1 0 0

101010X 


10X0100  **3 5**

00100100 

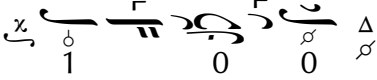
01000100 

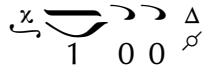
10100100 

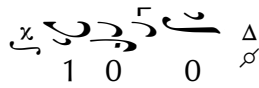
Plagal Second Mode - Sticheraric


0010010100  Δ

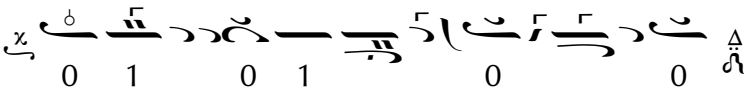
Ke - Di

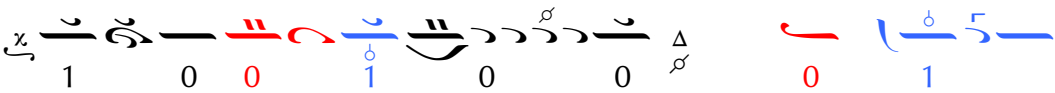
100  Δ

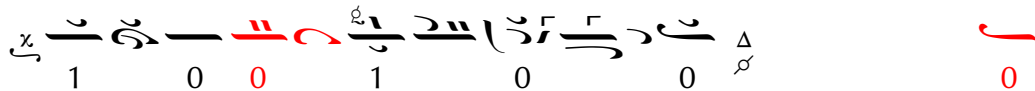
 Δ

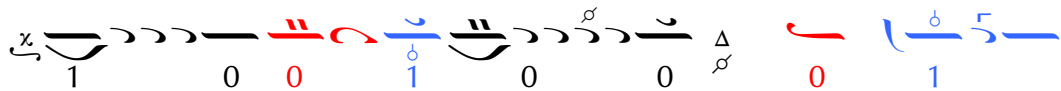
 Δ


00100  Δ

010100  Δ

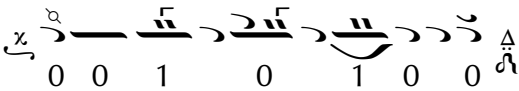
100100  Δ

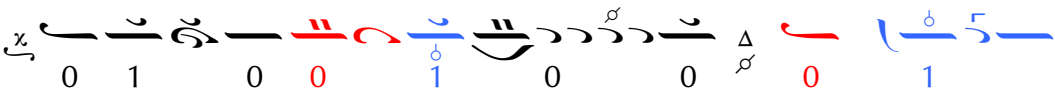
 Δ

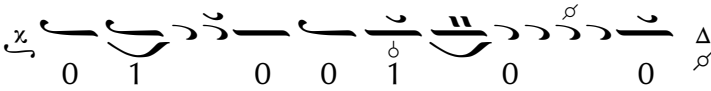
 Δ

X00X0X  Δ

 Δ

0010100  Δ

0100100  Δ

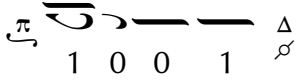
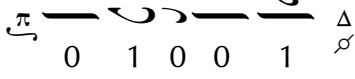
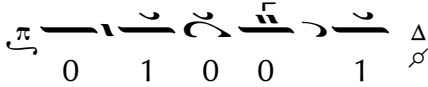
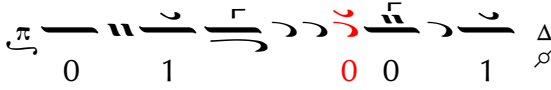
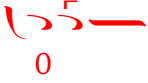
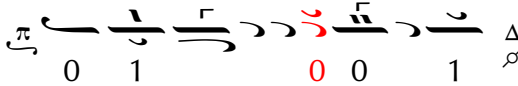
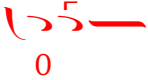
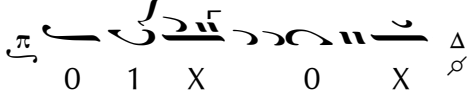
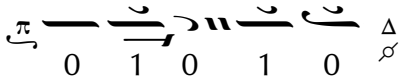
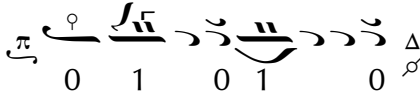
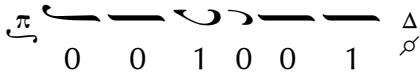
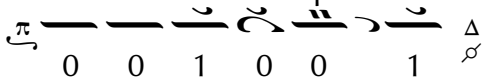
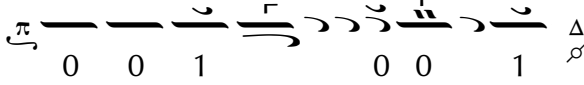
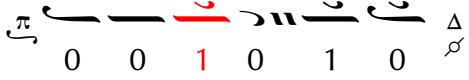


0100100  Δ

Plagal Second Mode - Sticheraric

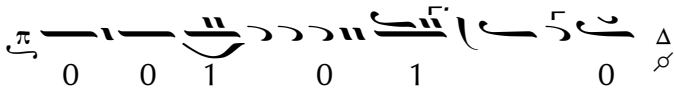
0010X0X		
0100X01		
0100X0X		
10X0100		
1000100		
1000X0X		
00100100		
01000100		

H) Accented on Fourth to Last Syllable

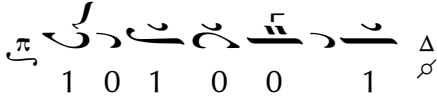
Pa - Di

1001		
01001		
		
		
		
01X0X		
01010		
		
001001		
		
		
001010		
		


Plagal Second Mode - Sticheraric



 0 0 1 0 1 0

101001
 

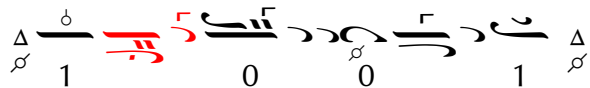

 1 0 1 0 0 1



010X010
 

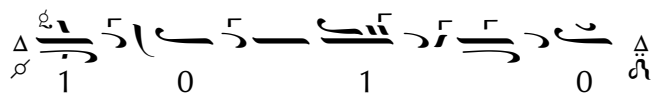
 0 1 0 X 0 1 0

Di - Di

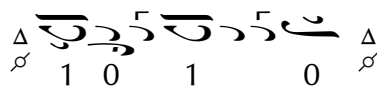
This section is large because melodies in this mode frequently have more than one consecutive medial cadence on Di.

1001
 


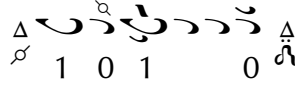
1010
 




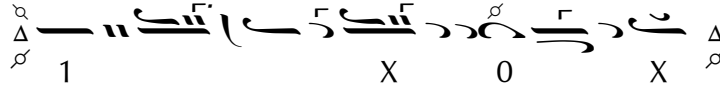
 1 0 1 0 1 0




 1 0 1 0



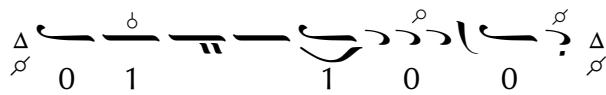
 1 0 1 0

1X0X
 

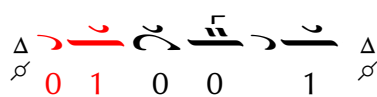
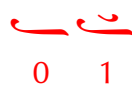
 1 X 0 X



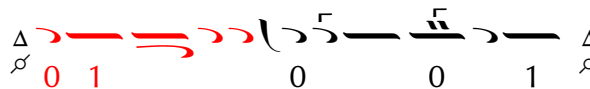

 1 X 0 X

01100
 

 0 1 1 0 0

01001
 


 0 1 0 0 1

 0 1 0 0 1

Plagal Second Mode - Sticheric

	Δ μ 0 1 0 0 1 Δ	Δ μ 0
01010	Δ μ 0 1 0 1 0 Δ	Δ μ 0
	Δ μ 0 1 0 1 0 Δ	Δ μ 0 1 0
101001	Δ μ 1 0 1 0 0 1 Δ	
101010	Δ μ 1 0 1 0 1 0 Δ	
001010	Δ μ 0 0 1 0 1 0 Δ	
101X0X	Δ μ 1 0 1 X 0 X Δ	Δ μ
0101X0X	Δ μ 0 1 0 1 X 0 X Δ	Δ μ
0001001	Δ μ 0 0 0 1 0 0 1 Δ	Δ μ 1 0
0001010	Δ μ 0 0 0 1 0 1 0 Δ	Δ μ 1 0
0101010	Δ μ 0 1 0 1 0 1 0 Δ	
	Δ μ 0 1 0 1 0 1 0 Δ	
010X010	Δ μ 0 1 0 X 0 1 0 Δ	
	Δ μ 0 1 0 X 0 1 0 Δ	

Plagal Second Mode - Sticheraric

00101001

0 0 1 0 1 0 0 1

01001010

0 1 0 0 1 0 1 0

010001001

0 1 0 0 0 1 0 0 1

1 0

1 0

Ke - Di

01001

0 1 0 0 1

01010

0 1 0 1 0

0X010

0 X 0 1 0

1 0

1 0

00X0X0

0 0 X 0 X 0

10X010

1 0 X 0 1 0

0

1 0

Plagal Second Mode - Sticheric

1 0

1 0

1 0

100X010

1 0 0 X 0 1 0 Δ

0 0

0 1 0

1001001

1 0 0 1 0 0 1 Δ 0 1

1 0 0 1 0 0 1 Δ 0 1

X001001

X 0 0 1 0 0 1 Δ 0 1

0 0 0 1 0 0 1 Δ 0 1

100X010

1 0 0 X 0 1 0 Δ

1 0 0

0 1 0

1 0 0

0 1 0

1 0 0 X 0 1 0 Δ

0 0

0 1 0

1

0 1 0

Plagal Second Mode - Sticheraric

01001001

0 1 0 0 1 0 0 1

0 1 0 0 1 0 0 1

0 0 1

10X01001

1 0 X 0 1 0 0 1

1

10001001

1 0 0 0 1 0 0 1

0 1

001001001

0 0 1 0 0 1 0 0 1

010001001

0 1 0 0 0 1 0 0 1

0 1 0 0 1

1 0

Medial Cadences on Ke

I) Accented on Last Syllable







Pa - Ke

0	
1	
001	
X001	
1001	
01001	
10001	
10X01	
001001	







(The above formula is usually found only near the end of a troparion.)

100001		
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Plagal Second Mode - Sticheraric

π       χ

1 0 0 0 0 1

0010001 π       χ

0 0 1 0 0 1



 

0 1



Di - Ke

0 Δ  χ




ρ 0

01 Δ   χ




ρ 0 1

Δ   χ

ρ 0 1













001 Δ    χ

ρ 0 0 1




Δ    χ

ρ 0 0 1













X0X

Δ             χ



ρ X 0 X

X001

Δ             χ

ρ X 0 0 1

X

Plagal Second Mode - Sticheraric

0101 Δ
 $\begin{array}{cccc} \text{—} & \text{—} & \text{—} & \text{—} \\ \text{0} & \text{1} & \text{0} & \text{1} \end{array}$

10X01 Δ
 $\begin{array}{cccc} \text{—} & \text{—} & \text{—} & \text{—} \\ \text{1} & \text{0} & \text{X} & \text{1} \end{array}$

0010001 Δ
 $\begin{array}{ccccccc} \text{—} & \text{—} & \text{—} & \text{—} & \text{—} & \text{—} & \text{—} \\ \text{0} & \text{0} & \text{1} & \text{0} & \text{0} & \text{0} & \text{1} \end{array}$

0010X01 Δ
 $\begin{array}{ccccccc} \text{—} & \text{—} & \text{—} & \text{—} & \text{—} & \text{—} & \text{—} \\ \text{0} & \text{0} & \text{1} & \text{0} & \text{X} & \text{0} & \text{1} \end{array}$

Ke - Ke

0000 $\begin{array}{cccc} \text{—} & \text{—} & \text{—} & \text{—} \\ \text{0} & \text{0} & \text{0} & \text{0} \end{array}$

001 $\begin{array}{ccc} \text{—} & \text{—} & \text{—} \\ \text{0} & \text{0} & \text{1} \end{array}$

$\begin{array}{ccc} \text{—} & \text{—} & \text{—} \\ \text{0} & \text{0} & \text{1} \end{array}$

X0X

$\begin{array}{cccccccccccc} \text{—} & \text{—} & \text{—} & \text{—} & \text{—} & \text{—} & \text{—} & \text{—} & \text{—} & \text{—} & \text{—} & \text{—} \\ \text{X} & & & & \text{0} & \text{X} & & & & & & & \end{array}$

$\begin{array}{cc} \text{—} & \text{—} \\ \text{—} & \text{—} \end{array}$

$\begin{array}{c} \text{—} \\ \text{—} \end{array}$

$\begin{array}{c} \text{—} \\ \text{—} \end{array}$

0001 $\begin{array}{cccc} \text{—} & \text{—} & \text{—} & \text{—} \\ \text{0} & \text{0} & \text{0} & \text{1} \end{array}$

$\begin{array}{c} \text{—} \\ \text{0} \end{array}$

$\begin{array}{c} \text{—} \\ \text{1} \end{array}$

$\begin{array}{cccc} \text{—} & \text{—} & \text{—} & \text{—} \\ \text{0} & \text{0} & \text{0} & \text{1} \end{array}$

$\begin{array}{c} \text{—} \\ \text{1} \end{array}$

X001

Plagal Second Mode - Sticheraric

ξ
 ξ

00X0X

ξ
 ξ

10001

ξ
 ξ

00X001

ξ
 ξ

010001

ξ
 ξ

100010X

ξ
 ξ

100010001

ξ
 ξ

J) Accented on Second to Last Syllable

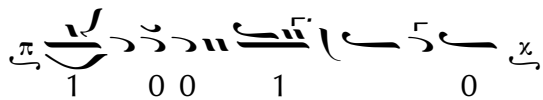
Pa - Ke

00	
10	
010	

Plagal Second Mode - Sticheraric

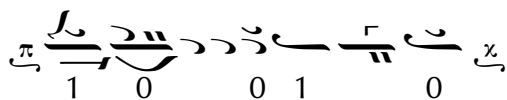
0010		
1010		
01010		
00010		
10010		

Plagal Second Mode - Sticheraric



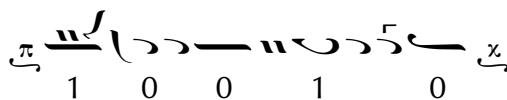
 π

 1 0 0 1 0



 π

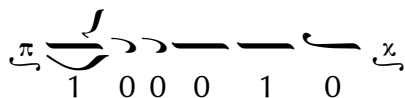
 1 0 0 1 0



 π

 1 0 0 1 0

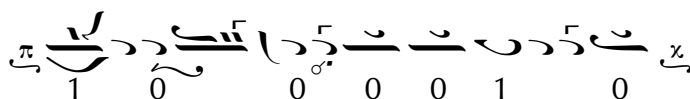
100010



 π

 1 0 0 0 1 0

1000010

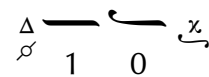


 π

 1 0 0 0 0 1 0

Di - Ke

10

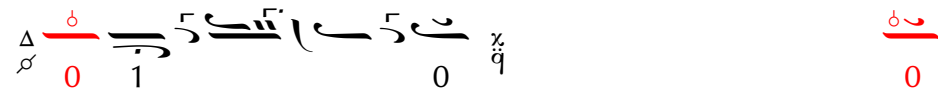


 Δ

 ρ

 1 0


010



 Δ

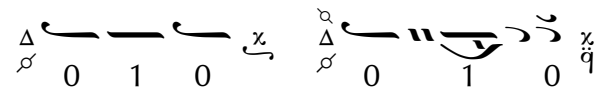
 ρ

 0 1 0



 ρ


 0



 Δ

 ρ

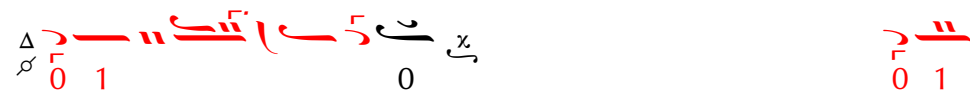
 0 1 0



 Δ

 ρ


 0 1 0



 Δ

 ρ

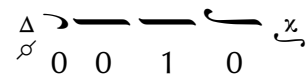
 0 1 0



 ρ

 0 1

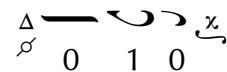
0010



 Δ

 ρ

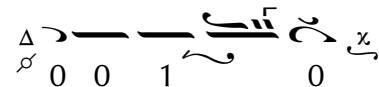
 0 0 1 0



 Δ

 ρ

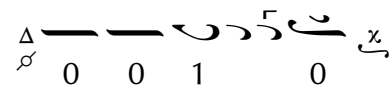
 0 1 0



 Δ

 ρ

 0 0 1 0



 Δ

 ρ

 0 0 1 0

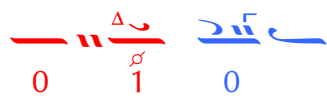
Plagal Second Mode - Sticheraric

	Δ		ξ	
	ρ	0 0 1 0		
00010	Δ		ξ	
	ρ	0 0 0 1 0		
X00010	Δ		ξ	
	ρ	X 0 0 0 1 0		
010010	Δ		ξ	
	ρ	0 1 0 0 1 0		
0010010	Δ		ξ	
	ρ	0 0 1 0 0 1 0		
0100010	Δ		ξ	
	ρ	0 1 0 0 0 1 0		
	ρ	0 1 0 0		
	Δ		ξ	
	ρ	0 1 0 0 0 1 0		

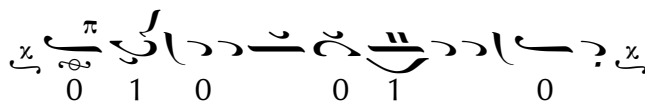
Ke - Ke

10	ξ		ξ
		1 0	
	ξ		ξ
		1 0	
	ξ		ξ
		1 0	
010	ξ		ξ
		0 1 0	

Plagal Second Mode - Sticheraric

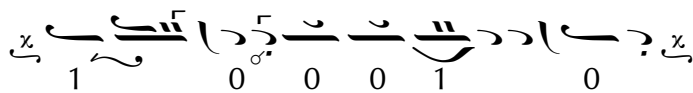


 0 1 0



 0 1 0 0 1 0

100010



 1 0 0 0 1 0

0100010

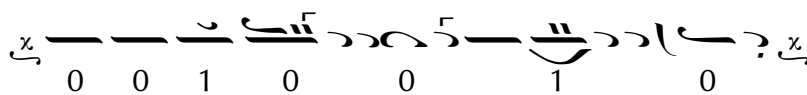


 0 1 0 0 0 1 0



 0

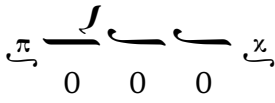
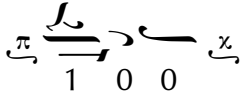
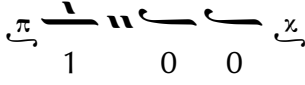
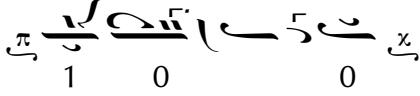

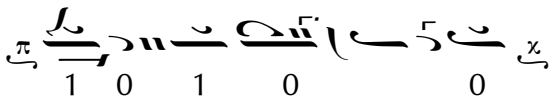
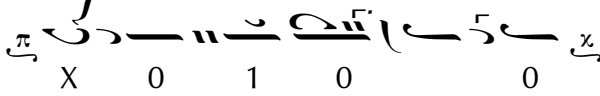

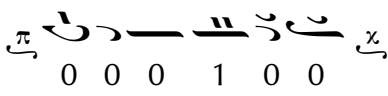

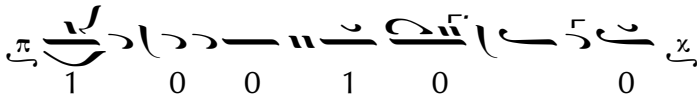
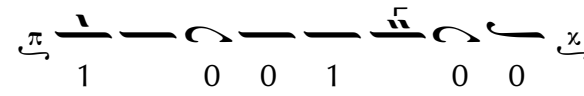
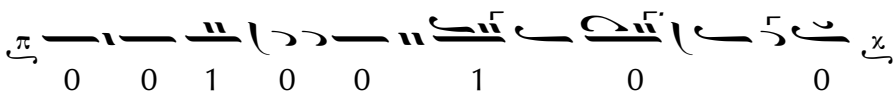
0010010



 0 0 1 0 0 1 0

K) Accented on Third to Last Syllable

Pa - Ke

000	π  χ
100	π  χ
	π  χ
	π  χ
0100	π  χ
10100	π  χ
X0100	π  χ
	π  χ
000100	π  χ
010100	π  χ
100100	π  χ
	π  χ
00100100	π  χ

Plagal Second Mode - Sticheraric

Di - Ke

X00 Δ
 ρ X 0 0 ξ

100 Δ
 ρ 1 0 0 ξ

Δ
 ρ 1 0 0 ξ

X0X

Δ
 ρ X 0 X ξ

0100 Δ
 ρ 0 1 0 0 ξ

0101 Δ
 ρ 0 1 0 1 ξ

10X01 Δ
 ρ 1 0 X 0 1 ξ

0010X01 Δ
 ρ 0 0 1 0 X 0 1 ξ

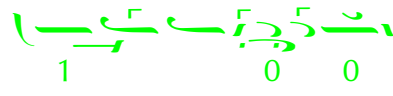
Ke - Ke

100 ξ
 1 0 0 ξ

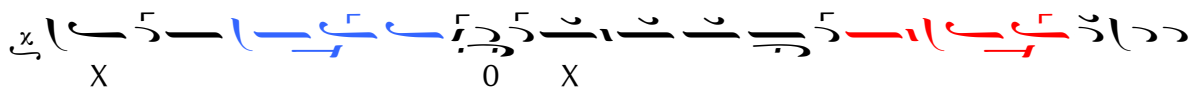
ξ 1 0 0 ξ

Plagal Second Mode - Sticheric

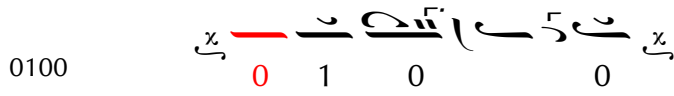
100 



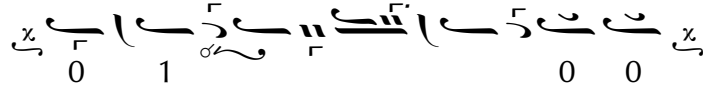
X0X

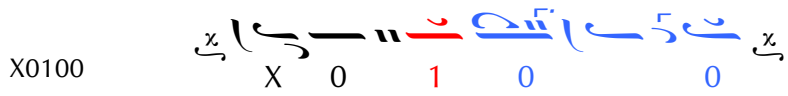




0100 



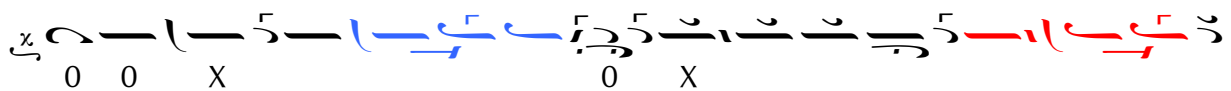


X0100 





00X0X





Plagal Second Mode - Sticheraric

000100

010100

100100

0100100

100010X

0 0 0 1 0 0

0 1 0 1 0 0

1 0 0 1 0 0


0 1 0 0 1 0 0

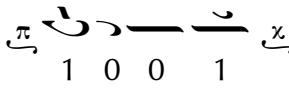
0 1 0 0 1 0 0

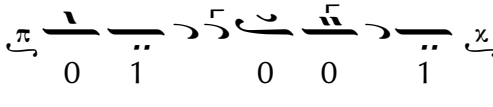
1 0 0 0 1 0 X

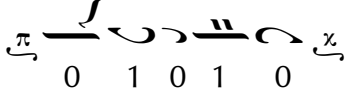
L) Accented on Fourth to Last Syllable

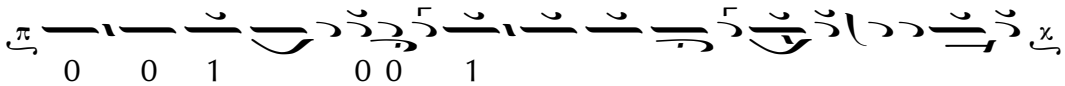
Pa - Ke

1010 

1001 

01001 

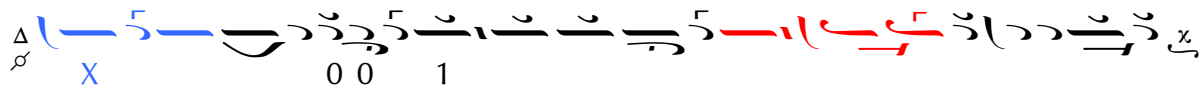
01010 


001001 


(The previous formula is usually found only near the end of a troparion.)

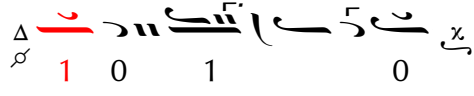
Di - Ke


X001




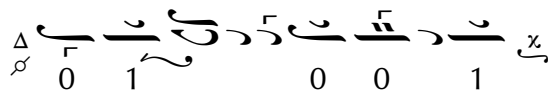




1010 

01001 





Ke - Ke

Plagal Second Mode - Sticheraric

01010

0 1 0 1 0

0 1 0 1 0

01X0X

0 1 X 0 X

X001

X 0 0 1

X

00X001

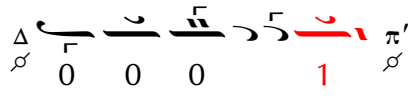
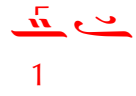
0 0 X 0 0 1

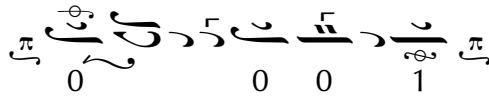
X

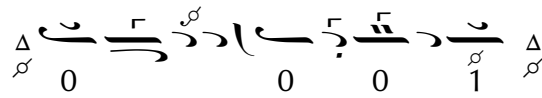
0 1

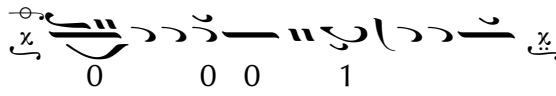
M) Fthoras

Accented on last syllable:

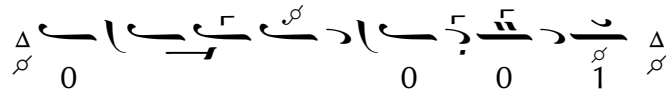
0001  

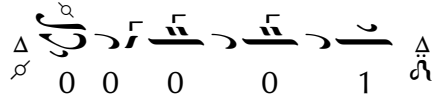


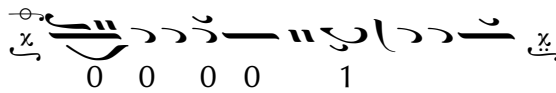


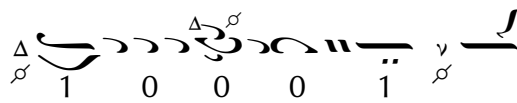


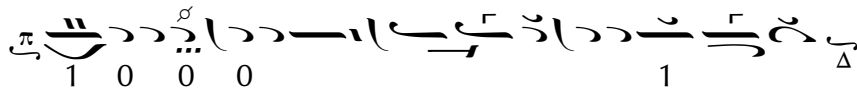
 

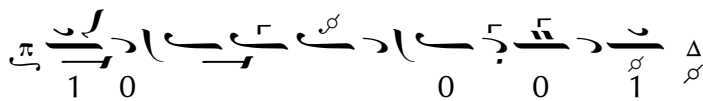


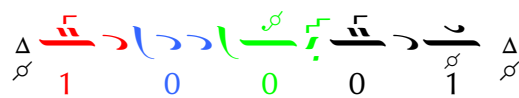
00001 






10001 







Plagal Second Mode - Sticheric

010001

010001

010001

010001

100001

Accented on second to last syllable:

10

10

010

Plagal Second Mode - Sticheraric

π $\frac{\text{—}}{0}$ $\frac{\text{—}}{1}$ $\frac{\text{—}}{0}$ $\frac{\text{—}}{\alpha}$

Δ $\frac{\text{—}}{\alpha}$ $\frac{\text{—}}{1}$ $\frac{\text{—}}{0}$

Δ $\frac{\text{—}}{\alpha}$ $\frac{\text{—}}{1}$ $\frac{\text{—}}{0}$ $\frac{\text{—}}{\alpha}$

$\frac{\text{—}}{0}$ $\frac{\text{—}}{1}$ $\frac{\text{—}}{0}$ $\frac{\text{—}}{\alpha}$

0010

π $\frac{\text{—}}{0}$ $\frac{\text{—}}{0}$ $\frac{\text{—}}{1}$ $\frac{\text{—}}{0}$ $\frac{\text{—}}{\alpha}$

Δ $\frac{\text{—}}{\alpha}$ $\frac{\text{—}}{0}$ $\frac{\text{—}}{0}$ $\frac{\text{—}}{1}$ $\frac{\text{—}}{0}$

Δ $\frac{\text{—}}{\alpha}$ $\frac{\text{—}}{0}$ $\frac{\text{—}}{0}$ $\frac{\text{—}}{1}$ $\frac{\text{—}}{0}$ $\frac{\text{—}}{\alpha}$

$\frac{\text{—}}{0}$ $\frac{\text{—}}{1}$ $\frac{\text{—}}{0}$

ϕ $\frac{\text{—}}{\alpha}$ $\frac{\text{—}}{0}$ $\frac{\text{—}}{0}$ $\frac{\text{—}}{1}$ $\frac{\text{—}}{0}$

Δ $\frac{\text{—}}{\alpha}$ $\frac{\text{—}}{0}$ $\frac{\text{—}}{0}$ $\frac{\text{—}}{1}$ $\frac{\text{—}}{0}$ $\frac{\text{—}}{\alpha}$

00010

ϕ $\frac{\text{—}}{\alpha}$ $\frac{\text{—}}{0}$ $\frac{\text{—}}{0}$ $\frac{\text{—}}{0}$ $\frac{\text{—}}{1}$ $\frac{\text{—}}{0}$

0X010

Δ $\frac{\text{—}}{\alpha}$ $\frac{\text{—}}{0}$ $\frac{\text{—}}{X}$ $\frac{\text{—}}{0}$ $\frac{\text{—}}{1}$ $\frac{\text{—}}{0}$ $\frac{\text{—}}{\alpha}$

10010

Δ $\frac{\text{—}}{\alpha}$ $\frac{\text{—}}{1}$ $\frac{\text{—}}{0}$ $\frac{\text{—}}{0}$ $\frac{\text{—}}{1}$ $\frac{\text{—}}{0}$ $\frac{\text{—}}{\alpha}$

π $\frac{\text{—}}{1}$ $\frac{\text{—}}{0}$ $\frac{\text{—}}{0}$ $\frac{\text{—}}{1}$ $\frac{\text{—}}{0}$ $\frac{\text{—}}{\alpha}$

$\frac{\text{—}}{1}$ $\frac{\text{—}}{0}$

0100010

π $\frac{\text{—}}{\phi}$ $\frac{\text{—}}{0}$ $\frac{\text{—}}{1}$ $\frac{\text{—}}{0}$ $\frac{\text{—}}{0}$ $\frac{\text{—}}{0}$ $\frac{\text{—}}{1}$ $\frac{\text{—}}{0}$ $\frac{\text{—}}{\pi}$

$\frac{\text{—}}{1}$ $\frac{\text{—}}{0}$

ϕ $\frac{\text{—}}{\alpha}$ $\frac{\text{—}}{0}$ $\frac{\text{—}}{1}$ $\frac{\text{—}}{0}$ $\frac{\text{—}}{0}$ $\frac{\text{—}}{0}$ $\frac{\text{—}}{1}$ $\frac{\text{—}}{0}$ $\frac{\text{—}}{\phi}$

$\frac{\text{—}}{1}$ $\frac{\text{—}}{0}$

Plagal Second Mode - Sticheric

X00X0X
 π ϕ ρ α ν π

 0100100
 ϕ ρ α ν π

 1000100
 ν ρ α ν π Δ

Accented on fourth to last syllable:

1010
 Δ ν

 0X010
 α ν π

 001001
 ν Δ

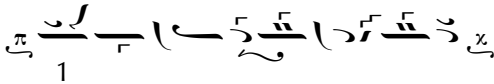
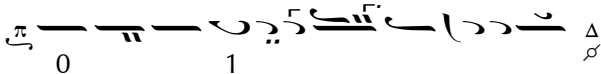

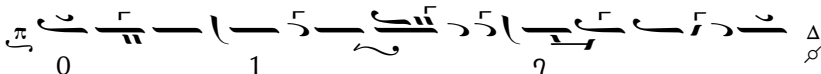
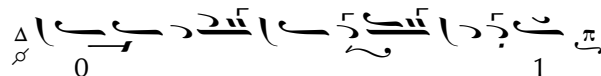
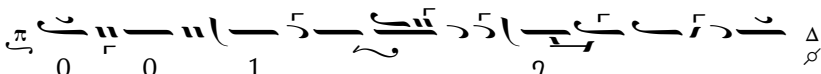
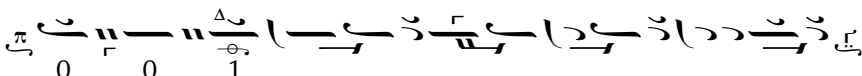
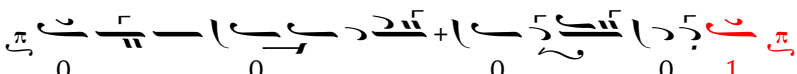

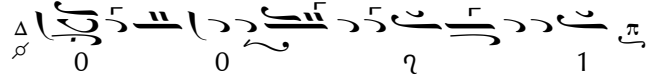
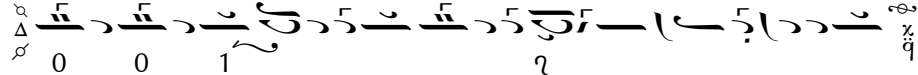
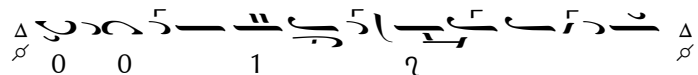
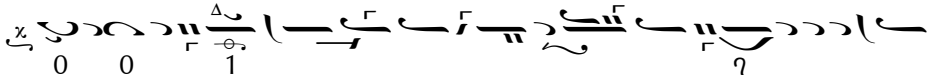
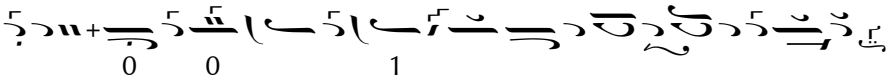
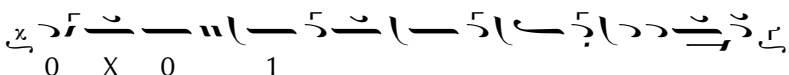
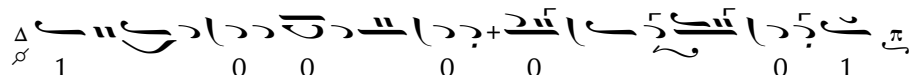
 001010
 ϕ π

 1001010
 ϕ π

Plagal Second Mode - Sticheric

N) Old (slow) Sticheric Formulae

Accented on last syllable:

1	
01	
01	
01	
01	
001	
001	
001	
	
001	
001	
001	
001	
	
0X01	
10001	

Plagal Second Mode - Sticheric

10001 π $\frac{\pi}{1}$ $\frac{\pi}{0}$ $\frac{\pi}{0}$ $\frac{\pi}{1}$ π

10001 Δ $\frac{\pi}{1}$ $\frac{\pi}{2}$ $\frac{\pi}{0}$ $\frac{\pi}{0}$ $\frac{\pi}{0}$ $\frac{\pi}{0}$ $\frac{\pi}{0}$ $\frac{\pi}{0}$ $\frac{\pi}{0}$

π $\frac{\pi}{0}$ $\frac{\pi}{1}$

10001 Δ $\frac{\pi}{1}$ $\frac{\pi}{0}$ $\frac{\pi}{0}$ $\frac{\pi}{0}$ $\frac{\pi}{0}$ $\frac{\pi}{0}$ $\frac{\pi}{0}$ $\frac{\pi}{0}$ $\frac{\pi}{1}$ π

10001 Δ $\frac{\pi}{1}$ $\frac{\pi}{0}$ $\frac{\pi}{0}$ $\frac{\pi}{0}$ $\frac{\pi}{0}$ $\frac{\pi}{1}$ $\frac{\pi}{0}$ $\frac{\pi}{0}$ $\frac{\pi}{0}$ $\frac{\pi}{0}$ $\frac{\pi}{1}$ π

10001 π $\frac{\pi}{1}$ $\frac{\pi}{0}$ $\frac{\pi}{0}$ $\frac{\pi}{0}$ $\frac{\pi}{1}$ $\frac{\pi}{2}$ π

10X01 π $\frac{\pi}{0}$ $\frac{\pi}{0}$ $\frac{\pi}{1}$ $\frac{\pi}{0}$ $\frac{\pi}{X}$ $\frac{\pi}{0}$

Δ $\frac{\pi}{1}$ $\frac{\pi}{0}$

X0001 Δ $\frac{\pi}{X}$ $\frac{\pi}{0}$ $\frac{\pi}{0}$ $\frac{\pi}{0}$ $\frac{\pi}{0}$ $\frac{\pi}{0}$ $\frac{\pi}{0}$ $\frac{\pi}{0}$

π $\frac{\pi}{0}$ $\frac{\pi}{0}$ $\frac{\pi}{1}$ π

0100X1 π $\frac{\pi}{0}$ $\frac{\pi}{1}$ $\frac{\pi}{0}$ $\frac{\pi}{0}$ $\frac{\pi}{X}$ $\frac{\pi}{1}$ π

100001 π $\frac{\pi}{1}$ $\frac{\pi}{0}$ $\frac{\pi}{0}$ $\frac{\pi}{0}$ $\frac{\pi}{0}$ $\frac{\pi}{0}$

π $\frac{\pi}{2}$ $\frac{\pi}{1}$

0010001 π $\frac{\pi}{0}$ $\frac{\pi}{0}$ $\frac{\pi}{1}$ $\frac{\pi}{2}$ $\frac{\pi}{0}$ $\frac{\pi}{0}$ $\frac{\pi}{2}$ $\frac{\pi}{0}$

π $\frac{\pi}{0}$ $\frac{\pi}{1}$

00010001 π $\frac{\pi}{0}$ $\frac{\pi}{0}$ $\frac{\pi}{0}$ $\frac{\pi}{1}$ $\frac{\pi}{0}$ $\frac{\pi}{0}$ $\frac{\pi}{0}$ $\frac{\pi}{1}$ π

Plagal Second Mode - Sticheric

Accented on second to last syllable:

10		
10		
10		
10		
10		
10		
10		
10		
10		
10		
010		
010		
010		
010		

Plagal Second Mode - Sticheric

010	
010	
010	
010	
010	
010	
010	
010	
0010	
0010	
0010	
0010	
0010	
0010	
0010	
0010	
00010	
00010	
10010	

Plagal Second Mode - Sticheric

10010 Δ $\frac{\Delta}{\rho}$ 1 0 0 1 0 $\frac{\Delta}{\rho}$

010010 Δ 0 1 0 1 $\frac{\Delta}{\rho}$

000010 Δ 0 0 0 0 1 2 0 $\frac{\Delta}{\rho}$

000010 Δ 0 0 0 0 1 $\frac{\Delta}{\rho}$

010010 Δ 0 1 0 0 1 $\frac{\Delta}{\rho}$

010010 2 0 $\frac{\Delta}{\rho}$

010010 Δ 0 1 0 0 1 $\frac{\Delta}{\rho}$

010010 2 0 $\frac{\Delta}{\rho}$

0010010 Δ 0 0 1 0 0 0 $\frac{\Delta}{\rho}$

0010010 Δ 0 1 0 0 1 $\frac{\Delta}{\rho}$

0100010 Δ 0 1 0 0 0 1 $\frac{\Delta}{\rho}$

010X010 Δ 0 1 0 X 0 1 0 $\frac{\Delta}{\rho}$

$\frac{\Delta}{\rho}$ $\frac{\Delta}{\rho}$

Plagal Second Mode - Sticheric

1000010

1 2 0 0 0

1 0 1

Accented on third to last syllable:

100

1 0 1 0 0

100

1 0 0

100

1 0 2 0

100

1 0 0

100

1 0 0

100

1 0 0

100

1 0 1 0 0

100

1 0 0

100

1 1 0 0

100

1 0 0

100

1 0 1 0 0

100

1 0 2 0

100

1 0 0

Plagal Second Mode - Sticheric

00100	
00100	
X0100	
00100	
10100	
10100	
10100	
010100	
100100	
X00100	

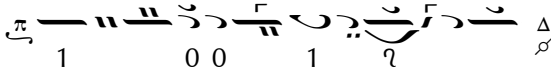
Plagal Second Mode - Sticheric

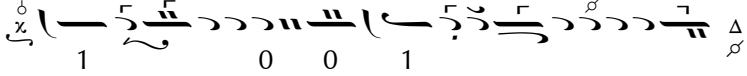
X00100	Δ σ $\bar{\text{X}}$ 0 0 1 0
	τ 0
000100	Δ σ 0 0 0 1 0 0
	τ 0
100100	Δ σ 1 0 0 1 0 0
	τ 0
100100	Σ 1 0 0 1
	τ 0 0
1000100	Δ σ 1 0 0 0 1
	τ 0
	Σ 0 0
1000100	Σ 1 0 0 0 1
	τ 0
	τ 0
1010100	Δ σ 1 0 1 0 1 0
	τ 0
	τ 0
10100100	Σ 1 0 1 0 0 1 0
	τ 0
	Δ σ 0

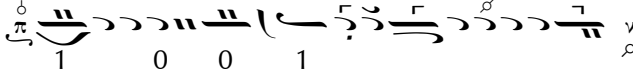
Accented on fourth to last syllable:

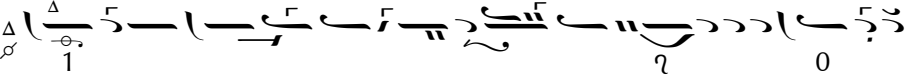
1001	τ $\bar{\text{X}}$ 1 0 0 1	$\bar{\text{X}}$ 1
1001	τ 1 0 0 1 0	σ

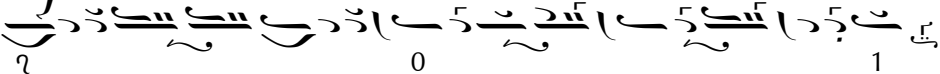
Plagal Second Mode - Sticheric

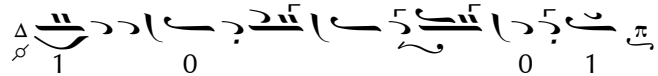
1001 

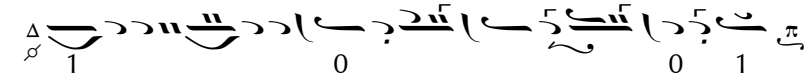
1001 


1001 

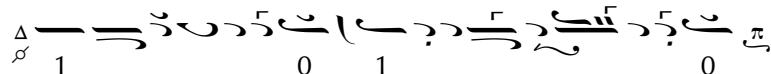
1001 




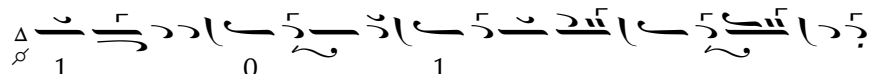
1001 


1001 

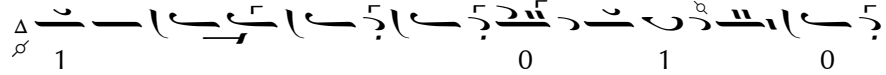
1010 

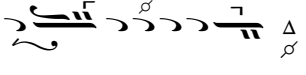
1010 

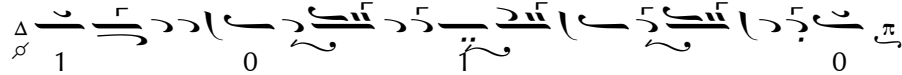
1010 


1010 

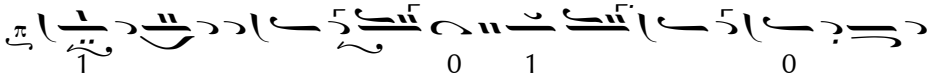


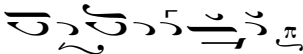
1010 



1010 

1010 

1010 



Plagal Second Mode - Sticheric

X010 Δ μ $\overset{\sigma}{\text{X}}$ 0 1 0 Δ μ

X010 Δ μ $\overset{\sigma}{\text{X}}$ 0 1 0 Δ μ

01001 Δ μ $\overset{\sigma}{\text{X}}$ 0 1 0 0 Δ μ

 1 μ

0X010 Δ μ $\overset{\sigma}{\text{X}}$ 0 1 0 2 Δ μ

μ

01010 Δ μ $\overset{\sigma}{\text{X}}$ 0 1 0 2 0 Δ μ

 1 0 1 0

01010 Δ μ $\overset{\sigma}{\text{X}}$ 0 1 0 1 0 Δ μ

001001 Δ μ $\overset{\sigma}{\text{X}}$ 0 0 1 0 0 1 Δ μ

001001 Δ μ $\overset{\sigma}{\text{X}}$ 0 0 1 0 0 Δ μ

 1 μ

X01001 Δ μ $\overset{\sigma}{\text{X}}$ 0 1 0 Δ μ

 0 1 μ

001010 Δ μ $\overset{\sigma}{\text{X}}$ 0 0 1 0 1 0 Δ μ


 1 0 1 0 μ

 1 0 1 0 μ

Plagal Second Mode - Sticheraric

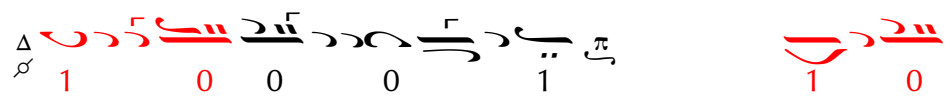
O) Final Cadences


Accented on last syllable:

00X0X 





10001 

10X0X 





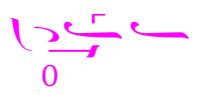
100X0X 






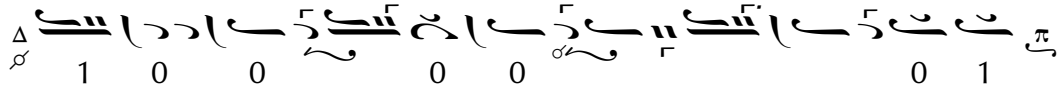







100X0X 

Plagal Second Mode - Sticheraric

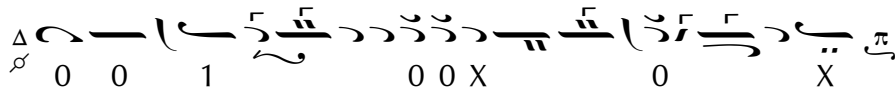
1000001 

1000X0X 

10X0X0X 

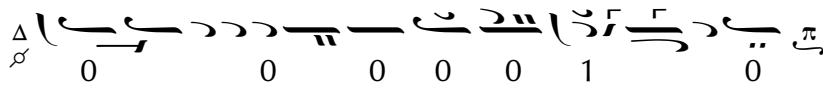


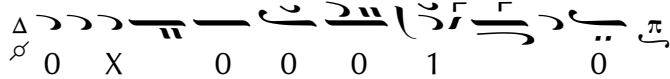


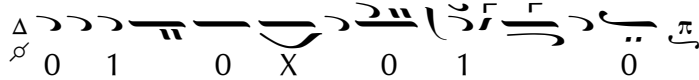
0010010X 

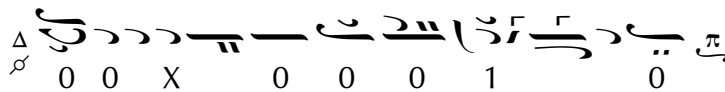
Accented on second to last syllable:

0010 


0000010 

0X00010 

010X010 

00X00010 

Accented on third to last syllable:

00X0X 

Plagal Second Mode - Sticheraric

0 X

X

10X0X

X

X

100X0X

1

1

0

100X0X

0100100

10X0X0X

X

Plagal Second Mode - Sticheric



010X010 Δ
 σ 0 1 0 X 0 1 0 π

1000X0X Δ
 σ 1 0 0 0 X 0 X π σ 1 0

0010010X Δ
 σ 0 0 1 0 0 X 0 X π

Accented on fourth to last syllable:

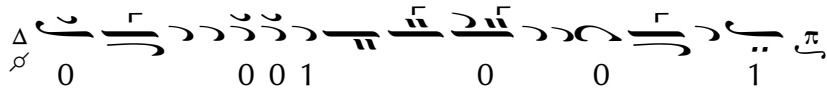
1010 Δ
 σ 1 0 1 0 π

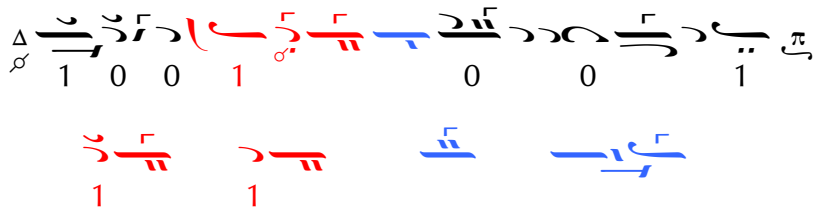
X010 Δ
 σ X 0 1 0 π


001001 Δ
 σ 0 0 1 0 0 1 π

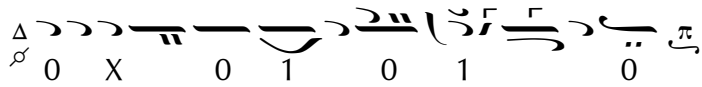
001001 Δ
 σ 0 0 1 0 0 1 π

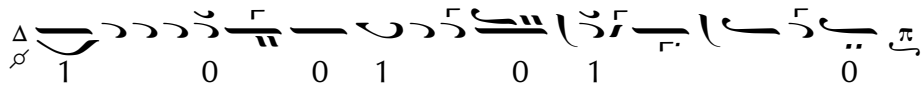
Plagal Second Mode - Sticheraric

0001001 Δ  π
 σ 0 0 0 1 0 0 1

1001001 Δ  π
 σ 1 0 0 1 0 0 1

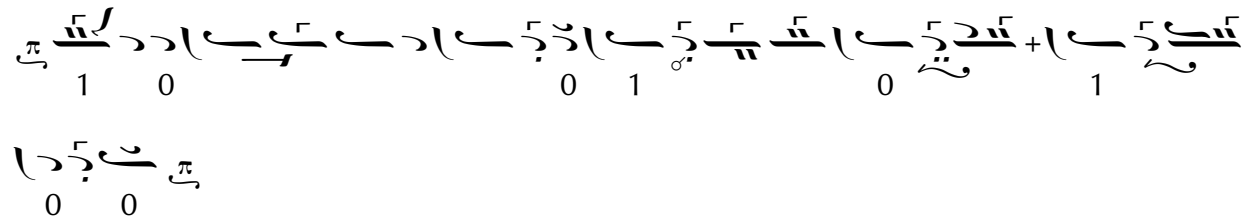


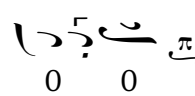
0X01010 Δ  π
 σ 0 X 0 1 0 1 0

1001010 Δ  π
 σ 1 0 0 1 0 1 0

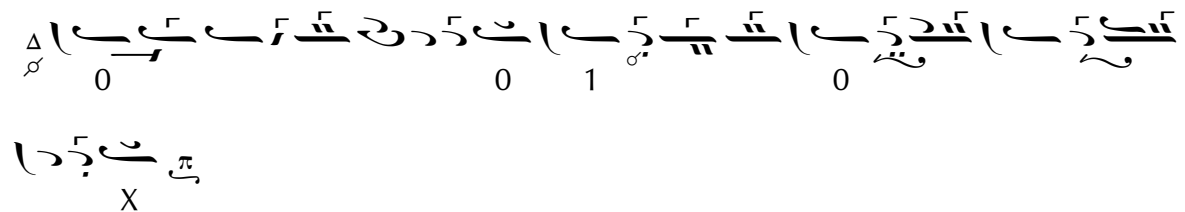
Old (Slow) Sticheraric Final Cadences:

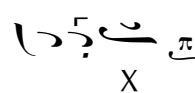
100100

π  π
 σ 1 0 0 1 0 1 0 1

π  π
 σ 0 0

0010X

Δ  π
 σ 0 0 1 0

π  π
 σ X

Plagal Second Mode - Sticheraric

P) Final Cadences for Theotokia

Accented on last syllable:

00X0X

Δ
 δ 0 0 X 0 X Δ
 δ X δ X
 δ X δ X
 δ X
 δ X
 δ 1

10001

Δ
 δ 1 0 0 0 1 Δ

010001

Δ
 δ 0 1 0 0 0 1 Δ

Accented on second to last syllable:

00010

Δ
 δ 0 0 0 1 0 Δ

0010010

Δ
 δ 0 0 1 0 0 0 1 0 Δ

Accented on third to last syllable:

BYZANTINE MUSIC FORMULAE

Plagal Second Mode - Sticheraric "Tetraphonos" (Soft Chromatic)

Contents*

A) Cadences on Vou.....	611
B) Cadences on Di.....	613
C) Cadences on Nee.....	616
D) Endings for Theotokia	618

Key:

1 = accented syllable

0 = unaccented syllable

X = syllable that may be either
accented or unaccented

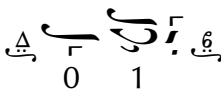
Variations of the same formula
are indicated in color

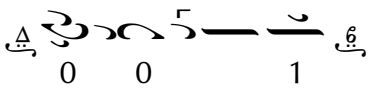
* This list of formulae is relatively short due to the extreme rarity of this mode. The formulae herein were extracted from the only examples we found of this mode, namely: p. 283 of the Zoe *Anastasimatarion* (14th edition, 2002), p. 173 of Ephesios' *Anastasimatarion*, pp. 163-4 of Vol. I of *Mousike Kypsele*, pp. 97-99 of Ephesios' *Doxastarion*, and p. 199 of Vol. II, and on p. 88 of Stathes' *Trithekti* (a composition by Germanos of Neon Patron).

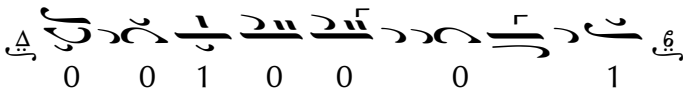
Plagal Second Mode - Tetrachonos Sticheraric (Soft Chromatic)

A) Cadences on Vou

Accented on last syllable:

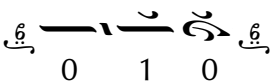
01 

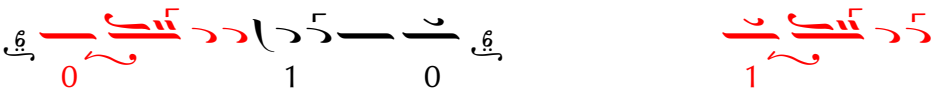
001 

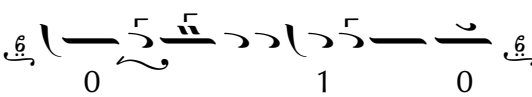
0010001 

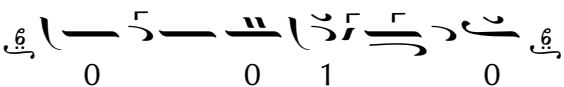
Accented on second to last syllable:

From Vou

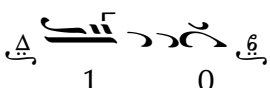
010 

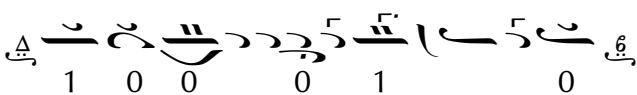


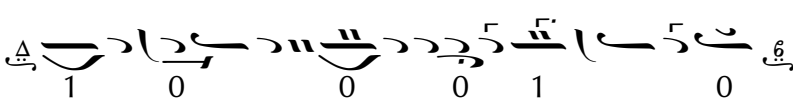


0010 

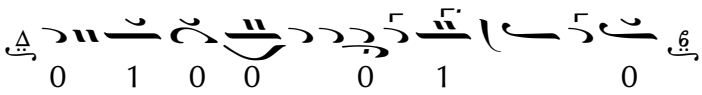
From Di

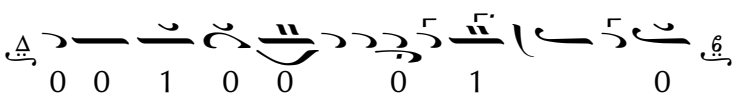
10 

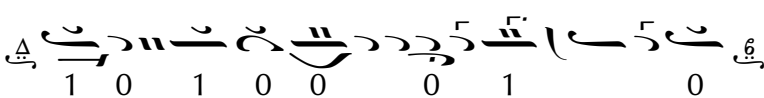
100010 



Plagal Second Mode - Tetrachonos Sticheraric (Soft Chromatic)


0100010 

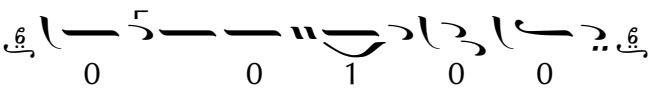
00100010 


10100010 

Accented on third to last syllable:


From Vou


0100 

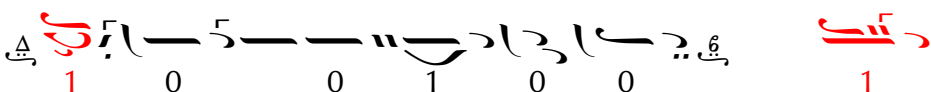
00100 

01100 

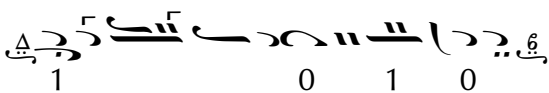
From Di

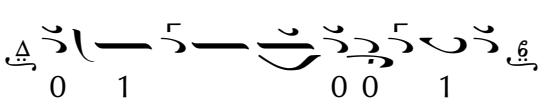
100XXX 



100100 

Accented on fourth to last syllable:

1010 

01001 

Plagal Second Mode - Tetrachonos Sticheraric (Soft Chromatic)

B) Cadences on Di

Accented on last syllable:

From Vou

X0001		
10001		
010001		

From Di

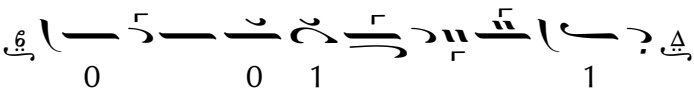
00		
000		
10001		

Accented on second to last syllable:

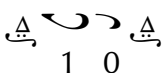
From Vou

010		
0010		

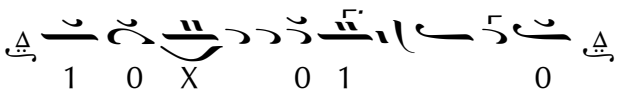
Plagal Second Mode - Tetrachonos Sticheraric (Soft Chromatic)

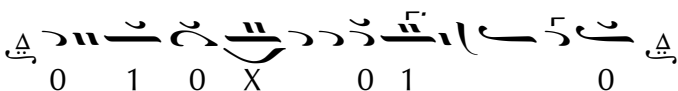
0010 

From Di

10 

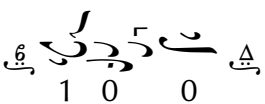
010 

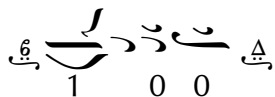
10X010 

010X010 

Accented on third to last syllable:

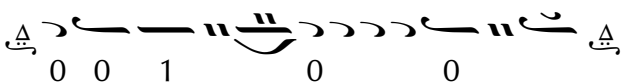
From Vou

100 



From Di

100 

00100 

Plagal Second Mode - Tetrachonos Sticheraric (Soft Chromatic)

Accented on fourth to last syllable:

From Nee

0101010

From Vou

1000

From Di

10X010

010X010

0001010

Plagal Second Mode - Tetrachonos Sticheraric (Soft Chromatic)

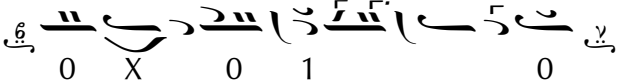
C) Cadences on Nee


Accented on last syllable:

(Use a formula ending in 100)


Accented on second to last syllable:

From Vou

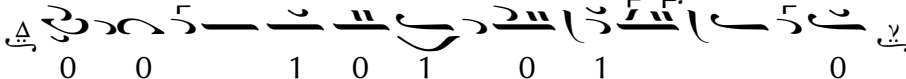
0X010  Musical notation for cadence 0X010 on Vou. The notes are: 0 (quarter), X (quarter), 0 (quarter), 1 (quarter), 0 (quarter), 1 (quarter), 0 (quarter). The X is marked with an accent.

000100010  Musical notation for cadence 000100010 on Vou. The notes are: 0 (quarter), 0 (quarter), 0 (quarter), 1 (quarter), 0 (quarter), 0 (quarter), 0 (quarter), 1 (quarter), 0 (quarter). The 1 is marked with an accent.

From Di

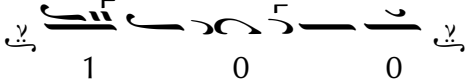
00100010  Musical notation for cadence 00100010 on Di. The notes are: 0 (quarter), 0 (quarter), 1 (quarter), 0 (quarter), 0 (quarter), 0 (quarter), 1 (quarter), 0 (quarter). The 1 is marked with an accent.

 Musical notation for cadence 00100010 on Di, with the notes 0, 0, 1 highlighted in red.

00101010  Musical notation for cadence 00101010 on Di. The notes are: 0 (quarter), 0 (quarter), 1 (quarter), 0 (quarter), 1 (quarter), 0 (quarter), 1 (quarter), 0 (quarter). The 1 is marked with an accent.

Accented on third to last syllable:

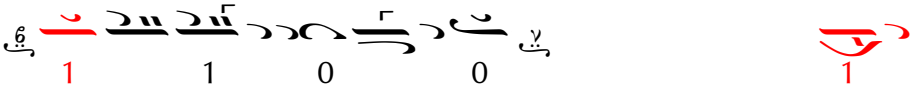
From Nee


100  Musical notation for cadence 100 on Nee. The notes are: 1 (quarter), 0 (quarter), 0 (quarter). The 1 is marked with an accent.

01100  Musical notation for cadence 01100 on Nee. The notes are: 0 (quarter), 1 (quarter), 1 (quarter), 0 (quarter), 0 (quarter). The 1 is marked with an accent.

Plagal Second Mode - Tetrachonos Sticheraric (Soft Chromatic)

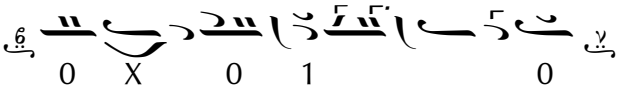
From Vou

1100 

10100 

Accented on fourth to last syllable:

From Vou

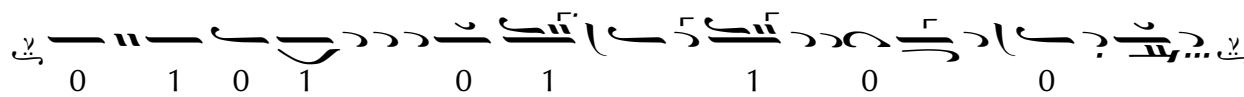
0X010 

Plagal Second Mode - Tetraphonos Sticheraric (Soft Chromatic)

D) Endings for Theotokia

From Nee

010101100



BYZANTINE MUSIC FORMULÆ

Plagal Second Mode - Heirmologic

Contents*

A) Medial Cadences on Vou	620
B) Medial Cadences on Di	627
C) Final Cadences	642
D) Formulae with Fthoras	645
E) Endings for Theotokia	646

Key:

1 = accented syllable

0 = unaccented syllable

X = syllable that may be either
accented or unaccented

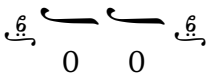
Variations of the same formula
are indicated in color

* The Byzantine music formulae herein were extracted from all the heirmologic melodies found in the *Zoe Anastasimatarion* (14th edition, 2002).

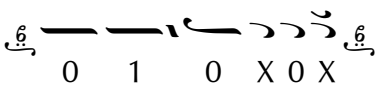
A) Medial Cadences on Vou

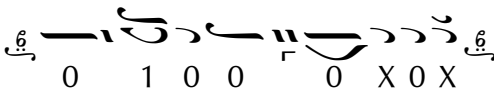
Accented on last syllable:

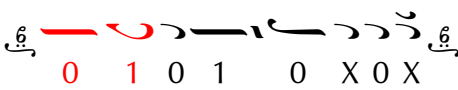
From Vou

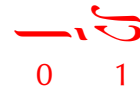
00 

01 

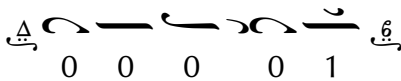
010X0X 

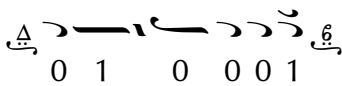
01000X0X 

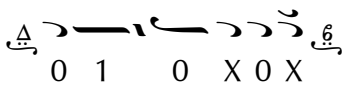
01010X0X 



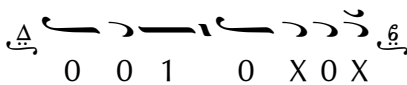
From Di

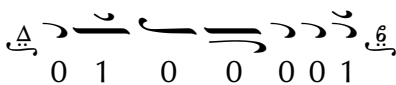
00001 

010001 


010X0X 

100001 

0010X0X 

0100001 

0100X0X 



Plagal Second Mode - Heirmologic (Soft Chromatic)

1000X0X		
1010X0X		
10010001		
01000X0X		
10010X0X		
10010001		
1010010X		
10100X0X		
010000X0X		
010100X0X		
100100X0X		
0100100X0X		
1000100X0X		
1010000X0X		

Plagal Second Mode - Heirmologic (Soft Chromatic)

01010000X0X	
10000100X0X	
10010000X0X	

Accented on second to last syllable:

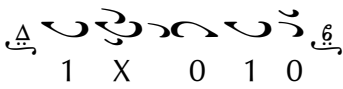
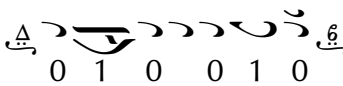


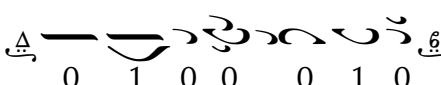
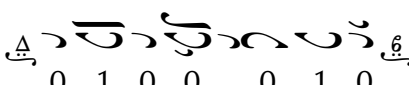

From Vou

10		
1000010		
0X010010		
01010010		

From Di

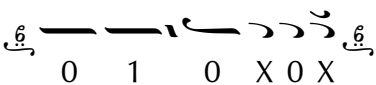
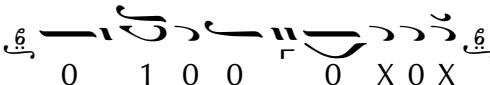
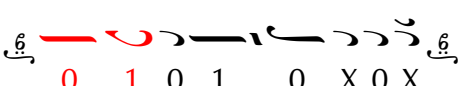
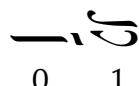
0010		
10010		

Plagal Second Mode - Heirmologic (Soft Chromatic)

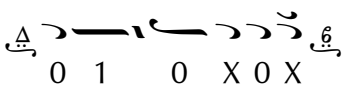
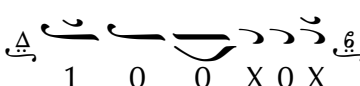
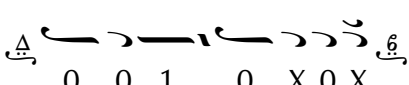
1X010		
010010		
0010010		
0100010		
		
101010010		

Accented on third to last syllable:

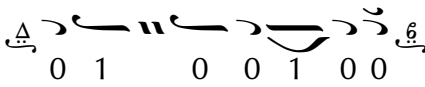
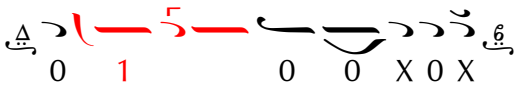
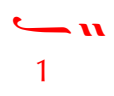
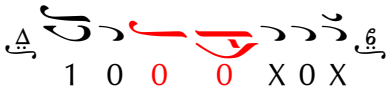

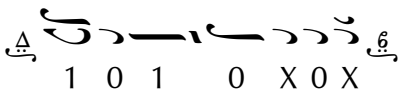
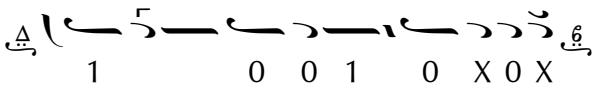
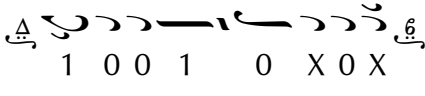
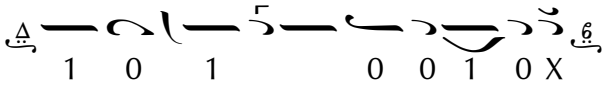
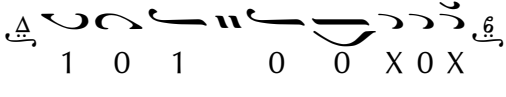
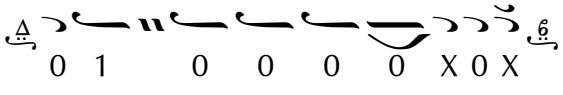
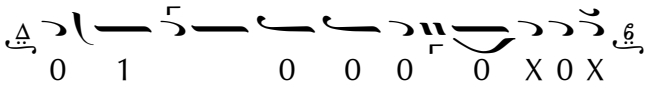
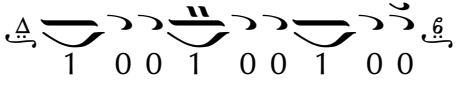
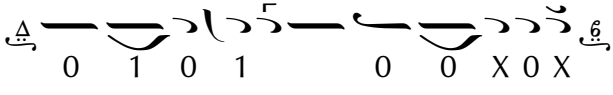
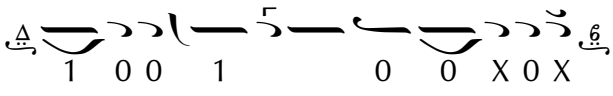
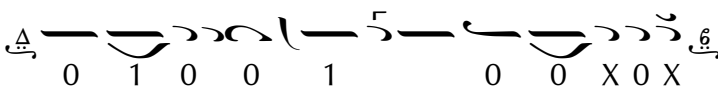
From Vou

010X0X		
01000X0X		
01010X0X		

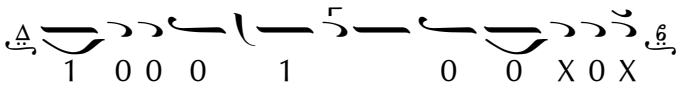
From Di

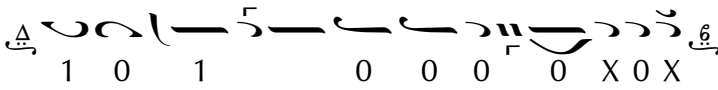
010X0X	
100X0X	
0010X0X	

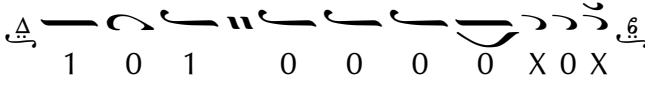
Plagal Second Mode - Heirmologic (Soft Chromatic)

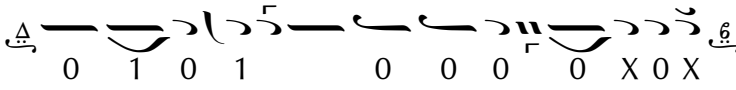
0100100		
0100X0X		
1000X0X		
1010X0X		
10010X0X		
		
1010010X		
10100X0X		
010000X0X		
		
100100100		
010100X0X		
100100X0X		
0100100X0X		

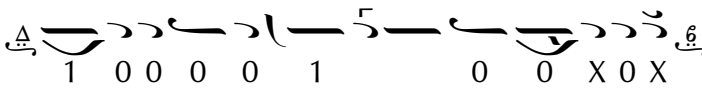
Plagal Second Mode - Heirmologic (Soft Chromatic)

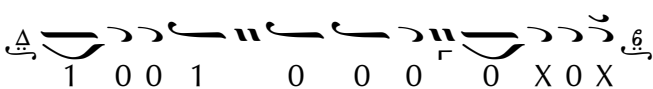
1000100X0X 

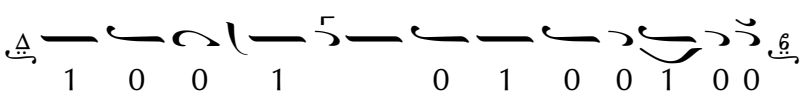
1010000X0X 

 1010000X0X

01010000X0X 

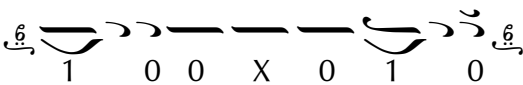
10000100X0X 

10010000X0X 

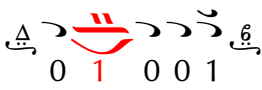

10010100100 

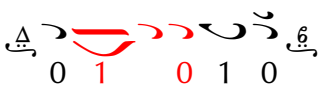

Accented on fourth to last syllable:


From Vou

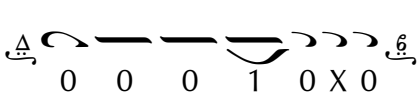
100X010 

From Di

01001  

01010  

1X010 

00010X0 

Plagal Second Mode - Heirmologic (Soft Chromatic)

1001001	
1001010	
10001001	

Plagal Second Mode - Heirmologic (Soft Chromatic)

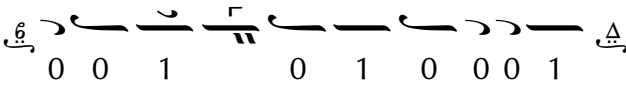
B) Medial Cadences on Di

Accented on last syllable:

From Vou

00		
000		
01		
001		
10001		
010001		
100001		
01010001		
10010001		

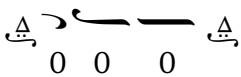
Plagal Second Mode - Heirmologic (Soft Chromatic)

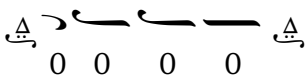
001010001 

From Di

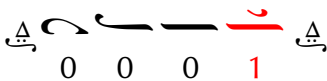

00 

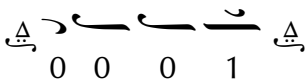
000 

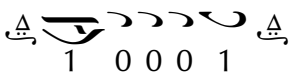


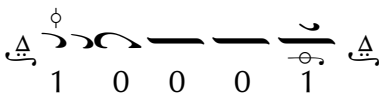
0000 

001  

0001  



10001 



010001  

100001  

Plagal Second Mode - Heirmologic (Soft Chromatic)

0100001		
1000001		
1010001		
01000001		
010X0001		
01010001		
000010001		
000100001		
010010001		
010100001		
0000100001		
00100100001		

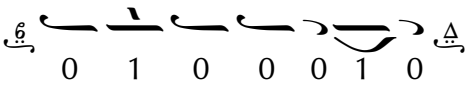
Plagal Second Mode - Heirmologic (Soft Chromatic)

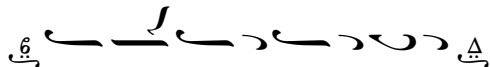
Accented on second to last syllable:

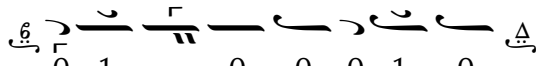
From Vou

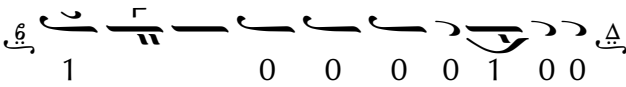
10	
010	
0010	
10010	
100010	
0010010	


Plagal Second Mode - Heirmologic (Soft Chromatic)

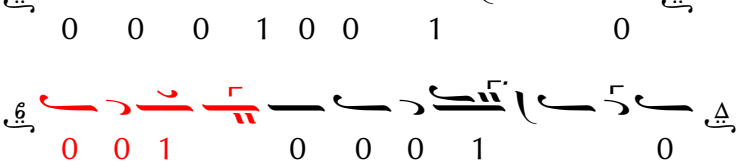
0100010 



0 1 0 0 0 0 1 0



0 1 0 0 0 1 0

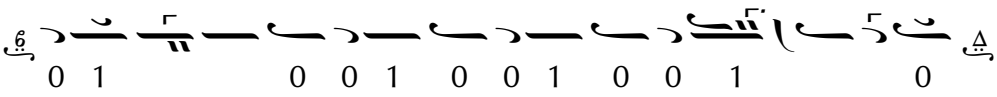
1000010 

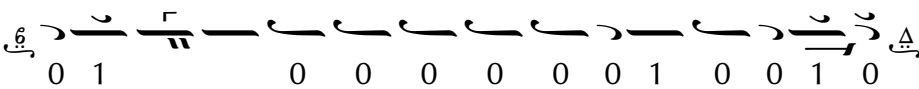

0 0 0 1 0 0 1 0

00100010 


0 0 1

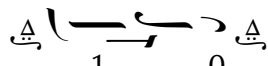
010000010010 

010010010010 

0100000010010 

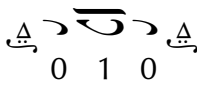
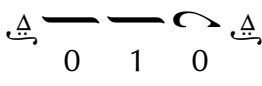
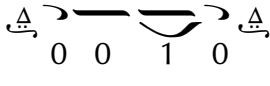
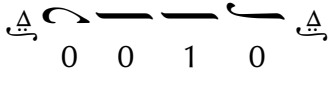
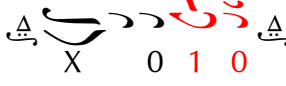

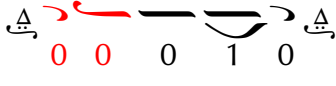
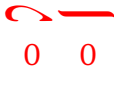
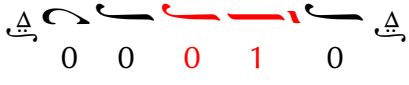
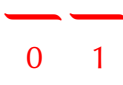
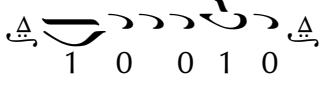
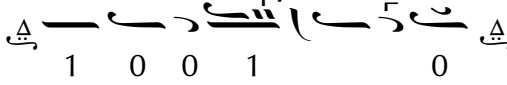
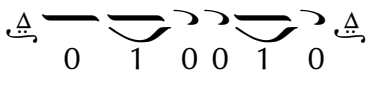
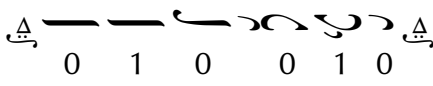
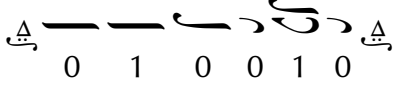
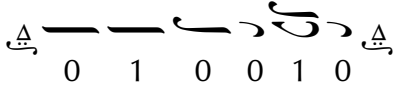
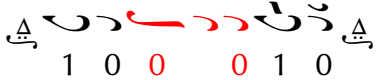

From Di

10 

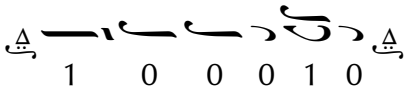
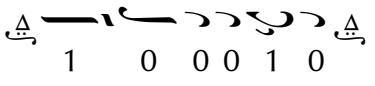
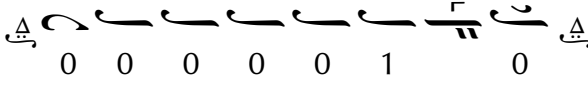


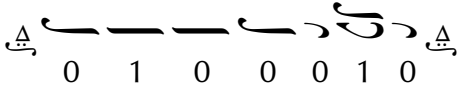
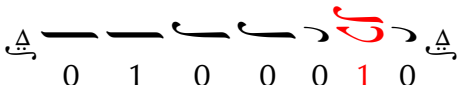

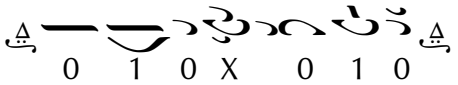
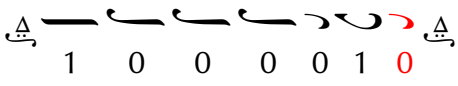

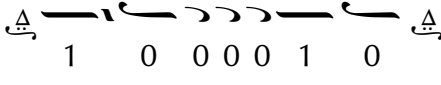
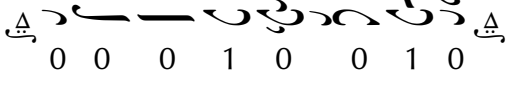
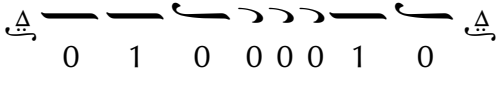
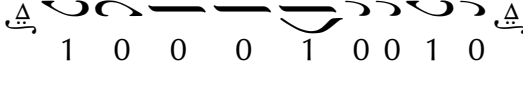
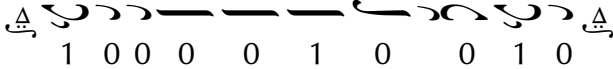

1 0

010 

Plagal Second Mode - Heirmologic (Soft Chromatic)

		
		
0010		
		
X010		
00010		
		
10010		
		
010010		
		
		
		
100010		

Plagal Second Mode - Heirmologic (Soft Chromatic)

		
		
0000010		
0010010		
0100010		
		
010X010		
1000010		
		
00010010		
		
100010010		
1000010010		

Plagal Second Mode - Heirmologic (Soft Chromatic)

01000100010

Accented on third to last syllable:

From Vou

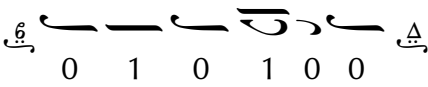
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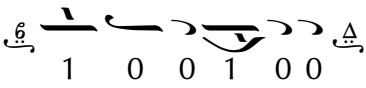
0100


00100

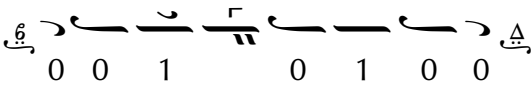
10100

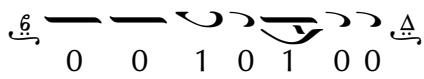
Plagal Second Mode - Heirmologic (Soft Chromatic)

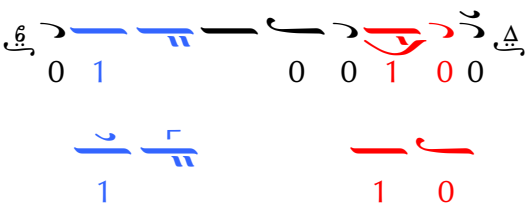
010100 


100100 

X00100 

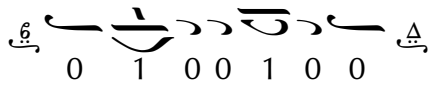
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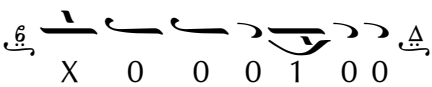



0100100 

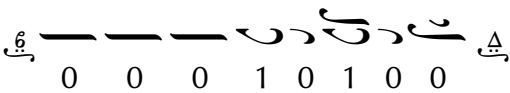




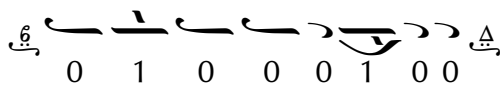


X000100 

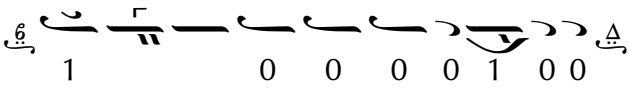
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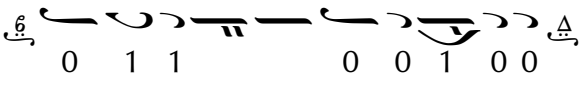
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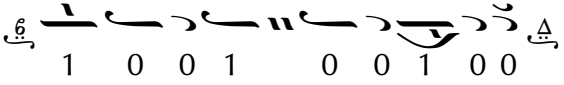
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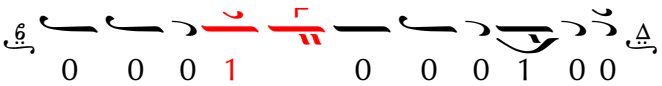



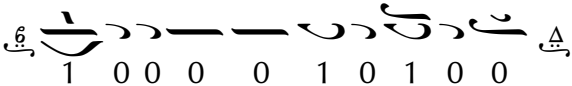
Plagal Second Mode - Heirmologic (Soft Chromatic)

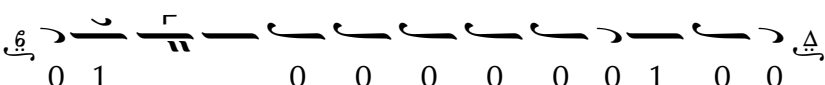
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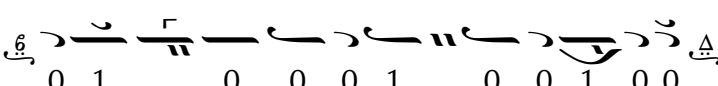
01100100 


100100100 

0001000100  



1000010100 

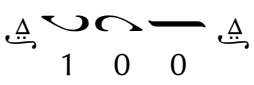
01000000100 

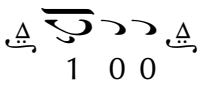
01000100100 


01001000100 

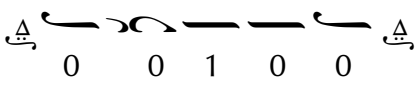
From Di

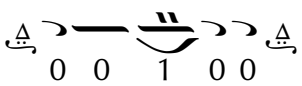
100  





0100 

00100 



Plagal Second Mode - Heirmologic (Soft Chromatic)

000100		
010100		
100100		
100110		
0100100		
1000100		

Plagal Second Mode - Heirmologic (Soft Chromatic)

1 0 0 0 1 0 0

1 0 0 0 1 0 0

01000100

0 1 0 0 0 1 0 0

0 1 0 0 0 1 0 0

01010100

0 1 0 1 0 1 0 0

010000100

0 1 0 0 0 0 1 0 0

010010100

0 1 0 0 1 0 1 0 0

101000100

1 0 1 0 0 0 1 0 0

0100000100

0 1 0 0 0 0 0 1 0 0

0100010100

0 1 0 0 0 1 0 1 0 0

0 1 0 0 0 1 0 1 0 0

0100100100

0 1 0 0 1 0 0 1 0 0


0101000100

0 1 0 1 0 0 0 1 0 0

100000X0100

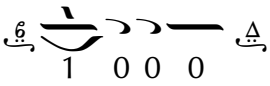
1 0 0 0 0 0 X 0 1 0 0

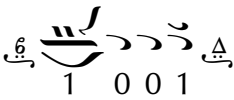
Plagal Second Mode - Heirmologic (Soft Chromatic)


010001000100  Δ

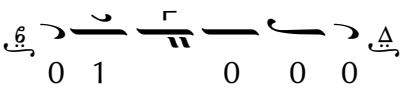
Accented on fourth to last syllable:

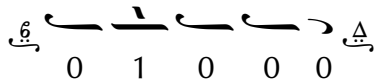
From Vou

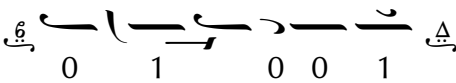
1000  Δ

1001  Δ

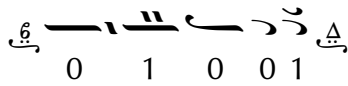
1010  Δ

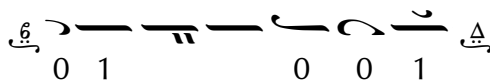
01000  Δ

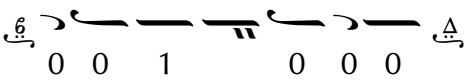
 Δ


01001  Δ

 Δ

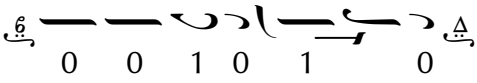
 Δ

 Δ

001000  Δ

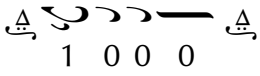
001001  Δ

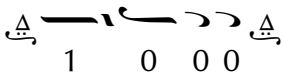
Plagal Second Mode - Heirmologic (Soft Chromatic)

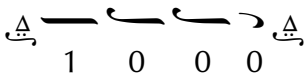
001010 

10X01001 

From Di


1000 







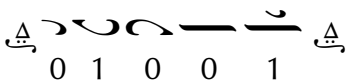
1001 

1010 

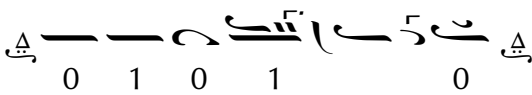
X010 



01001 





01010 

Plagal Second Mode - Heirmologic (Soft Chromatic)

101010	 1 0 1 0 1 0	 1 0
	 1 0 1 0 1 0	
0101000	 0 1 0 1 0 0 0	
0101001	 0 1 0 1 0 0 1	
0101010	 0 1 0 1 0 1 0	 1
010X010	 0 1 0 X 0 1 0	
10001001	 1 0 0 0 1 0 0 1	
0100001010	 0 1 0 0 0 0 1 0 1 0	
0101001001	 0 1 0 1 0 0 1 0 0 1	
1000101001	 1 0 0 0 1 0 1 0 0 1	


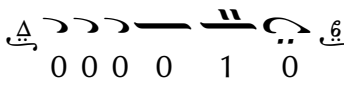
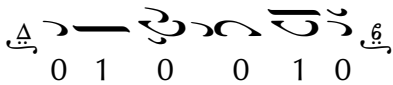


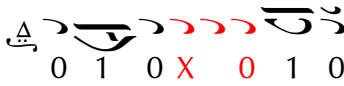

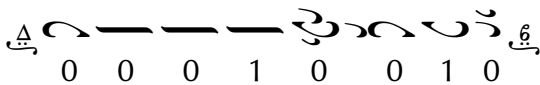
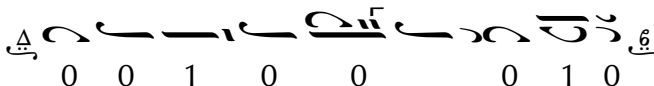
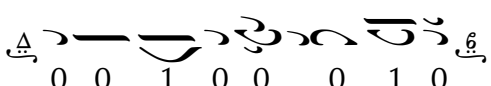
Plagal Second Mode - Heirmologic (Soft Chromatic)

C) Final Cadences

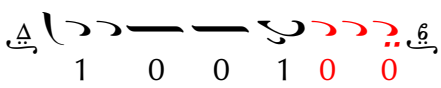
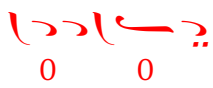
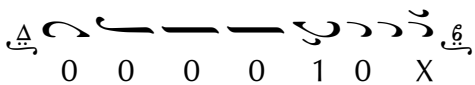
Accented on last syllable:

(Use a formula ending in 100 or 1001)

Accented on second to last syllable:

10010		
000010		
010010		
10X010		
010X010		
00010010		
00100010		
		

Accented on third to last syllable:

100100		
000010X		

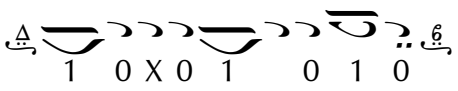
Plagal Second Mode - Heirmologic (Soft Chromatic)

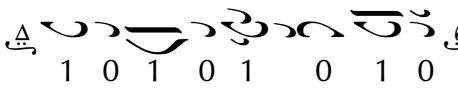
0010X0X		
10X0100		
01000100		
100X0100		
10100100		
010000100		
1010010X0X		
01010010X0X		

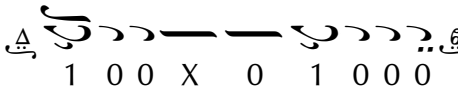
Accented on fourth to last syllable:

10X010		
1001001		
010X010		

Plagal Second Mode - Heirmologic (Soft Chromatic)

10X01010
Musical notation for the binary sequence 10X01010. It features a treble clef, a key signature of one flat (B-flat), and a common time signature. The notes are G4, A4, Bb4, C5, Bb4, A4, G4, and F4. The third note (Bb4) is marked with an 'X'. The sequence is bracketed in pairs: (G4, A4), (Bb4, C5), (Bb4, A4), and (G4, F4). A double bar line is placed after the fourth note.

10101010
Musical notation for the binary sequence 10101010. It features a treble clef, a key signature of one flat (B-flat), and a common time signature. The notes are G4, A4, Bb4, C5, Bb4, A4, G4, and F4. The sequence is bracketed in pairs: (G4, A4), (Bb4, C5), (Bb4, A4), and (G4, F4). A double bar line is placed after the fourth note.

100X01000
Musical notation for the binary sequence 100X01000. It features a treble clef, a key signature of one flat (B-flat), and a common time signature. The notes are G4, A4, Bb4, C5, Bb4, A4, G4, and F4. The fourth note (C5) is marked with an 'X'. The sequence is bracketed in pairs: (G4, A4), (Bb4, C5), (Bb4, A4), and (G4, F4). A double bar line is placed after the fourth note.

D) Formulae with Fthoras

Accented on last syllable:

100001

1 0 0 0 0 1

Accented on second to last syllable:

100010

1 0 0 0 1 0

Accented on third to last syllable:

From Vou

10100

1 0 1 0 0

0100100

0 1 0 0 1 0 0

01000100

0 1 0 0 0 1 0 0

From Di

100000100

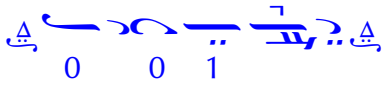
1 0 0 0 0 0 1 0 0

1000100100

1 0 0 0 1 0 0 1 0 0

E) Endings for Theotokia*

Accented on last syllable:

001 

Accented on second to last syllable:


10 


00010 


Accented on third to last syllable:

100 

0010X 

10010X 

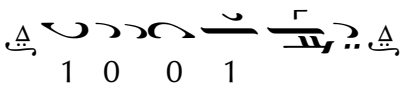
100010X 

100010X 

* The formulae in blue in this section are from the Athonite oral tradition, as represented in the book *Παρακλητική, Μουσικὸν Ἐγκόλπιον, Πλάγιοι Ἦχοι*, Ἱεροθέου Ἱερομονάχου, ἐκδόσεις Ἱ.Μ. Φιλοθέου, Ἄγιον Ὄρος, 2004.

Plagal Second Mode - Heirmologic (Soft Chromatic)

Accented on fourth to last syllable:

1001 

01001 

01010 

BYZANTINE MUSIC FORMULAE

Plagal Second Mode - Verses (Hard Chromatic)

Contents*

A) Cadences on Ke	649
B) Cadences on Di.....	654
C) Cadences on Pa.....	663
D) Formulae with Fthoras	668
E) Cadences for Theotokia	669

Key:

1 = accented syllable
0 = unaccented syllable
X = syllable that may be either
accented or unaccented

Variations of the same formula
are indicated in color

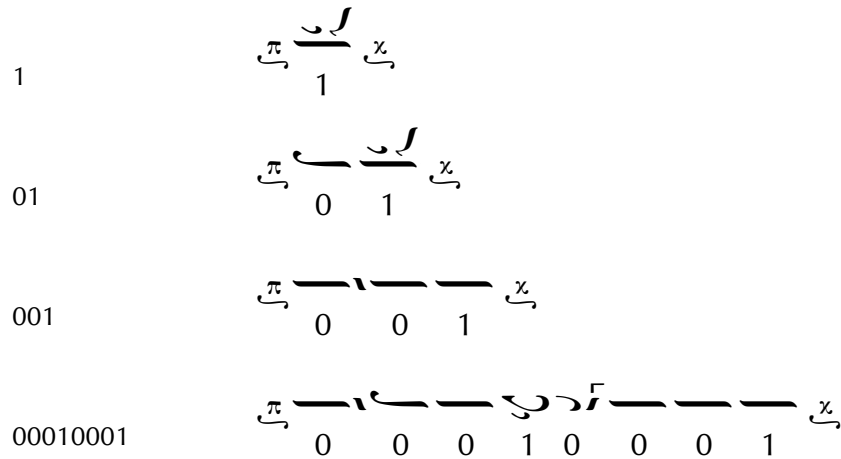
* The Byzantine music formulae herein were extracted from all the verses found in the *Zoe Anastasimatarion* (14th edition, 2002), the *Anastasimatarion* of Petros Peloponnesios (Mousike Bibliothek), the *Neon Anastasimatarion* by Petros Ephesios (1820 edition), and *Mousike Pandekte* by Ioannis Lampadarios and Stephanos the 1st Domestikos (1851 edition). These formulae are applicable only to the brief verses (that are not immediately followed by troparia) of Psalms 140, 141, and 129 chanted in the beginning of Vespers immediately after "Lord I Have Cried"; the brief verses of Psalms 148, 149, and 150 chanted in Orthros immediately after "Let Every Breath"; and the hard chromatic doxology from Pa.

Plagal Second Mode - Verses (Hard Chromatic)

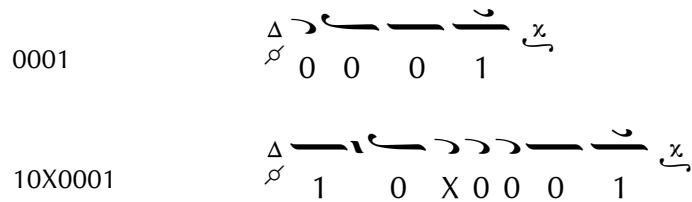
A) Cadences on Ke

Accented on last syllable:

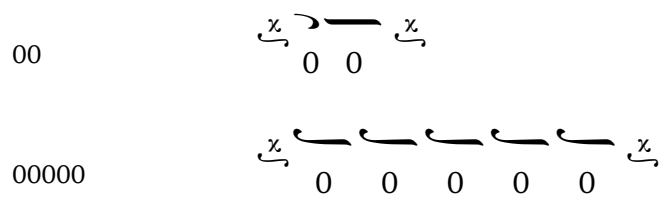
From Pa



From Di

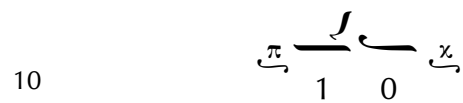


From Ke



Accented on second to last syllable:

From Pa



Plagal Second Mode - Verses (Hard Chromatic)

π χ
 1 0

010 π χ
 0 1 0

0010 π χ
 0 0 1 0

π χ
 0 0 1 0

X010 π χ
 X 0 1 0

X0010 π χ
 X 0 0 1 0

0010010 π χ
 0 0 1 0 0 1 0

10100010 π χ
 1 0 1 0 0 0 1 0

000100010 π χ
 0 0 0 1 0 0 0 1 0

From Di

0010 Δ χ
 ρ 0 0 1 0

Δ χ
 ρ 0 0 1 0

From Ke

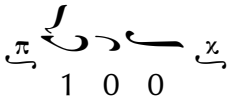
100010 χ χ
 1 0 0 0 1 0

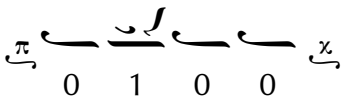
010X010 χ χ
 0 1 0 X 0 1 0

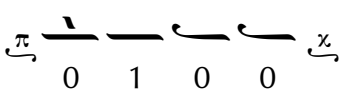
Plagal Second Mode - Verses (Hard Chromatic)

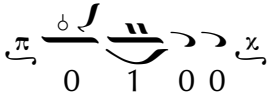
Accented on third to last syllable:

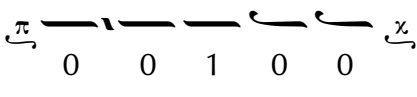
From Pa

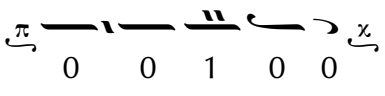
100 

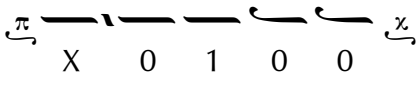
0100 

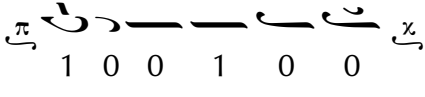


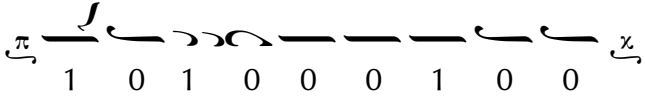


00100 




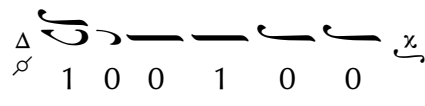
X0100 

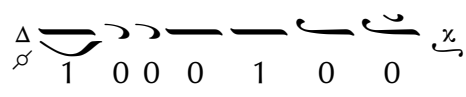
100100 

101000100 

From Di

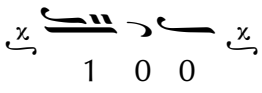
00100 

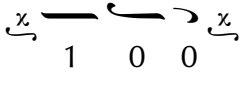
100100 


1000100 

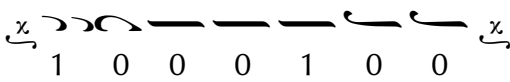
Plagal Second Mode - Verses (Hard Chromatic)

From Ke

100 

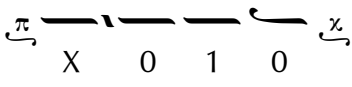


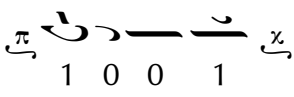
0100 


1000100 

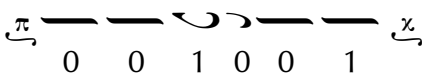
Accented on fourth to last syllable:

From Pa

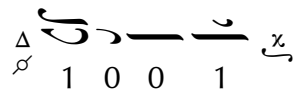
X010 

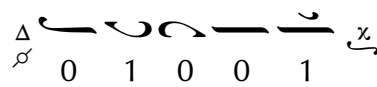
1001 

01001 

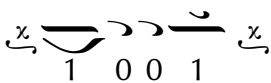
001001 

From Di


1001 

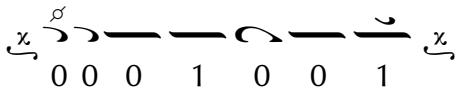
01001 

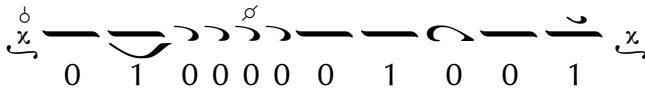
From Ke

1001 

Plagal Second Mode - Verses (Hard Chromatic)

01010 

0001001 

0100001001 

Plagal Second Mode - Verses (Hard Chromatic)

B) Cadences on Di

Accented on last syllable:

From Pa

0001

100001



From Di

00

000

001

0001

10001

000001

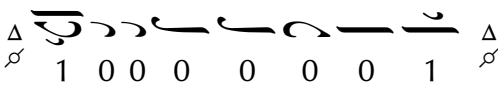
010001

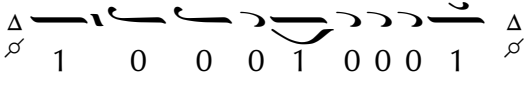
100001

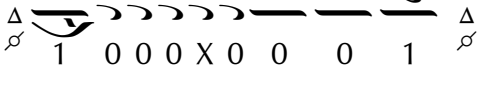
010X0001


10000001

Plagal Second Mode - Verses (Hard Chromatic)

Δ
 \int_{ρ}  Δ
 1 0 0 0 0 0 0 1

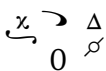
Δ
 100010001 \int_{ρ}  Δ
 1 0 0 0 1 0 0 0 1

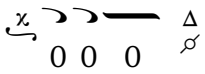
Δ
 1000X0001 \int_{ρ}  Δ
 1 0 0 0 X 0 0 0 1

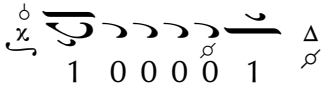
Δ
 1010100001 \int_{ρ}  Δ
 1 0 1 0 1 0 0 0 0 1



From Ke

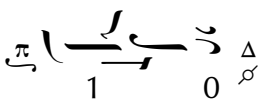
\int_{ρ}  Δ
 0

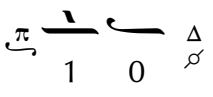
\int_{ρ}  Δ
 000

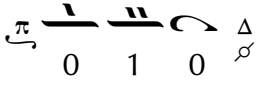
\int_{ρ}  Δ
 1 0 0 0 0 1

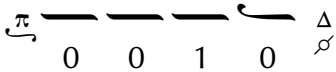
Accented on second to last syllable:

From Pa

\int_{ρ}  Δ
 1 0

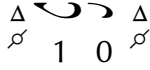
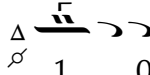
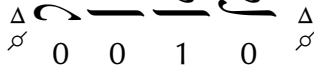
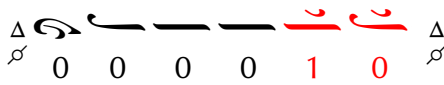



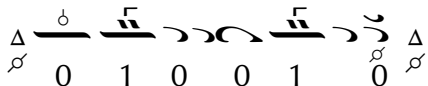
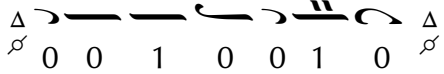
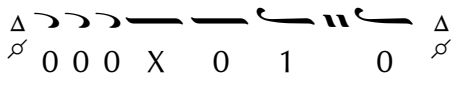
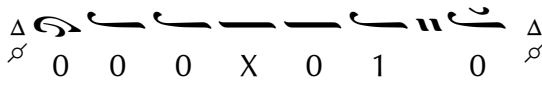
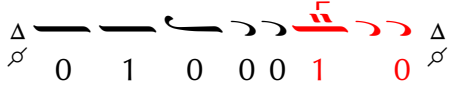

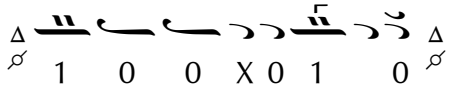
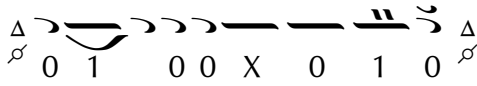


\int_{ρ}  Δ
 1 0

\int_{ρ}  Δ
 0 1 0

\int_{ρ}  Δ
 0 0 1 0

From Di

Plagal Second Mode - Verses (Hard Chromatic)

10		
		
0010		
000010		
010010		
		
0010010		
000X010		
		
0100010		
100X010		
0100X010		
<u>From Ke</u>		
100010		

Plagal Second Mode - Verses (Hard Chromatic)

110010		
0100010		
01000010		
10000010		

Accented on third to last syllable:

From Pa

100		
0100		

Plagal Second Mode - Verses (Hard Chromatic)

0100		
11100		
000100		
100100		
1000100		
10100100		
001000100		

From Ke

100	

Plagal Second Mode - Verses (Hard Chromatic)

0100	
10100	
100100	
1X0100	
0100100	
1000100	
1010100	
01000100	

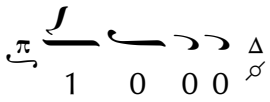
0 0

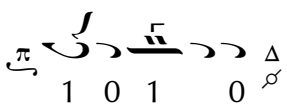
1 0 0

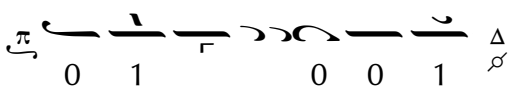
Accented on fourth to last syllable:

From Pa

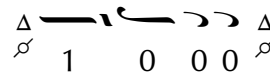
Plagal Second Mode - Verses (Hard Chromatic)

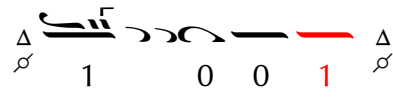
1000 

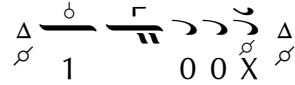
1010 


01001 


From Di

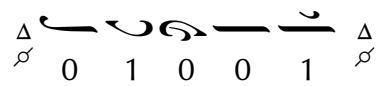
1000 

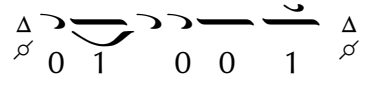
1001 

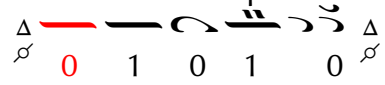
100X 

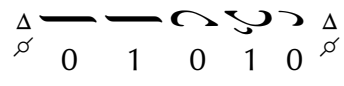
1X00 

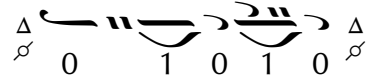
01000 

01001 

01001 

01010 

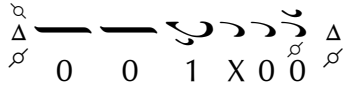
01010 

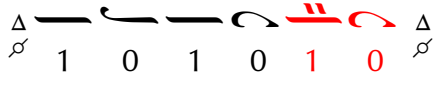
01010 

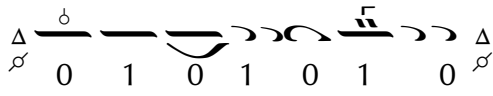


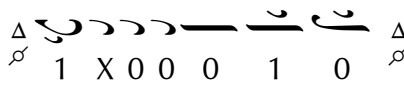


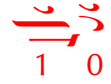
Plagal Second Mode - Verses (Hard Chromatic)

001X00 

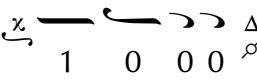
101010 

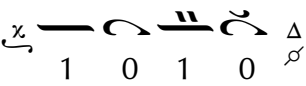
0101010 

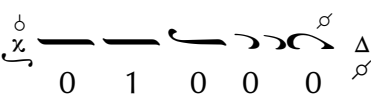
1X00010 

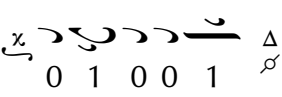



From Ke

1000 

1010 

01000 

01001 

0101010 

Plagal Second Mode - Verses (Hard Chromatic)

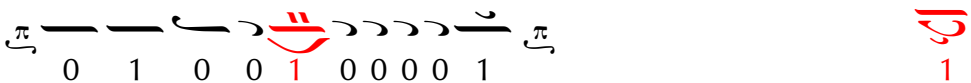
C) Cadences on Pa

The formulae in this section that are not from Pa are used as final formulae.

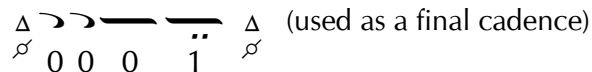
Accented on last syllable:

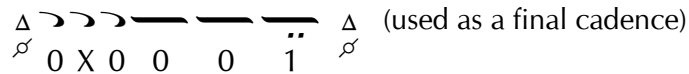
From Pa

00 

0100100001 

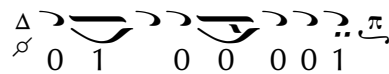
From Di


0001 

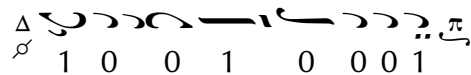
0X0001 

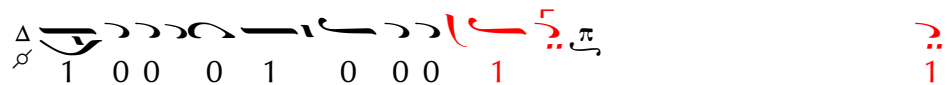
0010001 

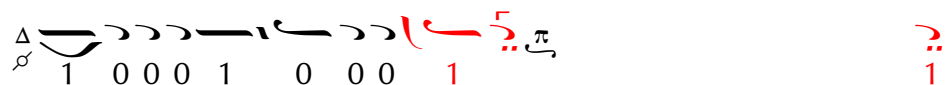
0100001 



01000001 

10010001 

100010001 



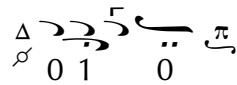
Plagal Second Mode - Verses (Hard Chromatic)

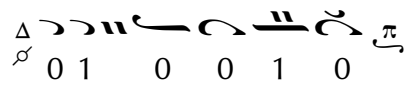
Accented on second to last syllable:

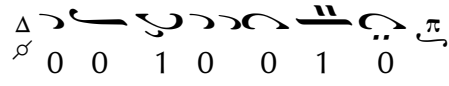
From Pa

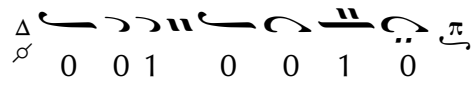
10 

From Di


010 

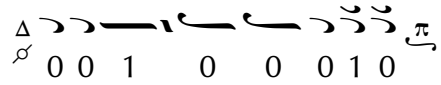
010010 

0010010 

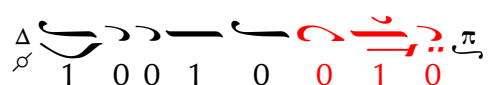



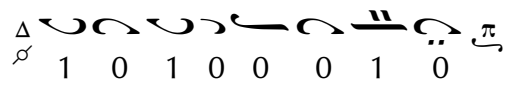
100X010  

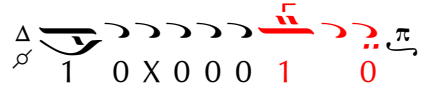
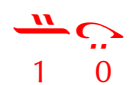
00010010 

00100010 

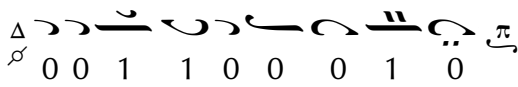
1000X010 

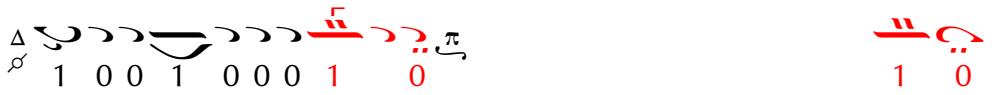
10010010  

10100010 

10X00010  

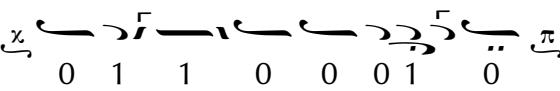
Plagal Second Mode - Verses (Hard Chromatic)

001100010 

100100010 

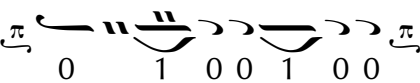
0101010010 

From Ke

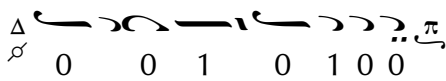
01100010 


Accented on third to last syllable:

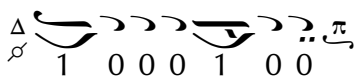
From Pa

0100100 

From Di


0010100 

0100100 

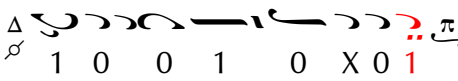

1000100 

1100100 

01000100 

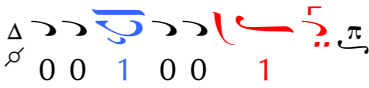
10000100 

Plagal Second Mode - Verses (Hard Chromatic)


10010X01 Δ
 ρ 1 0 0 1 0 X 0 1 π
 


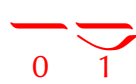
Accented on fourth to last syllable:

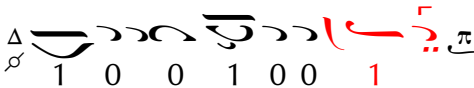

From Di

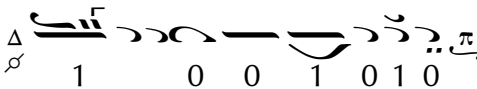
001001 Δ
 ρ 0 0 1 0 0 1 π


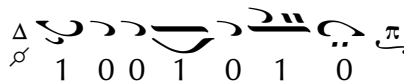
 


0101010 Δ
 ρ 0 1 0 1 0 1 0 π


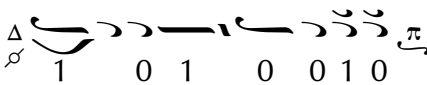
0001010 Δ
 ρ 0 0 0 1 0 1 0 π
 

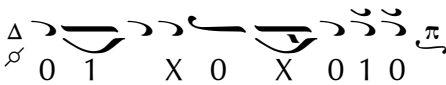
1001001 Δ
 ρ 1 0 0 1 0 0 1 π
 

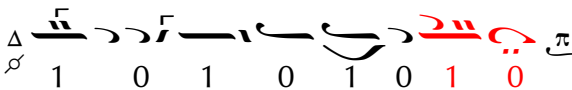
1001010 Δ
 ρ 1 0 0 1 0 1 0 π


Δ
 ρ 1 0 0 1 0 1 0 π


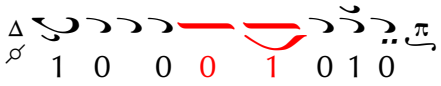
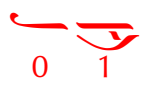
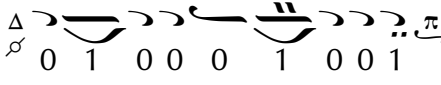
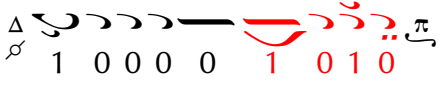
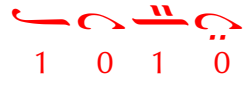


0001010 Δ
 ρ 0 0 0 1 0 1 0 π


1010010 Δ
 ρ 1 0 1 0 0 1 0 π


01X0X010 Δ
 ρ 0 1 X 0 X 0 1 0 π


10101010 Δ
 ρ 1 0 1 0 1 0 1 0 π
 

Plagal Second Mode - Verses (Hard Chromatic)

10001010	Δ  ρ 1 0 0 0 1 0 1 0	 0 1
010001001	Δ  ρ 0 1 0 0 0 1 0 0 1	
100001010	Δ  ρ 1 0 0 0 0 1 0 1 0	 1 0 1 0
010X001010	Δ  ρ 0 1 0 X 0 0 1 0 1 0	 X 0

Plagal Second Mode - Verses (Hard Chromatic)

D) Formulae with Fthoras

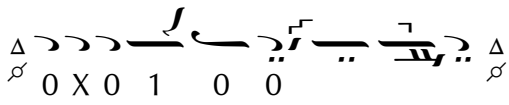
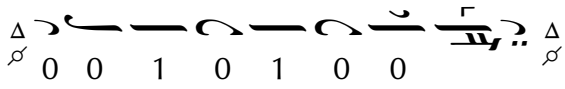
010 $\overset{\pi}{\curvearrowright} \text{—} \overset{\Gamma}{\text{—}} \overset{\gamma}{\curvearrowright} \overset{\rho}{\curvearrowright}$
0 1 0

0100X010 $\overset{\pi}{\curvearrowright} \text{—} \overset{\gamma}{\curvearrowright} \overset{\rho}{\curvearrowright} \text{—} \text{—} \text{—} \text{—} \overset{\Gamma}{\text{—}} \overset{\gamma}{\curvearrowright} \overset{\rho}{\curvearrowright} \overset{\pi}{\curvearrowright}$
0 1 0 0 X 0 1 0

Plagal Second Mode - Verses (Hard Chromatic)

E) Cadences for Theotokia

From Di

0X0100	
0010100	



Grave Mode



BYZANTINE MUSIC FORMULAE

Grave Mode - Sticheraric

Contents*

<u>Medial Cadences on Pa</u>	
A) Accented on Last Syllable	674
B) Accented on Second to Last Syllable	675
C) Accented on Third to Last Syllable	677
D) Accented on Fourth to Last Syllable	678
<u>Medial Cadences on Ga</u>	
E) Accented on Last Syllable	679
F) Accented on Second to Last Syllable.....	682
G) Accented on Third to Last Syllable.....	686
H) Accented on Fourth to Last Syllable.....	690
<u>Medial Cadences on Di</u>	
I) Accented on Last Syllable.....	692
J) Accented on Second to Last Syllable	699
K) Accented on Third to Last Syllable	706
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M) Fthores	714
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O) Final Cadences:	717
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* The Byzantine music formulae herein were extracted from sticheraric melodies found in the *Zoe Anastas74 imatarion* (14th edition, 2002) Volumes I, II, and III of *Mousike Kypsele* (1883 edition), the *Doxastarion* of Konstantinos Protopsaltis (1844 edition), and the two-volume *Athonias* (1906 edition) by Petros Philanthidis.

Key:

1 = accented syllable
0 = unaccented syllable
X = syllable that may be either
 accented or unaccented

Variations of the same formula are
indicated in color

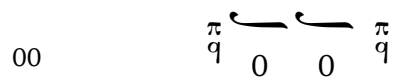
Medial Cadences on Pa

A) Accented on Last Syllable

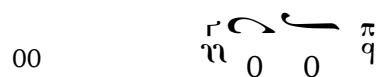
Notice that this mode has no medial cadences on Pa for phrases accented on the last syllable. In the event that a composer desires to have a cadence on Pa for a phrase accented on the last syllable, he may use a formula ending in the pattern "100".

Pa - Pa

This section is essentially empty, since such melodic movements in this mode are rare.



Ga - Pa



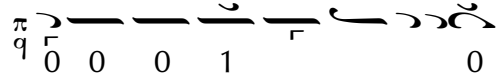
Di - Pa



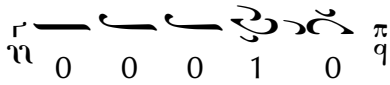
B) Accented on Second to Last Syllable

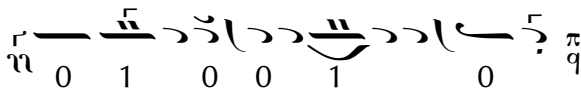
Pa - Pa

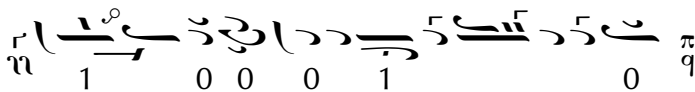
This section is almost empty, since such melodic movements in this mode are rare.

00010 

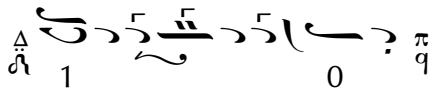
Ga - Pa


00010 

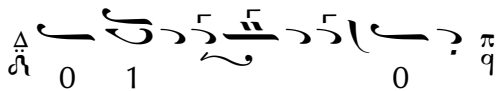
010010 

100010 

Di - Pa

10 

010 











Grave Mode - Sticheraric

0010 $\overset{\Delta}{\mathfrak{A}}$ πq

$\overset{\Delta}{\mathfrak{A}}$ πq

0

0

0

0

00010 $\overset{\Delta}{\mathfrak{A}}$ πq

0

0

0

01010 $\overset{\Delta}{\mathfrak{A}}$ πq

1

C) Accented on Third to Last Syllable

Pa - Pa

This section is empty, since such melodic movements in this mode are rare.

Ga - Pa

This section is also empty because melodies in this mode rarely move directly from Ga to Pa.

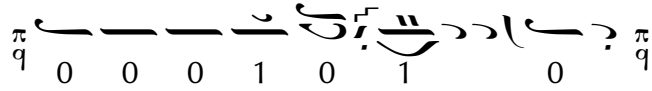
Di - Pa

100		
0100		
010X		
1100		
00100		

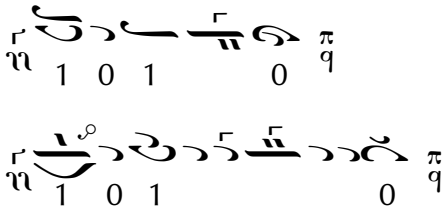
D) Accented on Fourth to Last Syllable

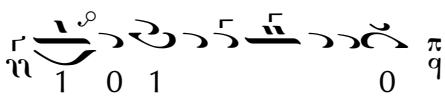
Pa - Pa

This section is almost empty, since such melodic movements in this mode are rare.

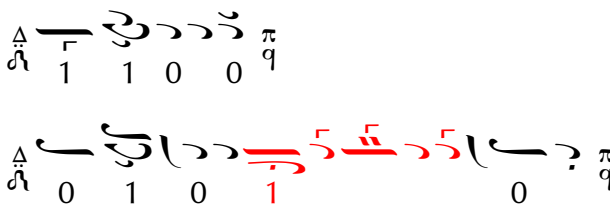
0001010 

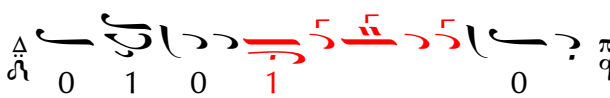
Ga - Pa

1010 



Di - Pa

1100 

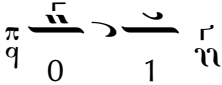
01010 

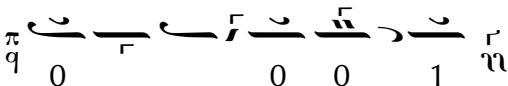


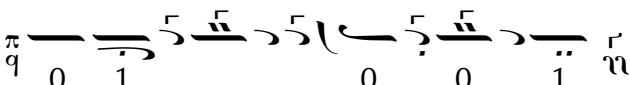
Medial Cadences on Ga

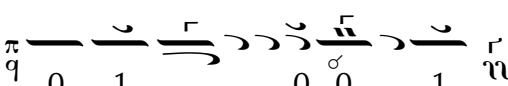
E) Accented on Last Syllable

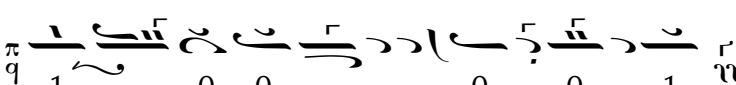
Pa - Ga

01 

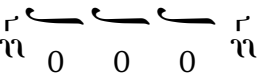
0001 

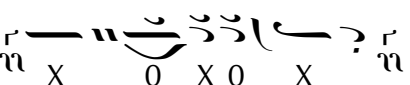
01001 




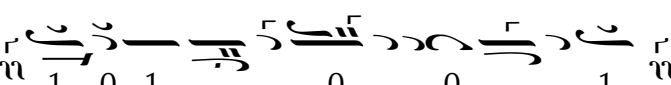
100001 

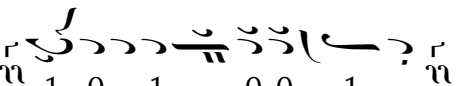
Ga - Ga

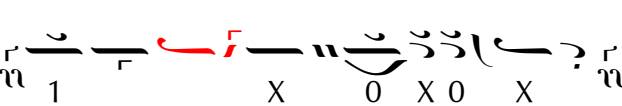
000 

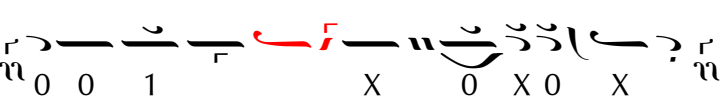
X0X0X 


1X0XX 

101001 



1X0X0X 

001X0X0X 



Grave Mode - Sticheraric

0001X0X0X

101010X0X0X

Di - Ga

0

00

000

1001

001001

X01001


010001

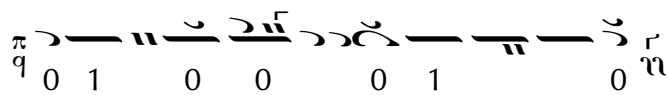
Grave Mode - Sticheraric


100X01		
0001001		
0101001		
X0X0X0X		
0100001		
01001001		
10001001		
10010001		
0001010X		

F) Accented on Second to Last Syllable

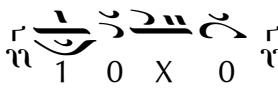
Pa - Ga

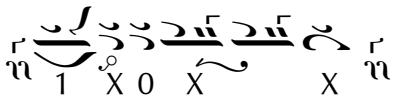
010 

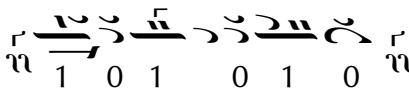
0100010 

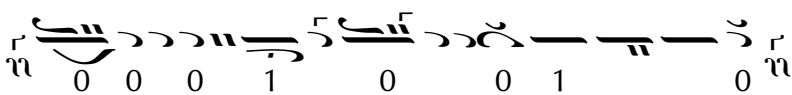
000100010 

Ga - Ga

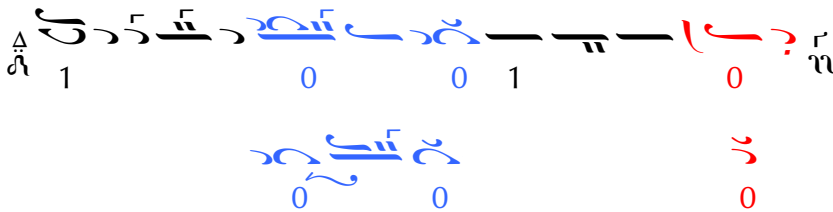
10X0 

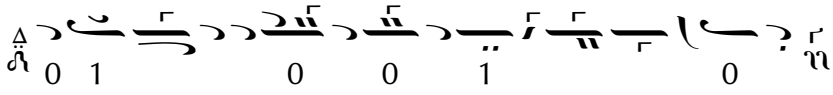
1X0XX 

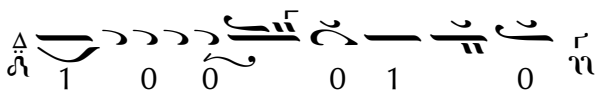
101010 


00010010 

Di - Ga

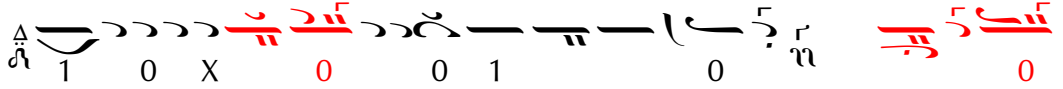
10010 

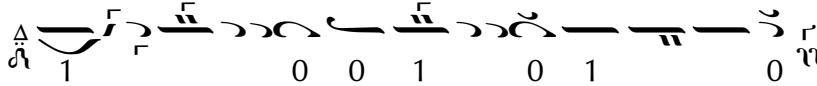
010010 

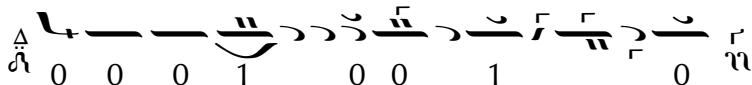
100010 

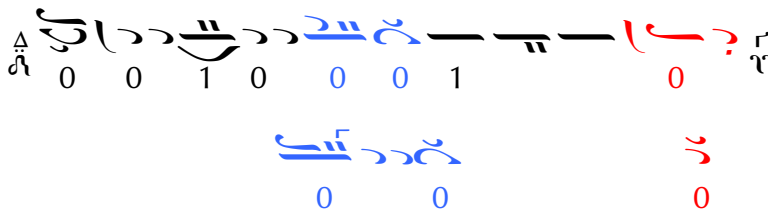
0010010 

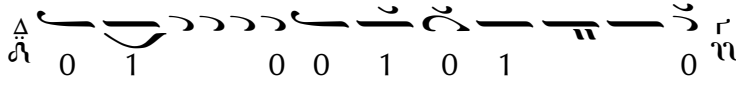
Grave Mode - Sticheraric

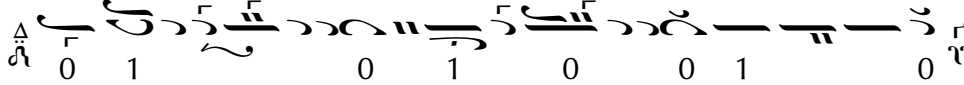
10X0010 

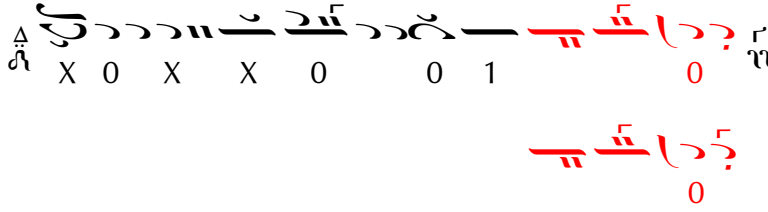
1001010 

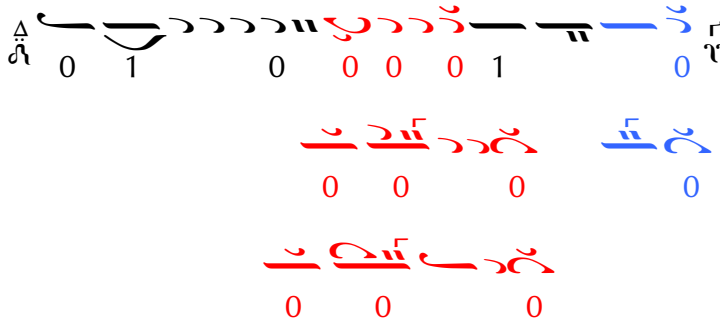
00010010 

00100010 

01001010 

01010010 

X0XX0010 

01000010 

Grave Mode - Sticheraric

010000010

Δ

 δ 0 1 0 0 0 0 0 1 0

0 0 0 0

0 0

010001010

Δ

 δ 0 1 0 0 0 1 0 1 0

101000010

Δ

 δ 1 0 1 0 0 0 0 1 0

0 0 0 0

0 0 0

0

100000010

Δ

 δ 1 0 0 0 0 0 0 0 1 0

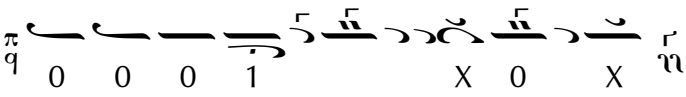
0100000010

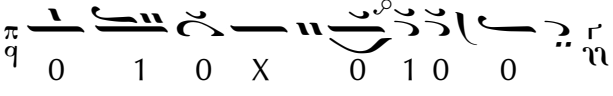
Δ

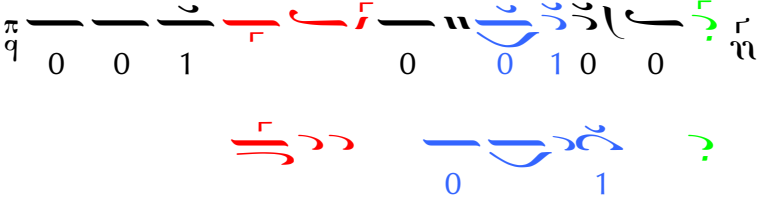
 δ 0 1 0 0 0 0 0 0 0 1 0

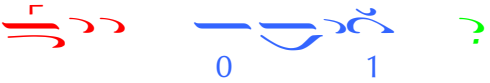
G) Accented on Third to Last Syllable

Pa - Ga


0001X0X 

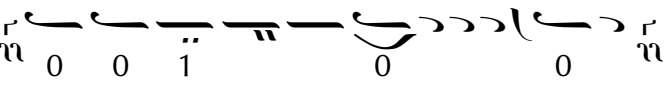
010X0100 

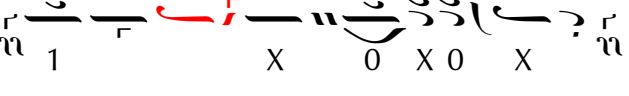
00100100 

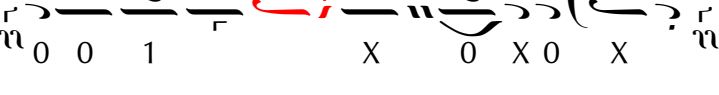


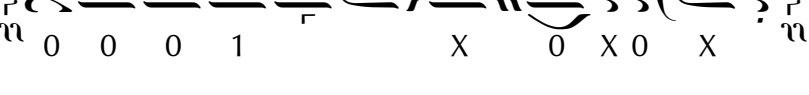
Ga - Ga

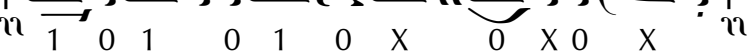
X0X0X 

00100 

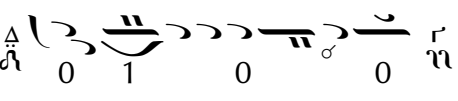
1X0X0X 

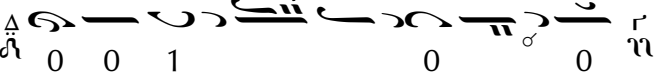
001X0X0X 

0001X0X0X 

101010X0X0X 

Di -Ga

0100 

00100 

Grave Mode - Sticheraric

	Δ		0	0	1	0	0	r
	Δ		0	0	1	0	0	r
10100	Δ		1	0	1	0	0	r
	Δ		1	0	1	0	0	r
00010X	Δ		0	0	0	1	0	X r
100100	Δ		1			0	0	10 0 r
	Δ		1	0	0	1	0	0 r
	Δ		1	0	0	1	0	0 r
			1					
				0				
			1					
				0				
0000100	Δ		0	0	0	0	1	0 0 r
0100100	Δ		0	1			0	0 10 0 r
							1	
								0

Grave Mode - Sticheraric

1000100		
0010100		
1010100		
X0X0X0X		
X010100		
0001010X		
00100100		
01000100		
10000100		

Grave Mode - Sticheraric

Δ
 δ 1 0 0 0 0 0 1 0 0 δ

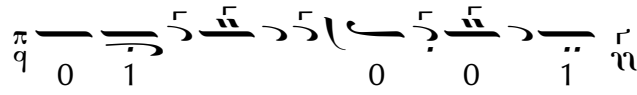
1 0

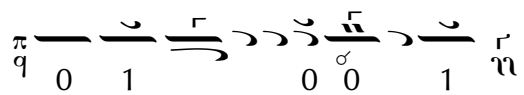
001000100

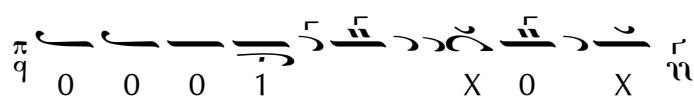
Δ
 δ 0 0 1 0 0 0 1 0 0 δ

H) Accented on Fourth to Last Syllable


Pa - Ga

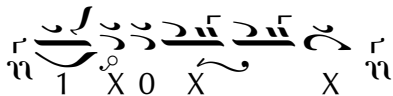
01001 

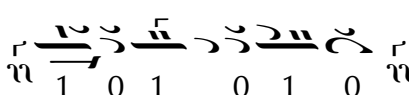


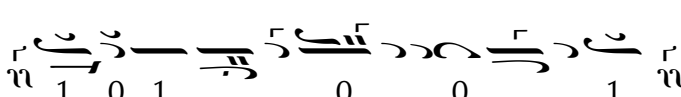
0001X0X 

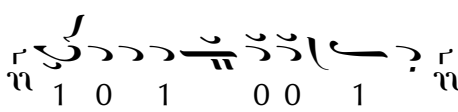
Ga - Ga

10X0 

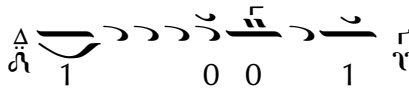
1X0XX 

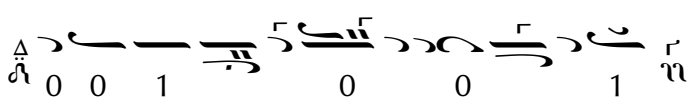
101010 

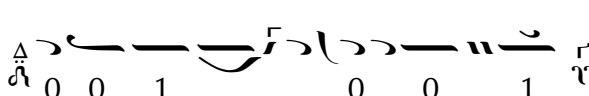
101001 

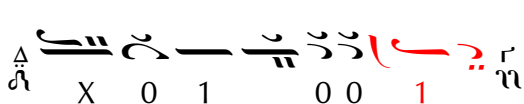


Di - Ga

1001 

001001 



X01001 



Grave Mode - Sticheraric

101001		
0001001		
0101001		
1001010		
01001001		
10001001		
01001010		
10101010		
010001010		

Medial Cadences on Di

I) Accented on Last Syllable

Pa - Di


0	π q $\frac{\text{—}}{0}$ $\overset{\Delta}{\text{Di}}$
00	π q $\frac{\text{—}}{0}$ $\frac{\text{—}}{0}$ $\overset{\Delta}{\text{Di}}$
001	π q $\frac{\text{—}}{0}$ $\frac{\text{—}}{0}$ $\frac{\text{—}}{1}$ $\overset{\Delta}{\text{Di}}$
	π q $\frac{\text{—}}{0}$ $\frac{\text{—}}{0}$ $\frac{\text{—}}{1}$ $\overset{\Delta}{\text{Di}}$
1001	π q $\frac{\text{—}}{1}$ $\frac{\text{—}}{0}$ $\frac{\text{—}}{0}$ $\frac{\text{—}}{1}$ $\overset{\Delta}{\text{Di}}$
	π q $\frac{\text{—}}{1}$ $\frac{\text{—}}{0}$ $\frac{\text{—}}{0}$ $\frac{\text{—}}{1}$ $\overset{\Delta}{\text{Di}}$
	π q $\frac{\text{—}}{1}$ $\frac{\text{—}}{0}$ $\frac{\text{—}}{0}$ $\frac{\text{—}}{1}$ $\overset{\Delta}{\text{Di}}$
01001	π q $\frac{\text{—}}{0}$ $\frac{\text{—}}{1}$ $\frac{\text{—}}{0}$ $\frac{\text{—}}{0}$ $\frac{\text{—}}{1}$ $\overset{\Delta}{\text{Di}}$
00001	π q $\frac{\text{—}}{0}$ $\frac{\text{—}}{0}$ $\frac{\text{—}}{0}$ $\frac{\text{—}}{0}$ $\frac{\text{—}}{1}$ $\overset{\Delta}{\text{Di}}$
00101	π q $\frac{\text{—}}{0}$ $\frac{\text{—}}{0}$ $\frac{\text{—}}{1}$ $\frac{\text{—}}{0}$ $\frac{\text{—}}{1}$ $\overset{\Delta}{\text{Di}}$
001001	π q $\frac{\text{—}}{0}$ $\frac{\text{—}}{0}$ $\frac{\text{—}}{1}$ $\frac{\text{—}}{0}$ $\frac{\text{—}}{0}$ $\frac{\text{—}}{1}$ $\overset{\Delta}{\text{Di}}$
	π q $\frac{\text{—}}{0}$ $\frac{\text{—}}{0}$ $\frac{\text{—}}{1}$ $\frac{\text{—}}{0}$ $\frac{\text{—}}{0}$ $\frac{\text{—}}{1}$ $\overset{\Delta}{\text{Di}}$

$\frac{\text{—}}{0}$

Grave Mode - Sticheraric

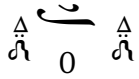
10001		
000001		
010001		
101001		
0001001		
0010001		
0101001		
1001001		
1010001		
0X10001		
00100001		
00101001		
10010001		

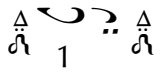
Grave Mode - Sticheraric

0X0101001 

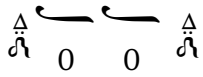
Di - Di

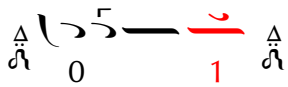
0 

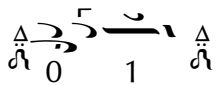


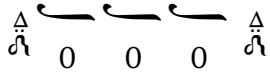
1 

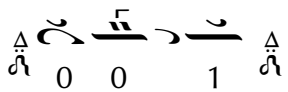
00 

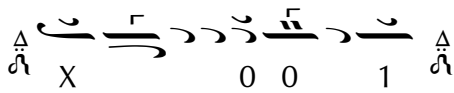


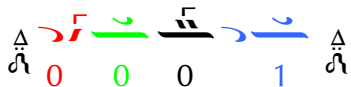
01 



000 

001 

X001 










Grave Mode - Sticheraric

 
 0 1


 1 $\frac{x}{q}$

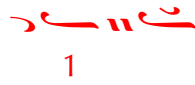
0000 Δ
 Δ 0 0 0 0 Δ


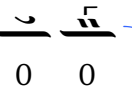

1001 Δ  0 0  Δ 
 1 0 0 1 1

Δ  0 0  Δ
 1 0 0 1

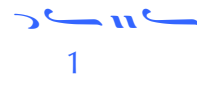
 
 1 1


 
 1 1

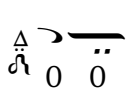
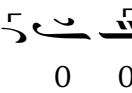
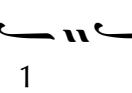

 1

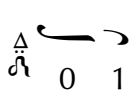

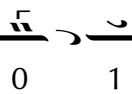
00001 Δ   0 0  Δ
 0 0 0 0 1

 
 0 1

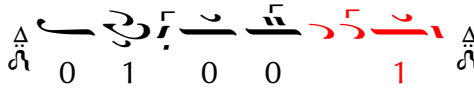

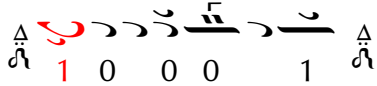

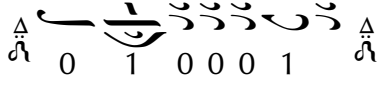
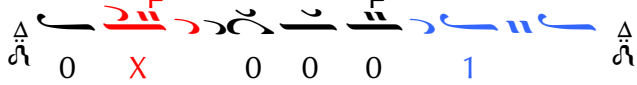




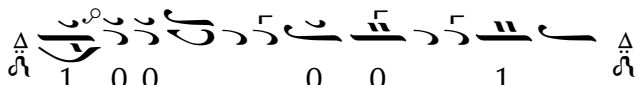
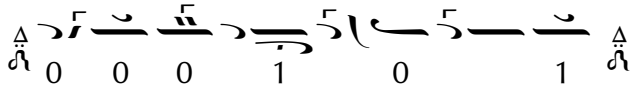
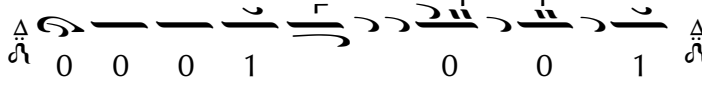
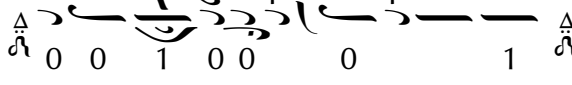
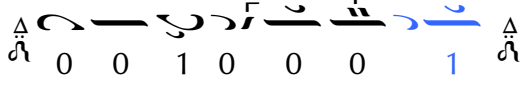
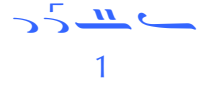



 1


 1 $\frac{x}{q}$

Δ   0 0  Δ
 0 0 0 0 1

01001 Δ   0 0  Δ
 0 1 0 0 1

Grave Mode - Sticheraric

		
10001		
010001		
0X0001		
		
		
100001		
000101		
0001001		
0010001		
		
		
		
		

Grave Mode - Sticheraric

0X00001

1000101

0010001

0101001

1100001001

J) Accented on Second to Last Syllable


Pa - Di

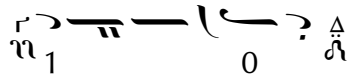
10	π q		1	0	Δ ♩					
010	π q		0	1	0	Δ ♩				
	π q		0	1	0	Δ ♩				
	π q		0	1	0	Δ ♩				
0010	π q		0	0	1	0	Δ ♩			
	π q		0	0	1	0	Δ ♩			
	π q		0	0	1	0	Δ ♩			
	π q		0	0	1	0	Δ ♩			
	π q		0	0	1	0	Δ ♩			
01010	π q		0	0	0	1	0	Δ ♩		
00X010	π q		0	0	X	0	1	0	Δ ♩	
001010	π q		0	0	1	0	1	0	Δ ♩	
0010010	π q		0	0	1	0	0	1	0	Δ ♩
1010010	π q		1	0	1	0	0	1	0	Δ ♩

Grave Mode - Sticheraric

Ga - Di

These formulae are used also as initial formulae.

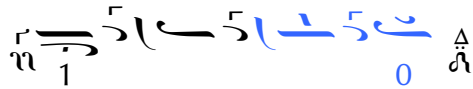
10 



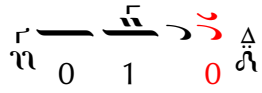




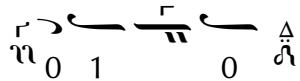


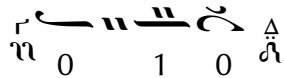


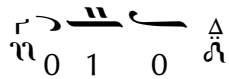


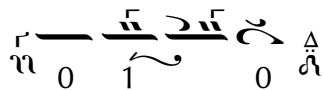
010 

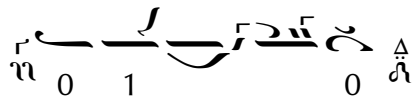


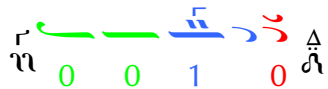


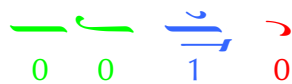








0010 



Grave Mode - Sticheraric

0 0 1 0

0 0 1 0

1 0

0 1 0

0 1 0

1010

1 0 1 0

00010

0 0 0 1 0

0 0 0 1 0

0 0 0

01010

0 1 0 1 0

0 1 0 1 0

10010

1 0 0 1 0

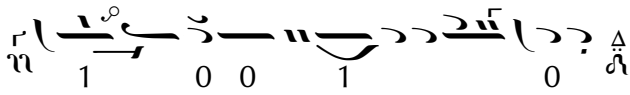
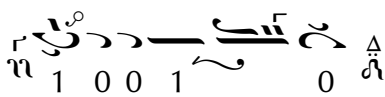
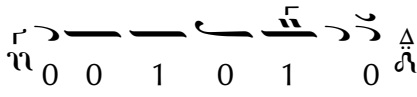
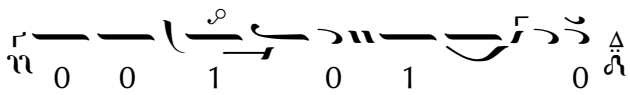
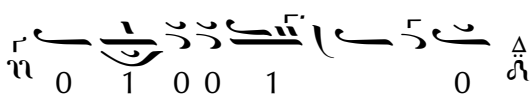
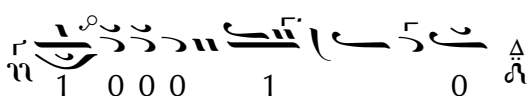
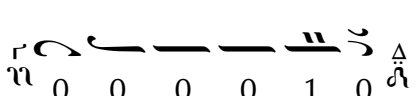
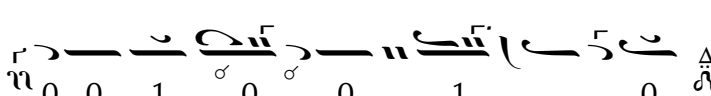
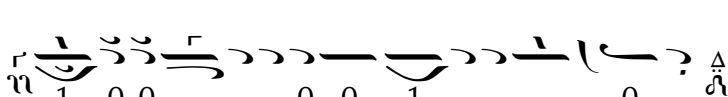
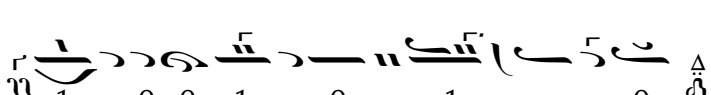
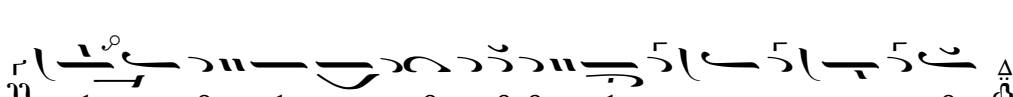
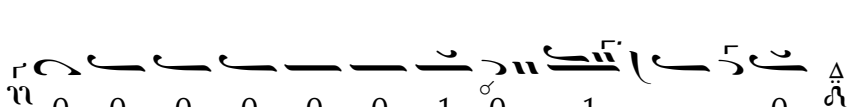
1 0 0 1 0

1 0 0 1 0

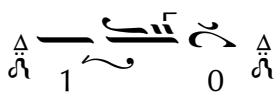
1 0 0 1 0

1 0 0

Grave Mode - Sticheraric

	
	
001010	
	
010010	
100010	
000010	
0010010	
1000010	
1001010	
10100010	
000001010	

Di - Di

10	
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Grave Mode - Sticheraric

Ⲁ ⲛ̅ⲓ ⲛ̅ⲓ Ⲁ
ⲛ̅ 1 0 ⲛ̅

Ⲁ ⲛ̅ⲓ ⲛ̅ⲓ Ⲁ
ⲛ̅ 1 0 ⲛ̅

Ⲁ ⲛ̅ⲓ ⲛ̅ⲓ Ⲁ
ⲛ̅ 1 0 ⲛ̅

Ⲁ ⲛ̅ⲓ ⲛ̅ⲓ ⲛ̅ⲓ ⲛ̅ⲓ Ⲁ
ⲛ̅ 1 0 ⲛ̅

Ⲁ ⲛ̅ⲓ ⲛ̅ⲓ ⲛ̅ⲓ ⲛ̅ⲓ Ⲁ
ⲛ̅ 1 0 ⲛ̅

Ⲁ ⲛ̅ⲓ ⲛ̅ⲓ ⲛ̅ⲓ ⲛ̅ⲓ ⲛ̅ⲓ Ⲁ
ⲛ̅ 1 0 ⲛ̅

010

Ⲁ ⲛ̅ⲓ ⲛ̅ⲓ ⲛ̅ⲓ Ⲁ
ⲛ̅ 0 1 0 ⲛ̅

ⲛ̅
0

Ⲁ ⲛ̅ⲓ ⲛ̅ⲓ ⲛ̅ⲓ Ⲁ
ⲛ̅ 0 1 0 ⲛ̅

Ⲁ ⲛ̅ⲓ ⲛ̅ⲓ ⲛ̅ⲓ ⲛ̅ⲓ Ⲁ
ⲛ̅ 0 1 0 ⲛ̅

Ⲁ ⲛ̅ⲓ ⲛ̅ⲓ ⲛ̅ⲓ ⲛ̅ⲓ Ⲁ
ⲛ̅ 0 1 0 ⲛ̅

Ⲁ ⲛ̅ⲓ ⲛ̅ⲓ ⲛ̅ⲓ Ⲁ
ⲛ̅ 0 1 0 ⲛ̅

Ⲁ ⲛ̅ⲓ ⲛ̅ⲓ ⲛ̅ⲓ ⲛ̅ⲓ Ⲁ
ⲛ̅ 0 1 0 ⲛ̅

Ⲁ ⲛ̅ⲓ ⲛ̅ⲓ ⲛ̅ⲓ ⲛ̅ⲓ Ⲁ
ⲛ̅ 0 1 0 ⲛ̅

0010

Ⲁ ⲛ̅ⲓ ⲛ̅ⲓ ⲛ̅ⲓ ⲛ̅ⲓ Ⲁ
ⲛ̅ 0 0 1 0 ⲛ̅

ⲛ̅
0 0

Grave Mode - Sticheraric

0 0 1 0

0 0

0 0

0 0 1 0

0 0 1 0

0 0 1 0

0 0 1 0

0 0 1 0

0 0 1 0

01010

0 1 0 1 0

0 1 0 1 0

00010

0 0 0 1 0

0

0 0 0 1 0

0


0 0 0 1 0


Grave Mode - Sticheraric

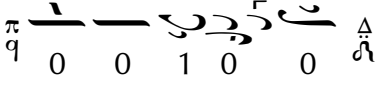
10010		
000010		
010010		
100010		
0010010		
0100010		

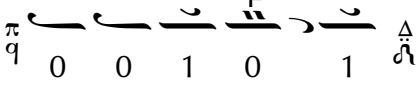
K) Accented on Third to Last Syllable

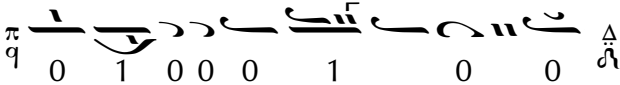
Pa - Di

0100 



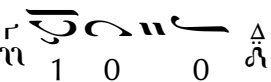
00100 

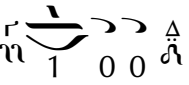
00101 


01000100 

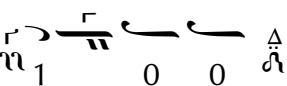
Ga - Di

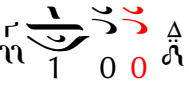
These formulae are used also as initial formulae.


100 

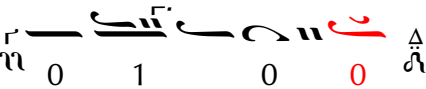











0100 









Grave Mode - Sticheraric

0100100	
10000100	
10X00010X	

Di - Di

100		
0100		

Grave Mode - Sticheraric

0 1 0 0

0 1 0 0

0 1 0 0

0 0

0 0

010X

0 1 0 X

0 1 0 X

00100

0 0 1 0 0

0 0 1 0 0

0 0 1 0 0

0 0

0 0

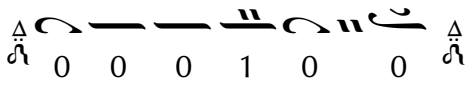
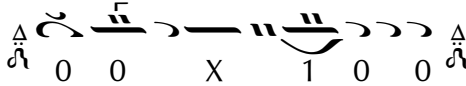
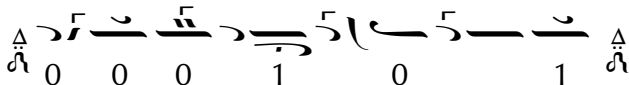
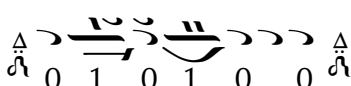
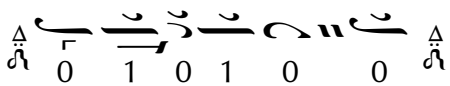

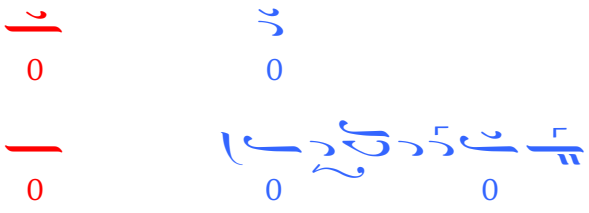
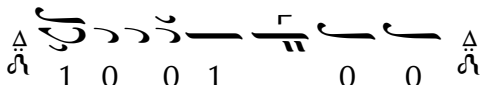
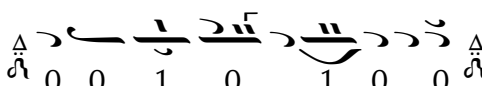
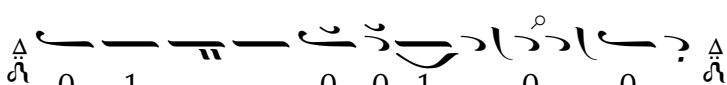
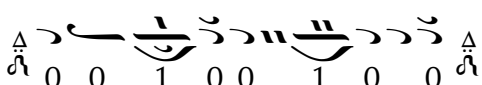
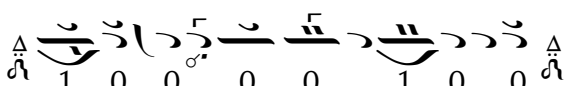
000100

0 0 0 1 0 0

0 0 0 1 0 0

0

Grave Mode - Sticheraric

	 0 0 0 1 0 0
00X100	 0 0 X 1 0 0
000101	 0 0 0 1 0 1
010100	 0 1 0 1 0 0
	 0 1 0 1 0 0
	 0 1 0 1 0 0
	 0 0 0 0
100100	 1 0 0 1 0 0
0010100	 0 0 1 0 1 0 0
0100100	 0 1 0 0 1 0 0
00100100	 0 0 1 0 0 1 0 0
10000100	 1 0 0 0 0 1 0 0

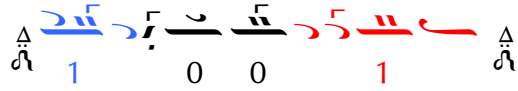
Grave Mode - Sticheraric

01010	
	0 1 0 1 0
	0 1 0 1 0
101001	
	1 0 1 0 0 1
001010	
	0 0 1 0 1 0
	0 0 1 0 1 0
0001001	
	0 0 0 1 0 0 1
0101001	
	0 1 0 1 0 0 1
1001001	
	1 0 0 1 0 0 1
1001010	
	1 0 0 1 0 1 0
00101001	
	0 0 1 0 1 0 0 1
0X0101001	
	0 X 0 1 0 1 0 0 1
000001010	
	0 0 0 0 0 0 1 0 1 0

Di - Di

1001		
	1 0 0 1	1

Grave Mode - Sticheraric



 1 0 0 1



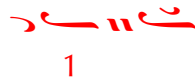
 1



 1



 1

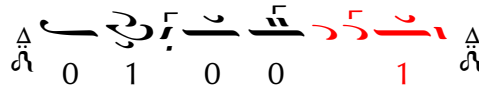


 1

01001



 0 1 0 0 1

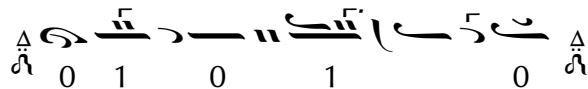


 0 1 0 0 1

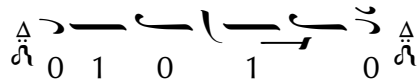


 1

01010

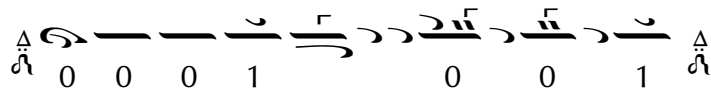


 0 1 0 1 0



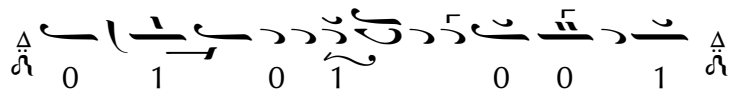
 0 1 0 1 0

0001001



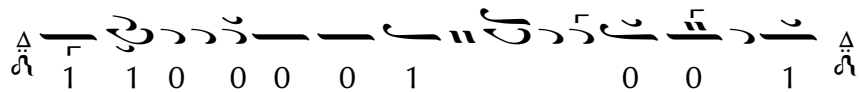
 0 0 0 1 0 0 1

0101001



 0 1 0 1 0 0 1

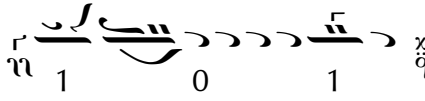
1100001001

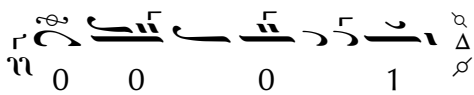


 1 1 0 0 0 0 1 0 0 1

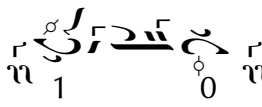
M) Fthores


Accented on last syllable:

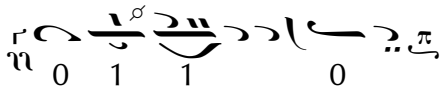
101 

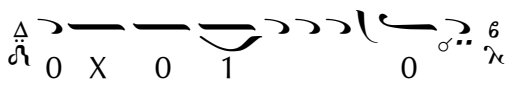
0001 

Accented on second to last syllable:

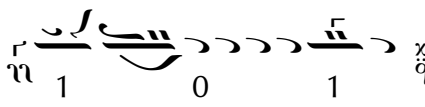
10 

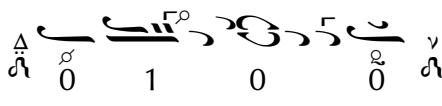
010 

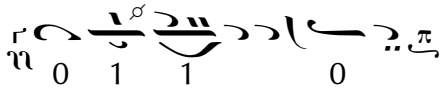
0110 

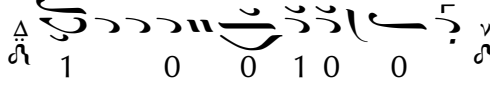
0X010 


Accented on third to last syllable:

101 

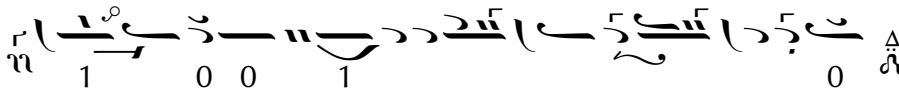
0100 

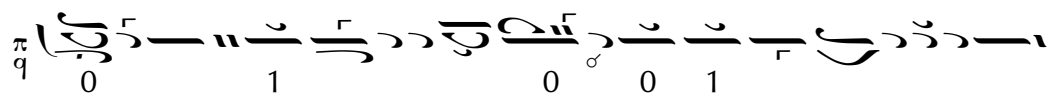
0110 


100100 

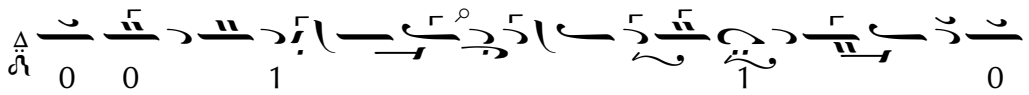
1000100 

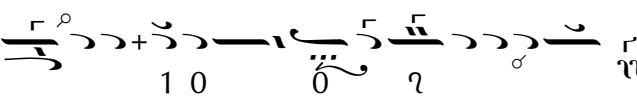
Grave Mode - Sticheraric


10010 

10010 

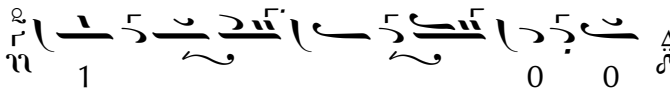


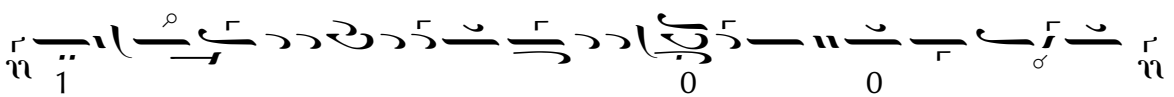
001100 

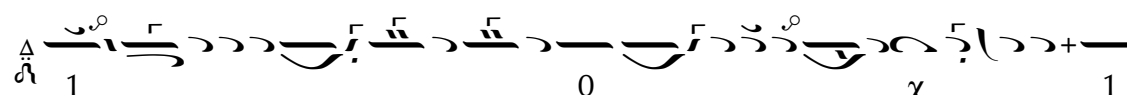


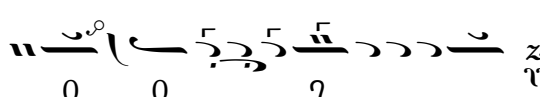
100010 

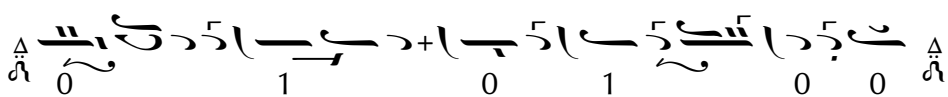
Accented on third to last syllable:

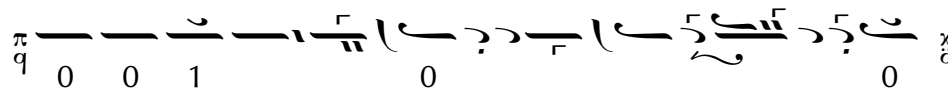
100 

100 

100 



0100 

00100 

Grave Mode - Sticheraric

0X00010

10001010

X0XX0010

Accented on third to last syllable:

100

01100

000100

Grave Mode - Sticheraric

100100

1 0 0 1 0 0

(orthographically incorrect but frequent in the *Zoe Anastasimatarion*)

100100

1 0 0 1 0 0

1000100

1 0 0 0 1 0 0

0101010X

0 1 0 1 0 1 0 X

Accented on fourth to last syllable:

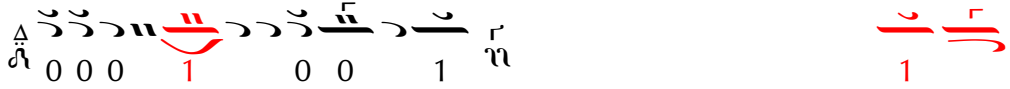
001001

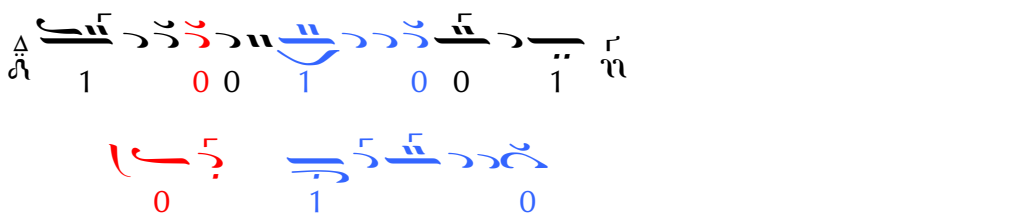
0 0 1 0 0 1

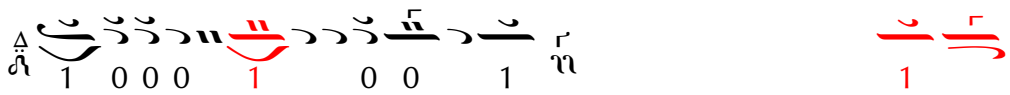
101010

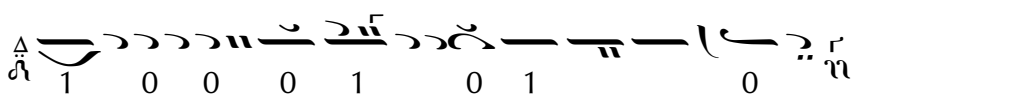
1 0 1 0 1 0

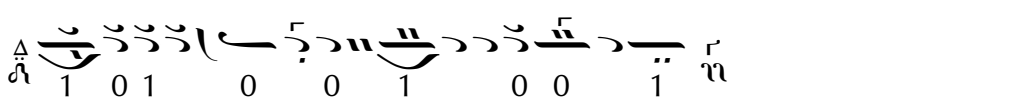
Grave Mode - Sticheraric

0001001 


1001001 


10001001 

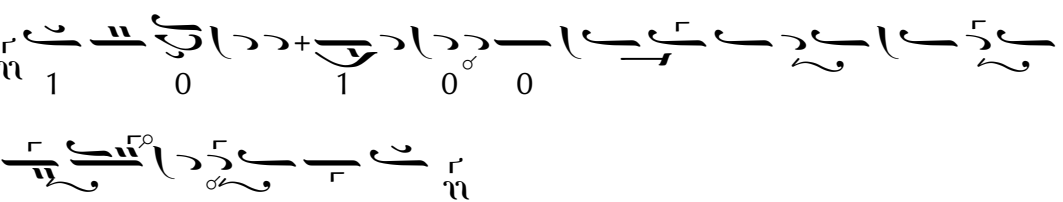
10001010 

101001001 

P) Final Cadences for Theotokia

100010X 

0100010X 

100 

BYZANTINE MUSIC FORMULÆ

Pentaphonos "Protovarys" Grave Mode - Sticheraric

Contents*

A) Medial Cadences on Di.....	722
B) Medial Cadences on Pa.....	727
C) Medial Cadences on Zo.....	731
D) Medial Cadences on Ga.....	734
E) Medial Cadences on Ke.....	736
F) Medial Cadences on High Zo.....	737
G) Formulae from High Zo.....	739
H) Formulae with Fthoras.....	740
I) Endings for Theotokia.....	741

Key:

1 = accented syllable

0 = unaccented syllable

X = syllable that may be either
accented or unaccented

Variations of the same formula
are indicated in color

* The Byzantine music formulae herein were extracted from all the sticheraric protovarys melodies found in the *Zoe Anastasimatarion* (14th edition, 2002) and the *Anastasimatarion Neon* (1853 edition). The latter contains the troparia of grave mode composed "kata to pentaphonon" by Georgios the Kres (d. 1816), as transcribed from the old notation by Z. Zapheiropoulos (d. 1851). Due to the limited number of troparia written in this rare mode, this compilation of formulae is not as thorough as our other compilations. Nevertheless, one may deduce other formulae in this mode by interpolating the formulaic rules and patterns found in other diatonic modes.

A) Medial Cadences on Di

Accented on last syllable:

From Di

00 $\overset{\Delta}{\underset{\text{di}}{\curvearrowright}} \overset{\curvearrowright}{0} \overset{\curvearrowright}{0} \overset{\Delta}{\underset{\text{di}}{\curvearrowright}}$

000 $\overset{\Delta}{\underset{\text{di}}{\curvearrowright}} \overset{\curvearrowright}{0} \overset{\curvearrowright}{0} \overset{\curvearrowright}{0} \overset{\Delta}{\underset{\text{di}}{\curvearrowright}}$

0000 $\overset{\Delta}{\underset{\text{di}}{\curvearrowright}} \overset{\curvearrowright}{0} \overset{\curvearrowright}{0} \overset{\curvearrowright}{0} \overset{\curvearrowright}{0} \overset{\Delta}{\underset{\text{di}}{\curvearrowright}}$

010001 $\overset{\Delta}{\underset{\text{di}}{\curvearrowright}} \overset{\curvearrowright}{0} \overset{\curvearrowright}{1} \overset{\curvearrowright}{0} \overset{\curvearrowright}{0} \overset{\curvearrowright}{0} \overset{\curvearrowright}{1} \overset{\Delta}{\underset{\text{di}}{\curvearrowright}}$

$\overset{\Delta}{\underset{\text{di}}{\curvearrowright}} \overset{\curvearrowright}{0} \overset{\curvearrowright}{1} \overset{\curvearrowright}{0} \overset{\curvearrowright}{0} \overset{\curvearrowright}{0} \overset{\curvearrowright}{1} \overset{\Delta}{\underset{\text{di}}{\curvearrowright}}$

100001 $\overset{\Delta}{\underset{\text{di}}{\curvearrowright}} \overset{\curvearrowright}{1} \overset{\curvearrowright}{0} \overset{\curvearrowright}{0} \overset{\curvearrowright}{0} \overset{\curvearrowright}{0} \overset{\curvearrowright}{1} \overset{\Delta}{\underset{\text{di}}{\curvearrowright}}$

From Pa

00 $\overset{\pi}{\underset{\text{pa}}{\curvearrowright}} \overset{\curvearrowright}{0} \overset{\curvearrowright}{0} \overset{\Delta}{\underset{\text{di}}{\curvearrowright}}$

0001 $\overset{\pi}{\underset{\text{pa}}{\curvearrowright}} \overset{\curvearrowright}{0} \overset{\curvearrowright}{0} \overset{\curvearrowright}{0} \overset{\curvearrowright}{1} \overset{\Delta}{\underset{\text{di}}{\curvearrowright}}$


From Zo

00 $\overset{z}{\underset{\text{zo}}{\curvearrowright}} \overset{\curvearrowright}{0} \overset{\curvearrowright}{0} \overset{\Delta}{\underset{\text{di}}{\curvearrowright}}$

00X0 $\overset{z}{\underset{\text{zo}}{\curvearrowright}} \overset{\curvearrowright}{0} \overset{\curvearrowright}{0} \overset{X}{\curvearrowright} \overset{\curvearrowright}{0} \overset{\Delta}{\underset{\text{di}}{\curvearrowright}}$

0001 $\overset{z}{\underset{\text{zo}}{\curvearrowright}} \overset{\curvearrowright}{0} \overset{\curvearrowright}{0} \overset{\curvearrowright}{0} \overset{\curvearrowright}{1} \overset{\Delta}{\underset{\text{di}}{\curvearrowright}}$

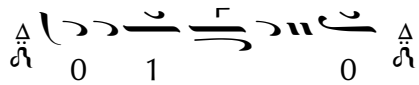
Grave Mode - Protovarys (Sticheraric)

100010 

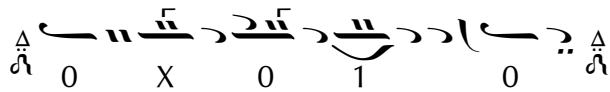
Accented on second to last syllable:

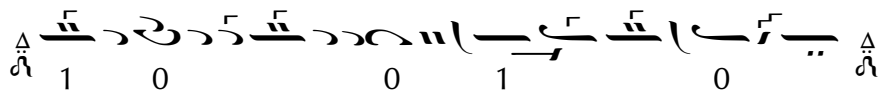
From Di

010 

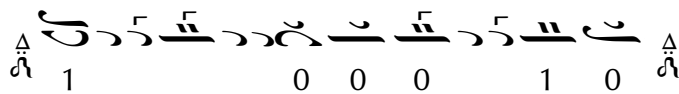




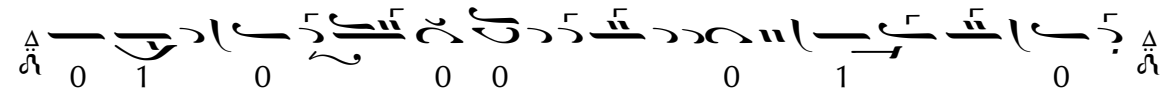
0X010 

10010 

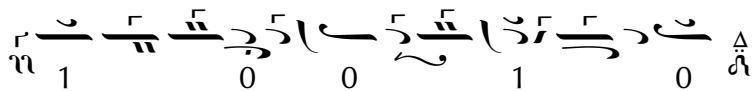
010010 

100010 

01000010

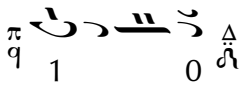
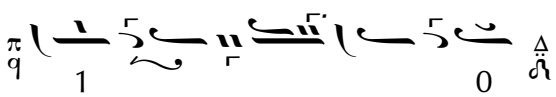
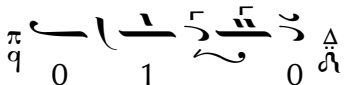
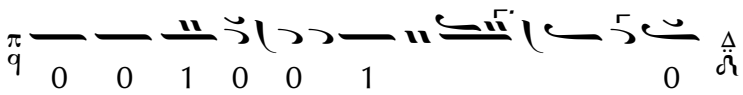


From Ga

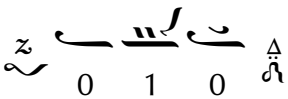
10010 

From Pa

Grave Mode - Protovarys (Sticheraric)

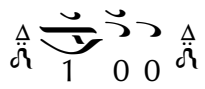
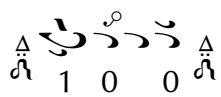
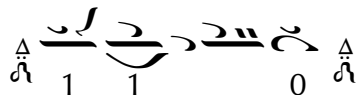

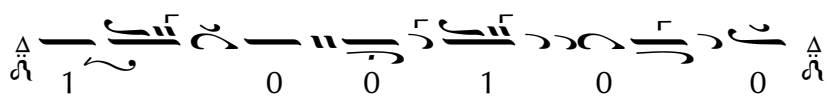
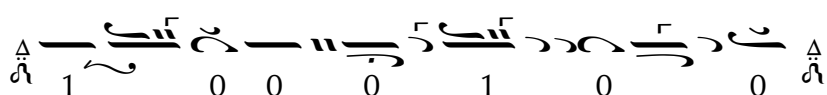
10	π q		1	0	Δ q					
	π q		1		0 Δ q					
010	π q		0	1	0 Δ q					
0010010	π q		0	0	1	0	0	1	0	Δ q

From Zo

010		0	1	0	Δ q
-----	---	---	---	---	---------------

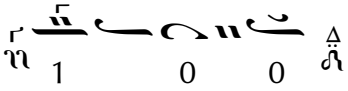
Accented on third to last syllable:

From Di

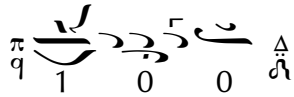
100	Δ q		1	0	0	Δ q						
	Δ q		1	0	0	Δ q						
110	Δ q		1	1		0	Δ q					
0100	Δ q		0	1	0	0	Δ q					
100100	Δ q		1		0	0	1	0		0	Δ q	
1000100	Δ q		1		0	0	0	1	0		0	Δ q


From Ga

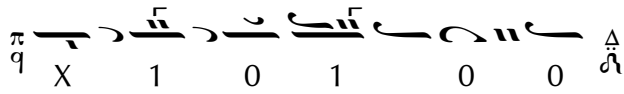
Grave Mode - Protovarys (Sticheraric)

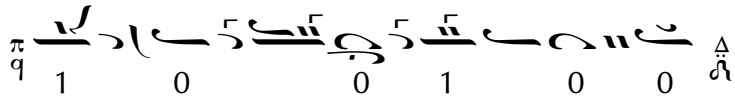
100 

From Pa


100 

0X0100 

X10100 

100100 

From Zo

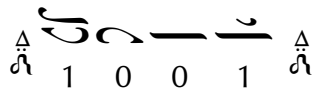
100 

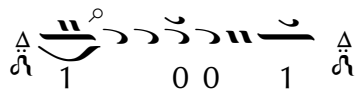
Accented on fourth to last syllable:

From Di

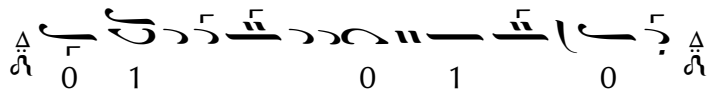
1001 



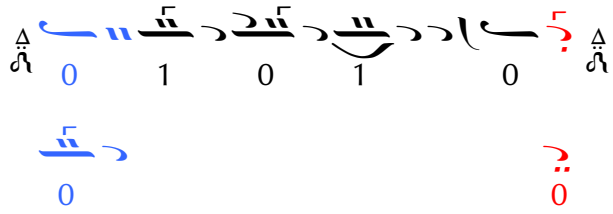




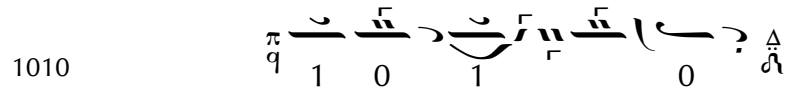
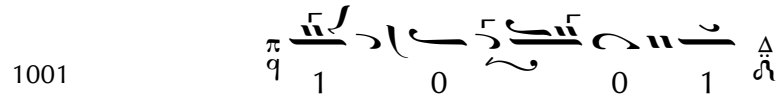
01001 

01010 

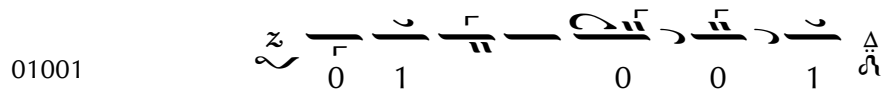
Grave Mode - Protovarys (Sticheraric)



From Pa



From Zo

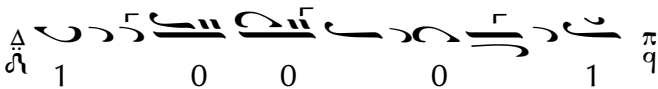


B) Medial Cadences on Pa

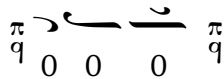
Accented on last syllable:

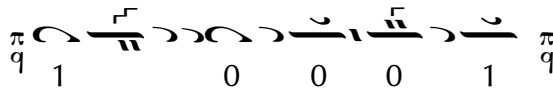
From Di

00 

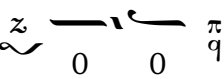
10001 

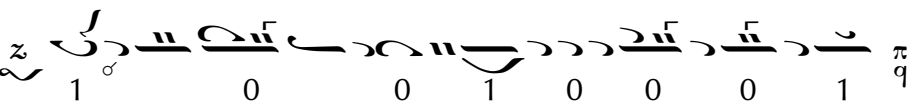
From Pa

000 

10001 


From Zo

00 

10010001 

Accented on second to last syllable:

From Di

10 

010 



Grave Mode - Protovarys (Sticheraric)

010010

0100010

From Pa

10

010

010010

100010

0100010

1010010

From Zo

10010

Accented on third to last syllable:

From Di

0100

00100

Grave Mode - Protovarys (Sticheraric)

100100

1010100

From Ga

0100

10100

From Pa

0100

100100

From Zo

100

0100100

Accented on fourth to last syllable:

From Di

Grave Mode - Protovarys (Sticheraric)

01010

$\overset{\Delta}{\underset{d}{\delta}}$ 0 1 0 1 0 $\overset{\pi}{q}$
 $\overset{\Delta}{\underset{d}{\delta}}$ 0 1 0 1 0 $\overset{\pi}{q}$

From Pa

1100

$\overset{\pi}{q}$ 1 1 0 0 $\overset{\pi}{q}$

From Zo

1001

$\overset{z}{\sim}$ 1 0 0 1 $\overset{\pi}{q}$

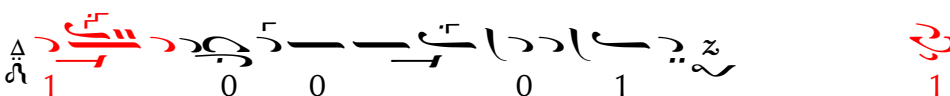
Grave Mode - Protovarys (Sticheraric)

C) Medial Cadences on Zo

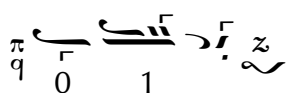
(These are also used as final cadences.)

Accented on last syllable:

From Di

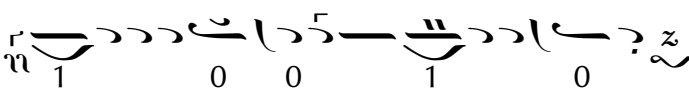
10001 

From Pa

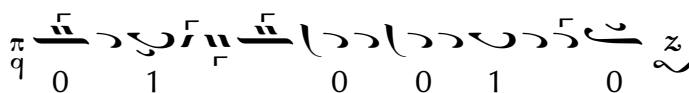
01 

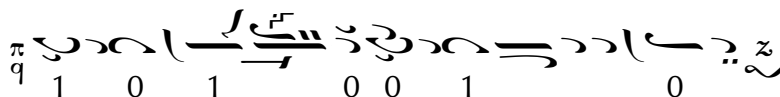
Accented on second to last syllable:

From Ga

10010 

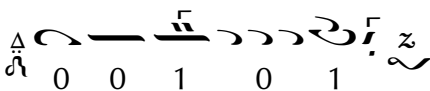
From Pa


010010 

1010010 

Accented on third to last syllable:

From Di

00100 

10100 

Grave Mode - Protovarys (Sticheraric)

Δ
 δ 1 0 1 0 0

100100

Δ
 δ 1 0 0 1 0 0 0

1000100

Δ
 δ 1 0 0 0 1 0 0 0

1000100

Δ
 δ 1 0 0 0 1 0 0 0 0

1000100

Δ
 δ 1 0 0 0 1 0 0 0

From Ga

Γ
 γ 1 0 0 1 0 0

100100

From Pa

π
 q 0 1 0 0

0100

π
 q 0 1 0 0

π
 q 0 1

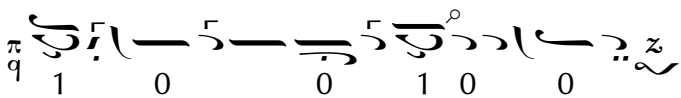
π
 q 1 0 1 0 0

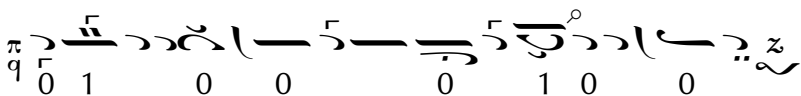
10100

π
 q 1 0 1 0 0

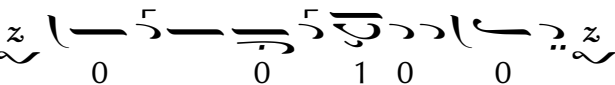
π
 q 0 1

Grave Mode - Protovarys (Sticheraric)

100100 

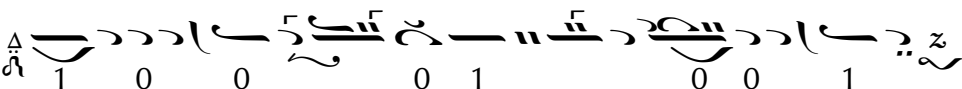
01000100 

From Zo

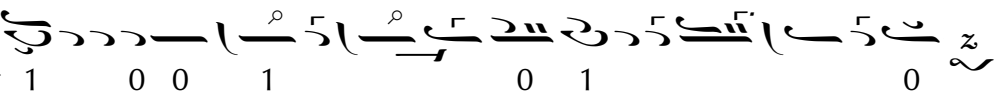
00100 

Accented on fourth to last syllable:

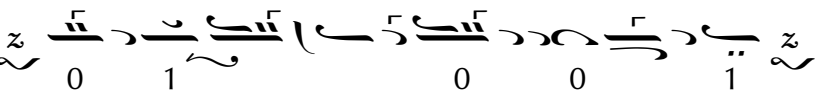
From Di

10001001 

From Ga

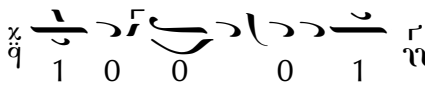
1001010 

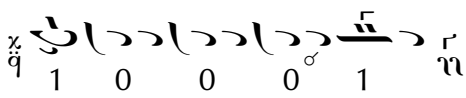
From Zo

01001 

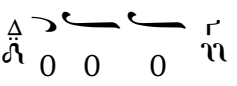
D) Medial Cadences on Ga

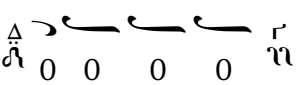
From Ke

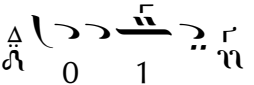
10001 

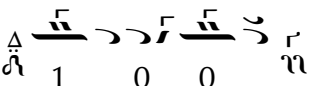


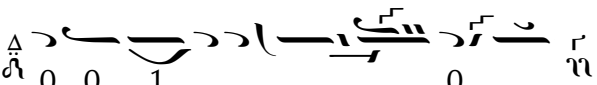
From Di


000 

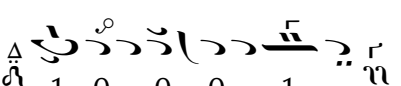
0000 

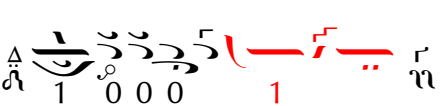
01 

100 

0010 

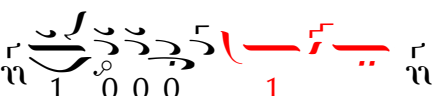
10001 




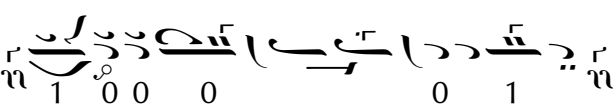




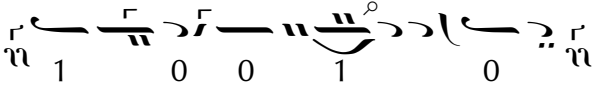
From Ga

10001 

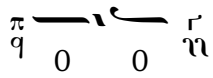


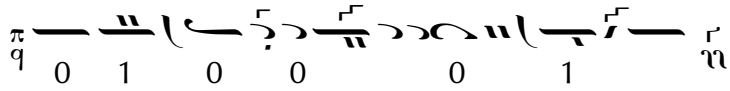


Grave Mode - Protovarys (Sticheraric)

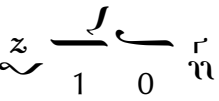
10010 

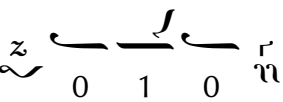
From Pa

00 

010001 

From Zo


10 

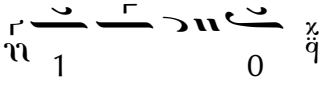
010 

1001 

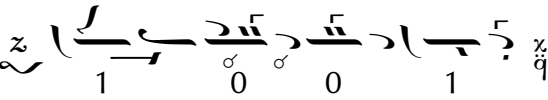
Grave Mode - Protovarys (Sticheraric)

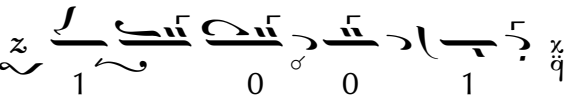
E) Medial Cadences on Ke

10 

10 

0001 

1001 

1001 

F) Medial Cadences on High Zo

Accented on last syllable:

From High Zo

100001

1010001

1000001

From Di

00001

From Zo

0101

Accented on second to last syllable:

From High Zo

10

10010

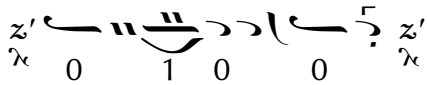
From Zo

10

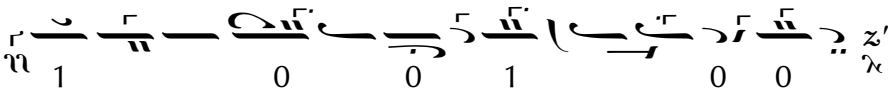
Grave Mode - Protovarys (Sticheraric)

Accented on third to last syllable:

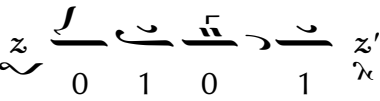
From High Zo

0100 

From Ga

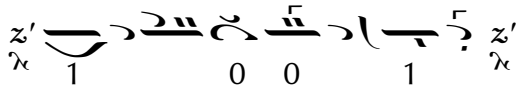
100100 

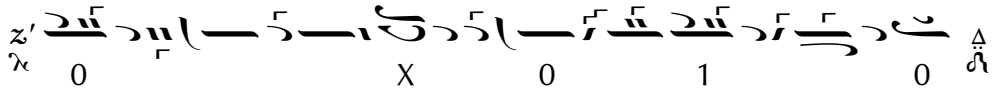
From Zo

0101 

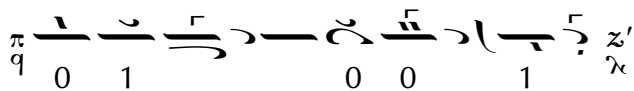
Accented on fourth to last syllable:

From High Zo

1001 

0X010 

From Pa

01001 

Grave Mode - Protovarys (Sticheraric)

G) Formulae from High Zo

(that don't end on high Zo)

Accented on last syllable:

001001 $\begin{matrix} z' & \text{—} & \text{—} & \text{—} & \text{—} & \text{—} & \text{—} & \text{—} & \text{—} & \text{—} & \Delta \\ \lambda & 0 & & 0 & 1 & & 0 & & 0 & & 1 & \delta \end{matrix}$

Accented on second to last syllable:

00010 $\begin{matrix} z' & \text{—} & \text{—} & \text{—} & \text{—} & \text{—} & \Delta \\ \lambda & 0 & 0 & 0 & 1 & 0 & \delta \end{matrix}$

$\begin{matrix} z' & \text{—} & \text{—} & \text{—} & \text{—} & \text{—} & \pi \\ \lambda & 0 & 0 & 0 & 1 & 0 & q \end{matrix}$

000010 $\begin{matrix} z' & \text{—} & \text{—} & \text{—} & \text{—} & \text{—} & \Delta \\ \lambda & 0 & 0 & 0 & 0 & 1 & \delta \end{matrix}$

100010 $\begin{matrix} z & \text{—} & \text{—} & \text{—} & \text{—} & \text{—} & \text{—} & \text{—} & \text{—} & \text{—} & \Delta \\ & 1 & & 0 & 0 & 0 & 1 & & 0 & & \delta \end{matrix}$

Accented on third to last syllable:

100010X $\begin{matrix} z' & \text{—} & \text{—} & \text{—} & \text{—} & \text{—} & \text{—} & \text{—} & \text{—} & z \\ \lambda & 1 & 0 & 0 & 0 & 1 & 0 & X & & \delta \end{matrix}$

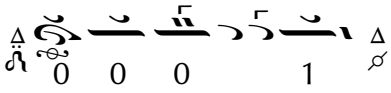
Accented on fourth to last syllable:

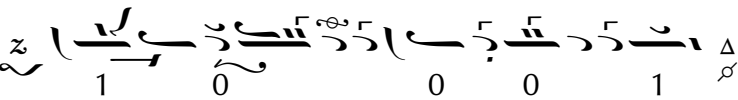
1010 $\begin{matrix} z' & \text{—} & \text{—} & \text{—} & \text{—} & \text{—} & \pi \\ \lambda & 1 & 0 & 1 & & 0 & q \end{matrix}$

001001 $\begin{matrix} z' & \text{—} & \text{—} & \text{—} & \text{—} & \text{—} & \text{—} & \text{—} & \text{—} & \text{—} & \Delta \\ \lambda & 0 & & 0 & 1 & & 0 & & 0 & & 1 & \delta \end{matrix}$

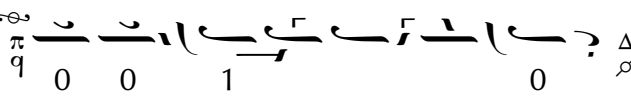
H) Formulae with Fthoras

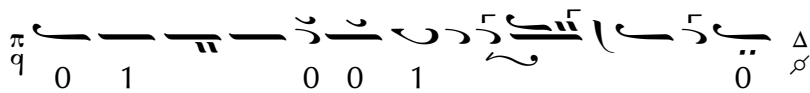
Accented on last syllable:

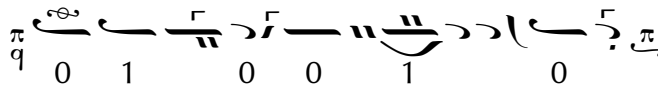
0001 

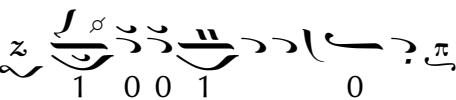
10001 

Accented on second to last syllable:

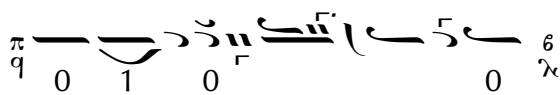
0010 

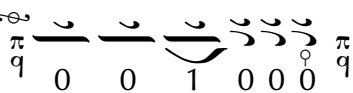
010010 



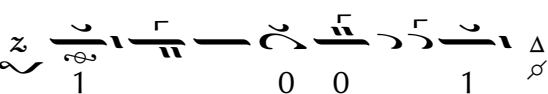
10010 

Accented on third to last syllable:

0100 

00100 

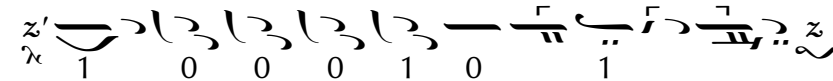
Accented on fourth to last syllable:

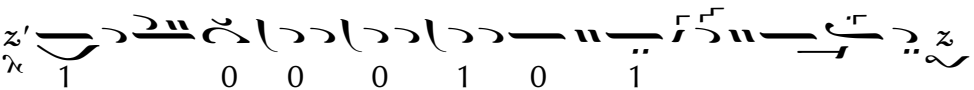
1001 

I) Endings for Theotokia

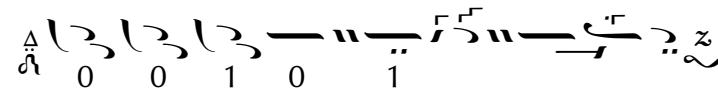
Accented on third to last syllable:

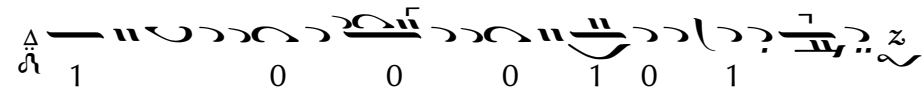
From High Zo

1000101 



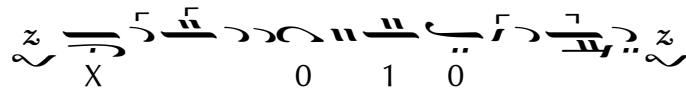
From Di

00101 

1000101 

Accented on fourth to last syllable:

From Zo

X010 

BYZANTINE MUSIC FORMULAE

Grave Mode - Heirmologic

Contents*

A) Medial Cadences on Pa.....	743
B) Medial Cadences on Ga.....	746
C) Medial Cadences on Di.....	754
D) Formulae with Fthoras.....	775
E) Ending Formulae.....	776
F) Endings for Theotokia.....	780

Key:

1 = accented syllable

0 = unaccented syllable

X = syllable that may be either
accented or unaccented

Variations of the same formula
are indicated in color

* The Byzantine music formulae herein were extracted from heirmologic melodies found in the *Zoe Anastasimatarion* (14th edition, 2002).

A) Medial Cadences on Pa

Accented on last syllable:

From Pa



From Ga

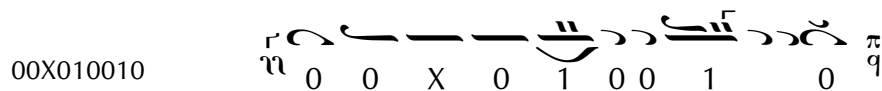
(use a 100 formula)

From Di

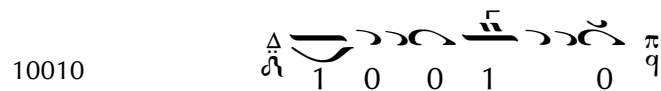
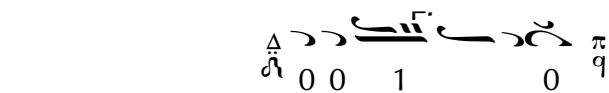
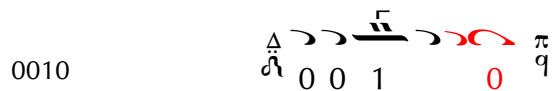
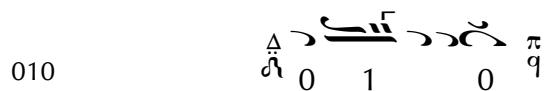
(use a 100 formula)

Accented on second to last syllable:

From Ga

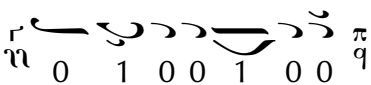


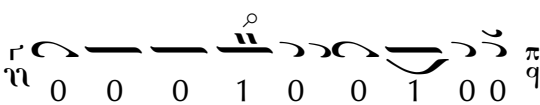
From Di



Accented on third to last syllable:

From Ga

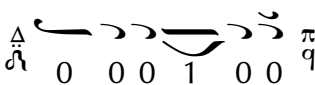
0100100 

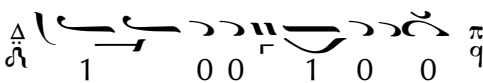
000100100 

From Di


0100 

10100 

000100 

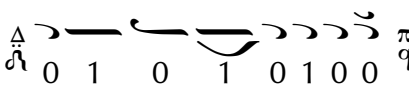
100100 



0100100 

1000100 



01010100 

10100100 

Grave Mode - Heirmologic

100100100 $\overset{\Delta}{\underset{\text{di}}{\curvearrowright}} \overset{\curvearrowright}{1} \overset{\curvearrowright}{0} \overset{\curvearrowright}{0} \overset{\curvearrowright}{1} \overset{\curvearrowright}{0} \overset{\curvearrowright}{0} \overset{\curvearrowright}{1} \overset{\curvearrowright}{0} \overset{\curvearrowright}{0} \overset{\pi}{\underset{\text{q}}{\curvearrowright}}$

Accented on fourth to last syllable:

From Di

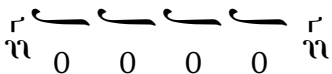
01010 $\overset{\Delta}{\underset{\text{di}}{\curvearrowright}} \overset{\curvearrowright}{0} \overset{\curvearrowright}{1} \overset{\curvearrowright}{0} \overset{\curvearrowright}{1} \overset{\overset{\Delta}{\curvearrowright}}{\curvearrowright} \overset{\curvearrowright}{0} \overset{\pi}{\underset{\text{q}}{\curvearrowright}}$

B) Medial Cadences on Ga

Accented on last syllable:

From Ga

00 

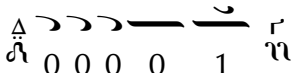
000 

From Di

0 

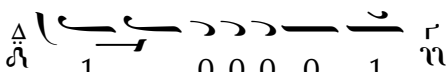
00 

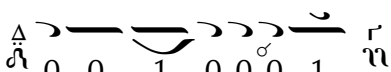
000 

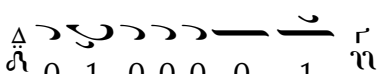
00001 

10001 

010001 

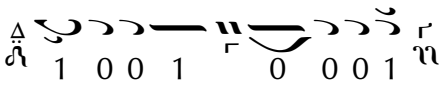
100001 

0010001 

0100001 

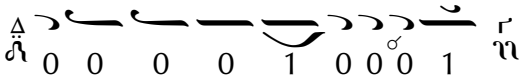
1000001 

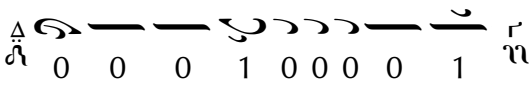
Grave Mode - Heirmologic

10010001 





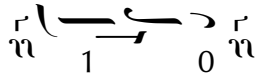
000010001 

000100001 

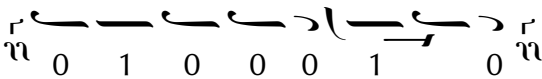
Accented on second to last syllable:

From Ga

10 

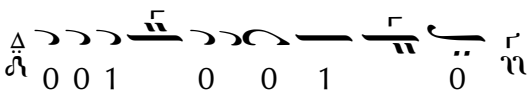


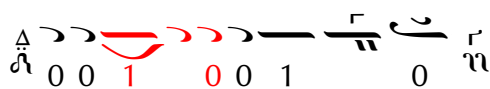
0010010 

0100010 

From Di

100010 

0010010 





Grave Mode - Heirmologic

10X00010		
000010010		
001000010		
100000010		
10X000010		
100010010		
100100010		
101000010		
101010010		
10X0000010		
1000100010		
00001000010		

Grave Mode - Heirmologic

0100100		
1000100		
10X0100		
00010100		
01100100		
100X0100		
001000100		
0010000100		

Accented on fourth to last syllable:

From Ga

0101010	
---------	--

Grave Mode - Heirmologic

01001010

010001001

10001001010

From Di

01001

01100

001001

001100

0001001

0001001

010X010

1001001

100X010

01001010

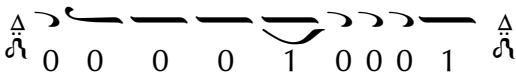
Grave Mode - Heirmologic

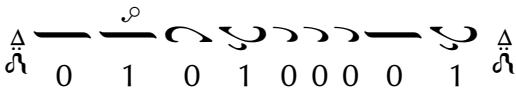
10001010	
10X01010	
10101010	
100001010	
101001010	
10X001010	
0010001010	

Grave Mode - Heirmologic

X0001		
10001		
000001		
010001		
100001		
0100001		
1000001		
1010001		
01010001		


Grave Mode - Heirmologic

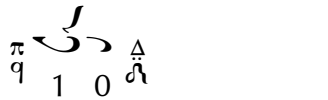
000010001 

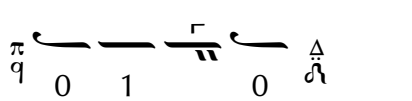
010100001 

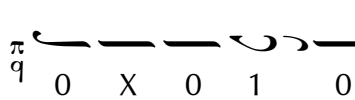
Accented on second to last syllable:

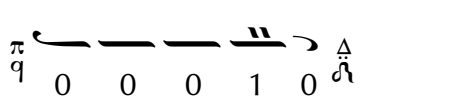
From Pa

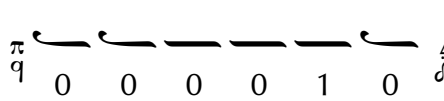
10 

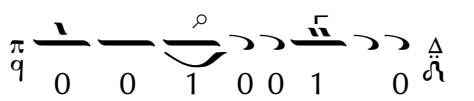
010 

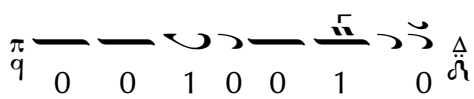
0X010 

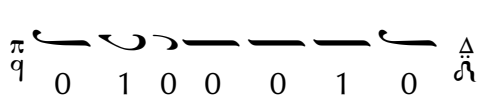
00010 

000010 

0010010 

0100010 

0100010 

0100010 

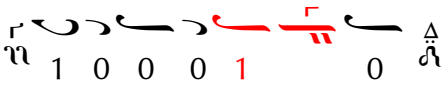

From Ga

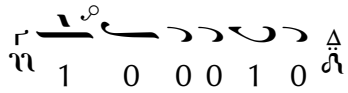
10 

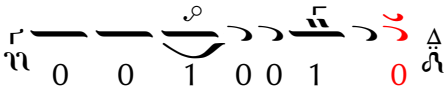

Grave Mode - Heirmologic

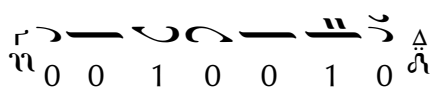
010		
0010		
00010		
10010		
00X010		

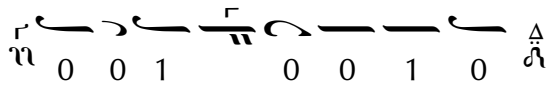
Grave Mode - Heirmologic

100010  

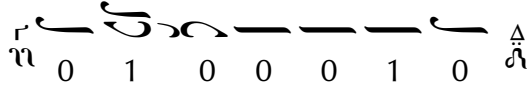


0010010  

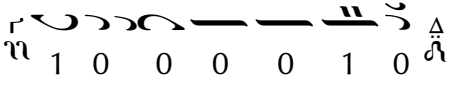


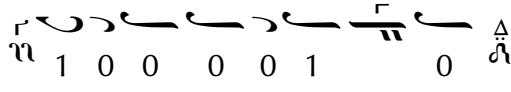


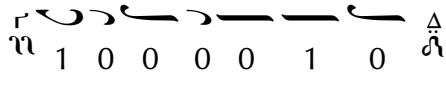
0100010  




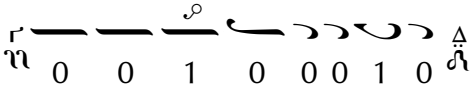
 

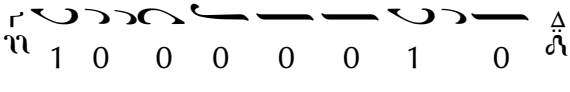
1000010 

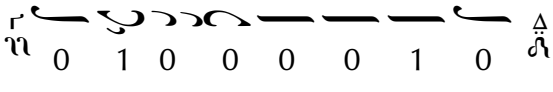




1010010 

00100010 

10000010 

01000010 

Grave Mode - Heirmologic

10010010

From Di

10		
010		
0010		
00010		
00010		

Grave Mode - Heirmologic

10010

⚠ 0 0 0 1 0 ⚠

⚠ 1 0 0 1 0 ⚠

1 0

⚠ 1 0 0 1 0 ⚠

⚠ 1 0 0 1 0 ⚠

⚠ 1 0 0 1 0 ⚠

⚠ 1 0 0 1 0 ⚠

000010

⚠ 0 0 0 0 1 0 ⚠

1 0

⚠ 0 0 0 0 1 0 ⚠

010010

⚠ 0 1 0 0 1 0 ⚠

1 0

⚠ 0 1 0 0 1 0 ⚠

1

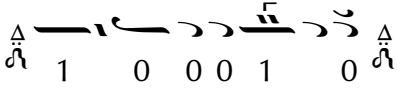
⚠ 0 1 0 0 1 0 ⚠

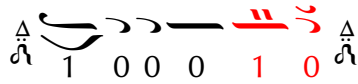
⚠ 0 1 0 0 1 0 ⚠

⚠ 0 1 0 0 1 0 ⚠

⚠ 0 1 0 0 1 0 ⚠

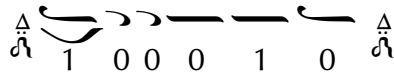
Grave Mode - Heirmologic

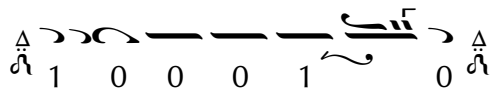
100010 

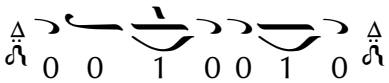


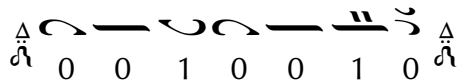





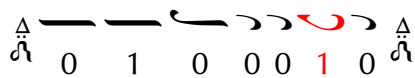




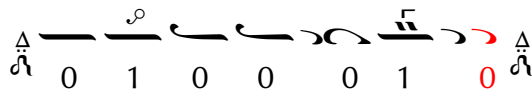
0010010 



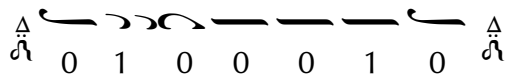
0100010 

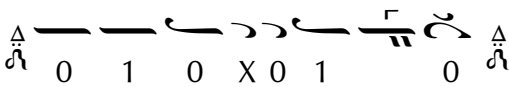


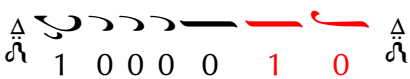




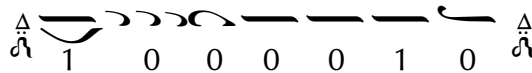




010X010 

1000010 



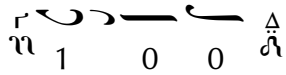
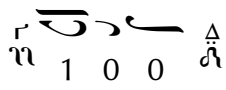
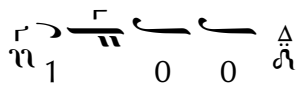
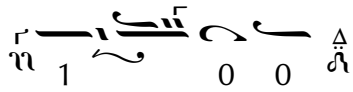
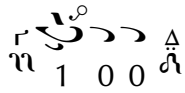


Grave Mode - Heirmologic

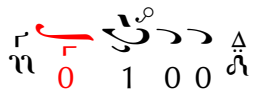
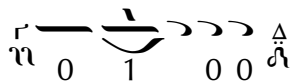
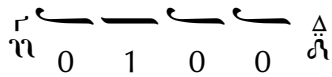
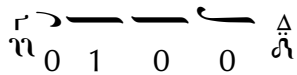
100



0

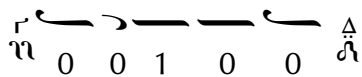
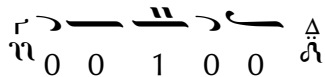
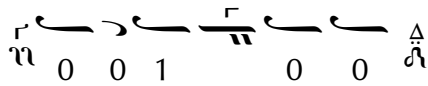


0100



0

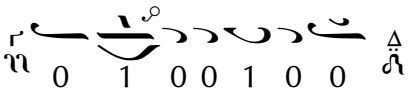
00100

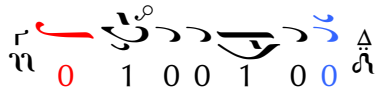


Grave Mode - Heirmologic

10100		
X0100		
010100		
100100		

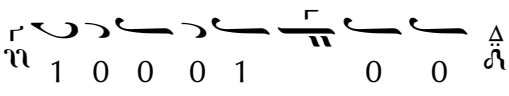
Grave Mode - Heirmologic


0100100 

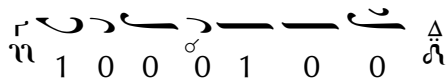


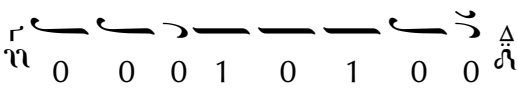


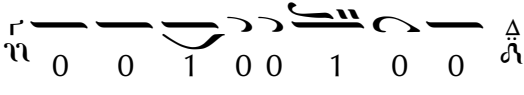


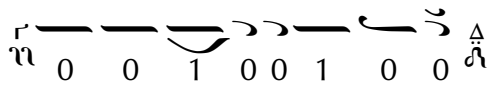
1000100 

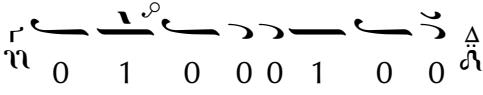


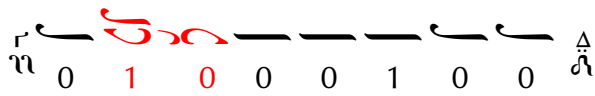


00010100 

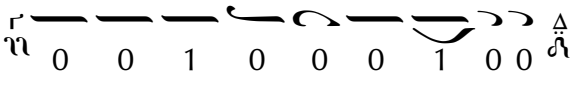
00100100 

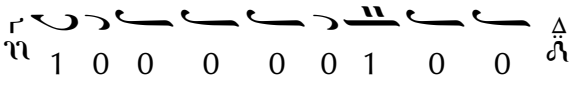


01000100 

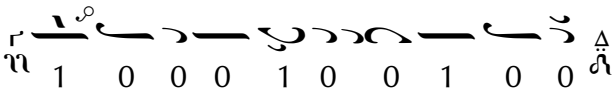


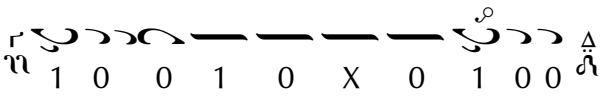


001000100 

100000100 

Grave Mode - Heirmologic

1000100100  $\overset{\Delta}{\underset{\Delta}{\text{r}}}$ $\overset{\circ}{\text{1}}$ 0 0 0 1 0 0 1 0 0 $\overset{\Delta}{\underset{\Delta}{\text{r}}}$

10010X0100  $\overset{\Delta}{\underset{\Delta}{\text{r}}}$ 1 0 0 1 0 X 0 1 0 0 $\overset{\Delta}{\underset{\Delta}{\text{r}}}$

From Di

100  $\overset{\Delta}{\underset{\Delta}{\text{r}}}$ $\overset{\circ}{\text{1}}$ 0 0 $\overset{\Delta}{\underset{\Delta}{\text{r}}}$  $\overset{\Delta}{\underset{\Delta}{\text{r}}}$ 1 $\overset{\Delta}{\underset{\Delta}{\text{r}}}$

$\overset{\Delta}{\underset{\Delta}{\text{r}}}$ 1 0 0 $\overset{\Delta}{\underset{\Delta}{\text{r}}}$

 $\overset{\Delta}{\underset{\Delta}{\text{r}}}$ 0 $\overset{\Delta}{\underset{\Delta}{\text{r}}}$

$\overset{\Delta}{\underset{\Delta}{\text{r}}}$ 1 0 0 $\overset{\Delta}{\underset{\Delta}{\text{r}}}$

 $\overset{\Delta}{\underset{\Delta}{\text{r}}}$ 0 $\overset{\Delta}{\underset{\Delta}{\text{r}}}$

$\overset{\Delta}{\underset{\Delta}{\text{r}}}$ 1 0 0 $\overset{\Delta}{\underset{\Delta}{\text{r}}}$

$\overset{\Delta}{\underset{\Delta}{\text{r}}}$ 1 0 0 $\overset{\Delta}{\underset{\Delta}{\text{r}}}$

 $\overset{\Delta}{\underset{\Delta}{\text{r}}}$ 0 $\overset{\Delta}{\underset{\Delta}{\text{r}}}$

$\overset{\Delta}{\underset{\Delta}{\text{r}}}$ 1 0 0 $\overset{\Delta}{\underset{\Delta}{\text{r}}}$

$\overset{\Delta}{\underset{\Delta}{\text{r}}}$ 1 0 0 $\overset{\Delta}{\underset{\Delta}{\text{r}}}$

$\overset{\Delta}{\underset{\Delta}{\text{r}}}$ 1 0 0 $\overset{\Delta}{\underset{\Delta}{\text{r}}}$

10X $\overset{\Delta}{\underset{\Delta}{\text{r}}}$ 1 0 X $\overset{\Delta}{\underset{\Delta}{\text{r}}}$

0100 $\overset{\Delta}{\underset{\Delta}{\text{r}}}$ 0 1 0 0 $\overset{\Delta}{\underset{\Delta}{\text{r}}}$

$\overset{\Delta}{\underset{\Delta}{\text{r}}}$ 0 1 0 0 $\overset{\Delta}{\underset{\Delta}{\text{r}}}$

 $\overset{\Delta}{\underset{\Delta}{\text{r}}}$ 1 $\overset{\Delta}{\underset{\Delta}{\text{r}}}$

Grave Mode - Heirmologic

100100			
0010100			
0100100			
01X0101			
0110100			
1000100			
1000101			
00100100			
01000100			

Grave Mode - Heirmologic

$\overset{\Delta}{\underset{\text{d}}{\text{A}}} \text{ — — — — — } \overset{\Delta}{\underset{\text{d}}{\text{A}}}$

 0 1 0 0 1 0 0

0 0 1 0 0

1 0 0

010X0100

$\overset{\Delta}{\underset{\text{d}}{\text{A}}} \text{ — — — — — } \overset{\Delta}{\underset{\text{d}}{\text{A}}}$

 0 1 0 X 0 1 0 0

1 0 0

10000100

$\overset{\Delta}{\underset{\text{d}}{\text{A}}} \text{ — — — — — } \overset{\Delta}{\underset{\text{d}}{\text{A}}}$

 1 0 0 0 0 1 0 0

001000100

$\overset{\Delta}{\underset{\text{d}}{\text{A}}} \text{ — — — — — } \overset{\Delta}{\underset{\text{d}}{\text{A}}}$

 0 0 1 0 0 0 1 0 0

010100100

$\overset{\Delta}{\underset{\text{d}}{\text{A}}} \text{ — — — — — } \overset{\Delta}{\underset{\text{d}}{\text{A}}}$

 0 1 0 1 0 0 1 0 0

Accented on fourth to last syllable:

From Pa

0X010

$\overset{\pi}{\underset{\text{q}}{\text{A}}} \text{ — — — — — } \overset{\Delta}{\underset{\text{d}}{\text{A}}}$

 0 X 0 1 0

001001

$\overset{\pi}{\underset{\text{q}}{\text{A}}} \text{ — — — — — } \overset{\Delta}{\underset{\text{d}}{\text{A}}}$

 0 0 1 0 0 1

001010

$\overset{\pi}{\underset{\text{q}}{\text{A}}} \text{ — — — — — } \overset{\Delta}{\underset{\text{d}}{\text{A}}}$

 0 0 1 0 1 0

From Ga

1000

$\overset{\pi}{\underset{\text{r}}{\text{A}}} \text{ — — — — — } \overset{\Delta}{\underset{\text{d}}{\text{A}}}$

 1 0 0 0

1001

$\overset{\pi}{\underset{\text{r}}{\text{A}}} \text{ — — — — — } \overset{\Delta}{\underset{\text{d}}{\text{A}}}$

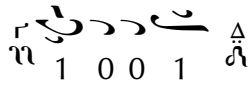
 1 0 0 1

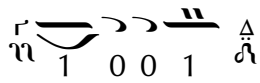
Grave Mode - Heirmologic



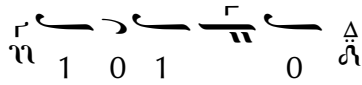
 1 1

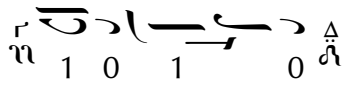

 $\overline{n} \quad \overline{1} \quad \overline{0} \quad \overline{0} \quad \overline{1} \quad \overline{\Delta}$


 $\overline{n} \quad \overline{1} \quad \overline{0} \quad \overline{0} \quad \overline{1} \quad \overline{\Delta}$

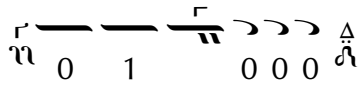

 $\overline{n} \quad \overline{1} \quad \overline{0} \quad \overline{0} \quad \overline{1} \quad \overline{\Delta}$

1010

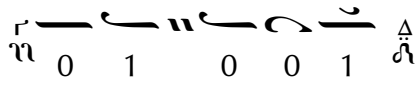

 $\overline{n} \quad \overline{1} \quad \overline{0} \quad \overline{1} \quad \overline{0} \quad \overline{\Delta}$

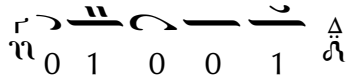

 $\overline{n} \quad \overline{1} \quad \overline{0} \quad \overline{1} \quad \overline{0} \quad \overline{\Delta}$

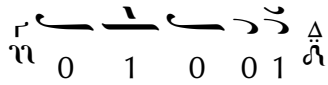
01000


 $\overline{n} \quad \overline{0} \quad \overline{1} \quad \overline{0} \quad \overline{0} \quad \overline{0} \quad \overline{\Delta}$

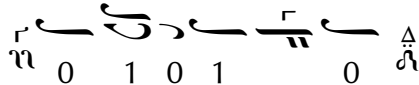
01001

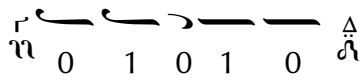

 $\overline{n} \quad \overline{0} \quad \overline{1} \quad \overline{0} \quad \overline{0} \quad \overline{1} \quad \overline{\Delta}$

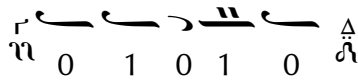

 $\overline{n} \quad \overline{0} \quad \overline{1} \quad \overline{0} \quad \overline{0} \quad \overline{1} \quad \overline{\Delta}$


 $\overline{n} \quad \overline{0} \quad \overline{1} \quad \overline{0} \quad \overline{0} \quad \overline{1} \quad \overline{\Delta}$


01010


 $\overline{n} \quad \overline{0} \quad \overline{1} \quad \overline{0} \quad \overline{1} \quad \overline{0} \quad \overline{\Delta}$


 $\overline{n} \quad \overline{0} \quad \overline{1} \quad \overline{0} \quad \overline{1} \quad \overline{0} \quad \overline{\Delta}$


 $\overline{n} \quad \overline{0} \quad \overline{1} \quad \overline{0} \quad \overline{1} \quad \overline{0} \quad \overline{\Delta}$

01100


 $\overline{n} \quad \overline{0} \quad \overline{1} \quad \overline{1} \quad \overline{0} \quad \overline{0} \quad \overline{\Delta}$

Grave Mode - Heirmologic

001000		
001001		
001010		
101000		
0001000		
0001010		
1001000		
1001010		
100X010		
01001001		
10001001		

Grave Mode - Heirmologic

10001010

10101001

0100001001

From Di

1001

100X

1010

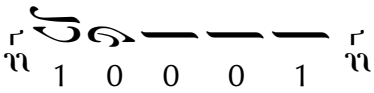
01000

01001

01010

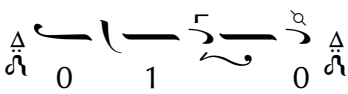
D) Formulae with Fthoras

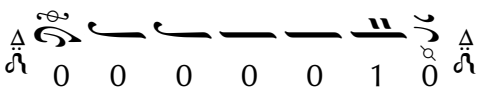
Accented on last syllable:

10001 

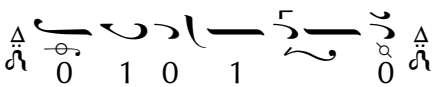
10001 

Accented on second to last syllable:

010 

0000010 

Accented on fourth to last syllable:

01010 

E) Ending Formulae

Note: Formulae from section B (pages 746-753) may also be used as ending formulae if the phrase is accented on the second to last or fourth to last syllable.

Accented on last syllable:

From Ga

1010X01

From Di

001

100001

0000001

0010001

0100001

1000001

1000001

1010X01

10010001

Accented on second to last syllable:

From Di

Grave Mode - Heirmologic

000010	
010010	
0000010	
1000010	
0010X010	
100100010	
1000100010	

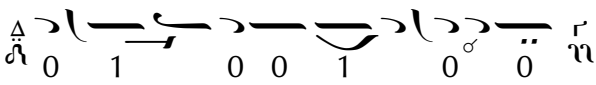
Accented on third to last syllable:

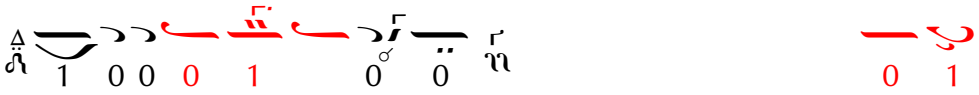
From Di

100	
100100	
0000100	
0010100	

1

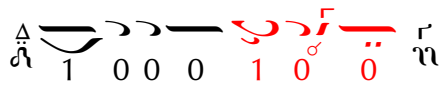
Grave Mode - Heirmologic

0100100 

1000100 

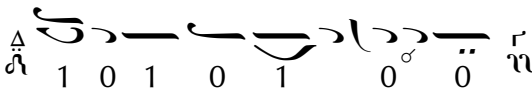


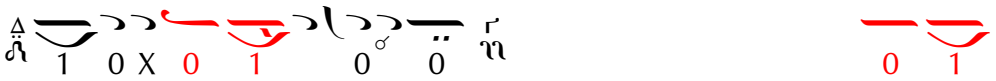




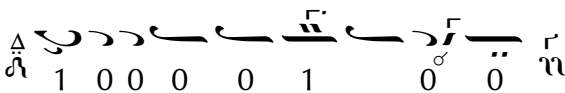


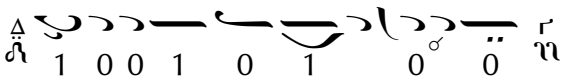


1010100 

10X0100 




10000100 

10010100 

Accented on fourth to last syllable:

From Di

1001010 

Grave Mode - Heirmologic

0010X010

$\overset{\Delta}{\underset{d}{\text{a}}}$ $\overset{\curvearrowright}{\text{0}}$ $\overset{\curvearrowright}{\text{0}}$ $\overset{\curvearrowright}{\text{1}}$ $\overset{\curvearrowright}{\text{0}}$ $\overset{\curvearrowright}{\text{X}}$ $\overset{\curvearrowright}{\text{0}}$ $\overset{\curvearrowright}{\text{1}}$ $\overset{\curvearrowright}{\text{0}}$ $\overset{\curvearrowright}{\text{0}}$ $\overset{\curvearrowright}{\text{a}}$

F) Endings for Theotokia*

Accented on last syllable:

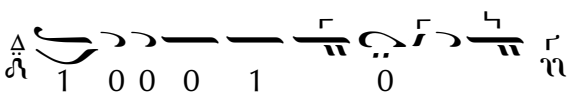
(A 100 or 1001 formula may also be appropriate.)


10001 

Accented on second to last syllable:

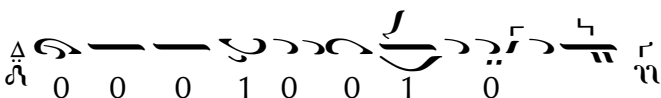
From Di

10010 

100010 

1000010 

0010010 

00010010 

Accented on third to last syllable:

From Pa

00100100 

* The formulae in blue in this section are from the Athonite oral tradition, as represented in the book *Παρακλητικής, Μουσικὸν Ἐγκόλπιον, Πλάγιοι Ἦχοι, Ἱεροθέου Ἱερομονάχου*, ἐκδόσεις Ἱ.Μ. Φιλοθέου, Ἁγίον Ὅρος, 2004. The first formula on this page (in pink) is from the Rumanian *Anastasimatarul* by Dimitrie Suceveanu, Sfintei Monastiri Neamt̃u, 1943.

Grave Mode - Heirmologic

From Ga

0100010X

From Di

0100

00100

010100

100100

1000100

1 0

0100010X

Accented on fourth to last syllable:

From Di

01001

101001

0

BYZANTINE MUSIC FORMULÆ

Grave Mode - Protovarys (Heirmologic)

Contents*

A) Cadences on Zo	783
B) Medial Cadences on Pa	787
C) Medial Cadences on Ga	790
D) Medial Cadences on Di	791
E) Medial Cadences on Ke	799
F) Formulae with Fthoras	801
G) Endings for Theotokia	802

Key:

1 = accented syllable

0 = unaccented syllable

X = syllable that may be either
accented or unaccented

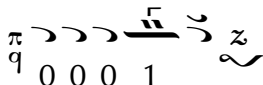
Variations of the same formula
are indicated in color

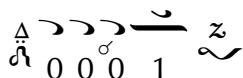
* The Byzantine music formulae herein were extracted from the heirmologic protovarys doxology in the *Zoe Anastasimatarion* (14th edition, 2002) and from the vesper verses of Psalms 140, 141, 129, and 116 in the *Anastasimatarion Neon* (1853 edition). The latter contains the troparia of grave mode composed "kata to pentaphonon" by Georgios the Kres (d. 1816), as transcribed from the old notation by Z. Zapheiroopoulos (d. 1851). Although this list of formulae is incomplete due to the limited number of sources, one may usually fill in the gaps with heirmologic first mode formulae, because protovarys and first mode have many similarities.

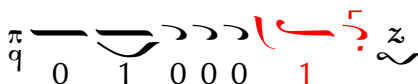
A) Cadences on Zo

Accented on last syllable:

From Pa


0001 




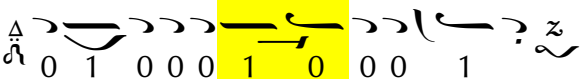
010001 



From Di

100100001 

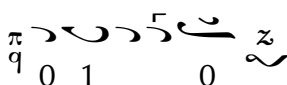
100001000001 

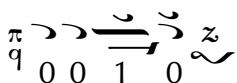
0100010001 

According to the musicologist Ioannis Arvanitis, Zapheiroopoulos intentionally used the omalon in this and other formulae to denote the sound of the oxeia, even though it is orthographically incorrect to join two different syllables with an omalon

Accented on second to last syllable:

From Pa

010 

0010 

Grave Mode - Protovarys (Heirmologic)

00010 π
 $\overset{\alpha}{\text{q}}$ 0 0 0 1 0 $\overset{\alpha}{\text{z}}$

π
 $\overset{\alpha}{\text{q}}$ 0 0 0 1 0 $\overset{\alpha}{\text{z}}$

010010 π
 $\overset{\alpha}{\text{q}}$ 0 1 0 0 1 0 $\overset{\alpha}{\text{z}}$

$\overset{\alpha}{\text{r}}$
 0

100010 π
 $\overset{\alpha}{\text{q}}$ 1 0 0 0 1 0 $\overset{\alpha}{\text{z}}$

10X010 π
 $\overset{\alpha}{\text{q}}$ 1 0 X 0 1 0 $\overset{\alpha}{\text{z}}$

0100010 π
 $\overset{\alpha}{\text{q}}$ 0 1 0 0 0 1 0 $\overset{\alpha}{\text{z}}$

00010010 π
 $\overset{\alpha}{\text{q}}$ 0 0 0 1 0 0 1 0 $\overset{\alpha}{\text{z}}$

From Ga

10010010 $\overset{\alpha}{\text{r}}$
 $\overset{\alpha}{\text{u}}$ 1 0 0 1 0 0 1 0 $\overset{\alpha}{\text{z}}$

From Di

100100010 $\overset{\Delta}{\text{d}}$
 $\overset{\Delta}{\text{h}}$ 1 0 0 1 0 0 0 1 0 $\overset{\alpha}{\text{z}}$

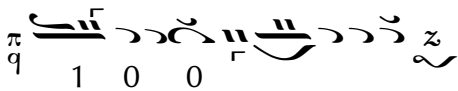
0010100010 $\overset{\Delta}{\text{d}}$
 $\overset{\Delta}{\text{h}}$ 0 0 1 0 1 0 0 0 1 0 $\overset{\alpha}{\text{z}}$

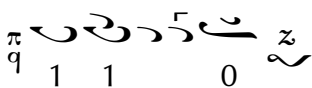
01000010010 $\overset{\Delta}{\text{d}}$
 $\overset{\Delta}{\text{h}}$ 0 1 0 0 0 0 1 0 0 1 0 $\overset{\alpha}{\text{z}}$

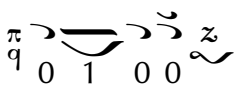
Accented on third to last syllable:

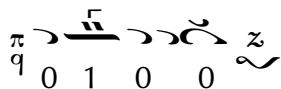
From Pa

Grave Mode - Protovarys (Heirmologic)

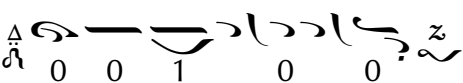
100 

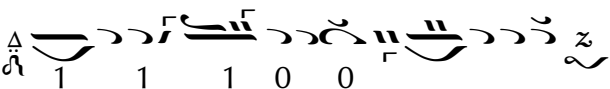
110 

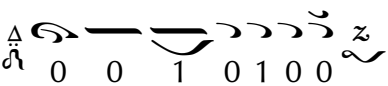
0100 




From Di

00100 

11100 

0010100 

0000100 



1000100 



01000100 

01100100 

001000100 

Accented on fourth to last syllable:

From Pa

Grave Mode - Protovarys (Heirmologic)

01001 π
 $\begin{array}{cccccc} \text{—} & \text{—} & \text{—} & \text{—} & \text{—} & \text{—} \\ \text{q} & & & & & \text{z} \\ \text{0} & 1 & & 0 & 0 & 1 \end{array}$

01010 π
 $\begin{array}{cccccc} \text{—} & \text{—} & \text{—} & \text{—} & \text{—} & \text{—} \\ \text{q} & & & & & \text{z} \\ \text{0} & 1 & 0 & 1 & & 0 \end{array}$

0001001 π
 $\begin{array}{cccccc} \text{—} & \text{—} & \text{—} & \text{—} & \text{—} & \text{—} \\ \text{q} & & & & & \text{z} \\ \text{0} & 0 & 0 & 1 & 0 & 0 & 1 \end{array}$

0001010 π
 $\begin{array}{cccccc} \text{—} & \text{—} & \text{—} & \text{—} & \text{—} & \text{—} \\ \text{q} & & & & & \text{z} \\ \text{0} & 0 & 0 & 1 & 0 & 1 & 0 \end{array}$

π
 $\begin{array}{cccccc} \text{—} & \text{—} & \text{—} & \text{—} & \text{—} & \text{—} \\ \text{q} & & & & & \text{z} \\ \text{0} & 0 & 0 & 1 & 0 & 1 & 0 \end{array}$

From Di

10X001010 Δ
 $\begin{array}{cccccc} \text{—} & \text{—} & \text{—} & \text{—} & \text{—} & \text{—} \\ \text{d} & & & & & \text{z} \\ \text{1} & 0 & X & 0 & 0 & 1 & 0 & 1 & 0 \end{array}$

B) Medial Cadences on Pa

Accented on last syllable:

From Pa

00 $\begin{array}{c} \pi \\ \text{q} \end{array} \begin{array}{c} \curvearrowright \\ \Gamma \\ 0 \end{array} \begin{array}{c} \text{—} \\ 0 \end{array} \begin{array}{c} \pi \\ \text{q} \end{array}$

000 $\begin{array}{c} \pi \\ \text{q} \end{array} \begin{array}{c} \curvearrowright \\ 0 \end{array} \begin{array}{c} \text{—} \\ 0 \end{array} \begin{array}{c} \text{—} \\ 0 \end{array} \begin{array}{c} \pi \\ \text{q} \end{array}$

Accented on second to last syllable:

From Zo

00011 $\begin{array}{c} \text{z} \\ \text{z} \end{array} \begin{array}{c} \text{—} \\ 0 \end{array} \begin{array}{c} \text{—} \\ 0 \end{array} \begin{array}{c} \text{—} \\ 0 \end{array} \begin{array}{c} \text{—} \\ 1 \end{array} \begin{array}{c} \text{—} \\ 1 \end{array} \begin{array}{c} \Gamma \\ \text{q} \end{array} \begin{array}{c} \pi \\ \text{q} \end{array}$

From Pa

10 $\begin{array}{c} \pi \\ \text{q} \end{array} \begin{array}{c} \Gamma \\ 1 \end{array} \begin{array}{c} \text{—} \\ 0 \end{array} \begin{array}{c} \text{—} \\ \text{q} \end{array}$

From Ga

10010 $\begin{array}{c} \Gamma \\ \text{q} \end{array} \begin{array}{c} \text{—} \\ 1 \end{array} \begin{array}{c} \text{—} \\ 0 \end{array} \begin{array}{c} \text{—} \\ 0 \end{array} \begin{array}{c} \text{—} \\ 1 \end{array} \begin{array}{c} \text{—} \\ 0 \end{array} \begin{array}{c} \pi \\ \text{q} \end{array}$

From Di

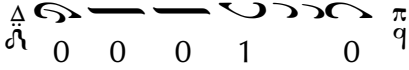
10 $\begin{array}{c} \Delta \\ \text{q} \end{array} \begin{array}{c} \text{—} \\ 1 \end{array} \begin{array}{c} \text{—} \\ 0 \end{array} \begin{array}{c} \text{—} \\ \text{q} \end{array}$

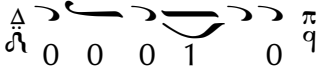
11 $\begin{array}{c} \Delta \\ \text{q} \end{array} \begin{array}{c} \text{—} \\ 1 \end{array} \begin{array}{c} \text{—} \\ 1 \end{array} \begin{array}{c} \Gamma \\ \text{q} \end{array} \begin{array}{c} \pi \\ \text{q} \end{array}$

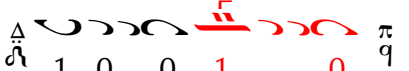

010 $\begin{array}{c} \Delta \\ \text{q} \end{array} \begin{array}{c} \text{—} \\ 0 \end{array} \begin{array}{c} \text{—} \\ 1 \end{array} \begin{array}{c} \text{—} \\ 0 \end{array} \begin{array}{c} \text{—} \\ \text{q} \end{array}$

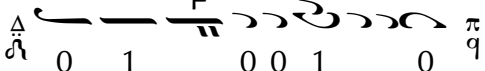
0110 $\begin{array}{c} \Delta \\ \text{q} \end{array} \begin{array}{c} \text{—} \\ 0 \end{array} \begin{array}{c} \text{—} \\ 1 \end{array} \begin{array}{c} \text{—} \\ 1 \end{array} \begin{array}{c} \text{—} \\ 0 \end{array} \begin{array}{c} \pi \\ \text{q} \end{array}$

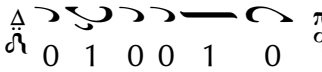
Grave Mode - Protovarys (Heirmologic)

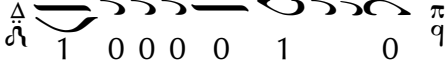
00010 

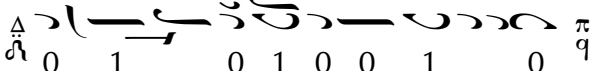


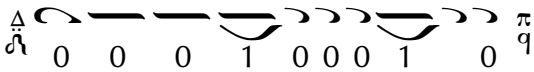
10010  

010010 




1000010 

0100010 

000100010 


Accented on third to last syllable:

From Pa

0100 


From Di

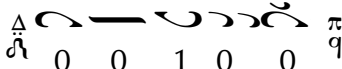
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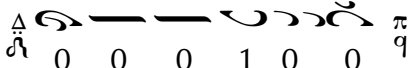
0100 

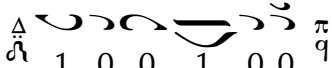


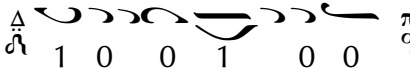
Grave Mode - Protovarys (Heirmologic)

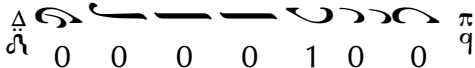
0110 

00100 

000100 

100100 

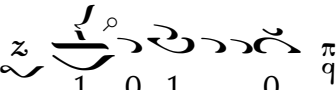


0000100 

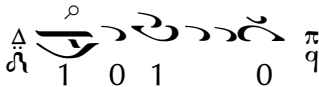
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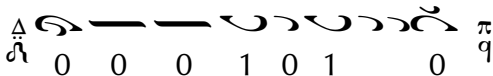
Accented on fourth to last syllable:

From Zo

1010 

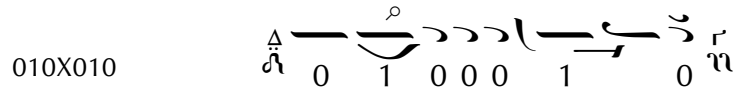
From Di

1010 

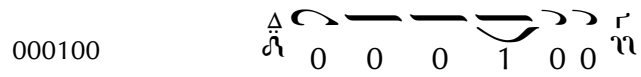
0001010 

C) Medial Cadences on Ga

Accented on second to last syllable:



Accented on third to last syllable:



D) Medial Cadences on Di

Accented on last syllable:

From Zo

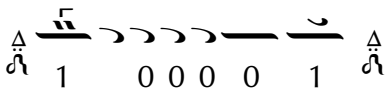
0	
1	
0001	
100001	
1000001	
100010001	


From Di


00	
000	
001	
010001	


0

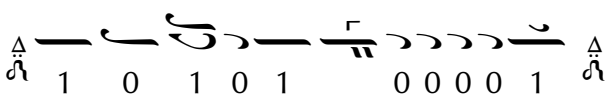
Grave Mode - Protovarys (Heirmologic)

100001 

010X0001 




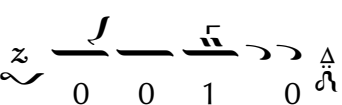
100010001 

1010100001 

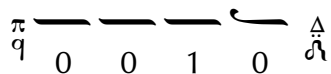
Accented on second to last syllable:

From Zo

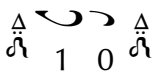
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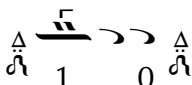
0010 

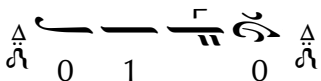
From Pa

0010 

From Di

10 



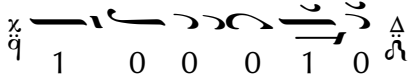
010 

Grave Mode - Protovarys (Heirmologic)

011	
0010	
00010	
10010	
010010	
110010	
0100010	
00010010	
010X0010	
01100010	
101000010	
0001000010	

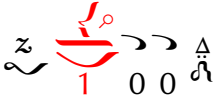

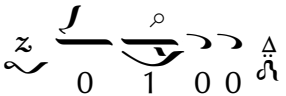
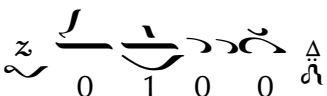
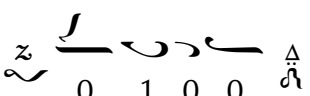
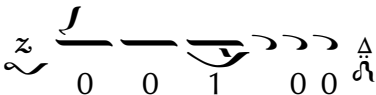
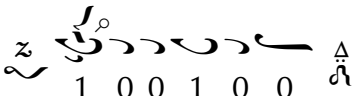
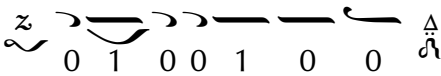
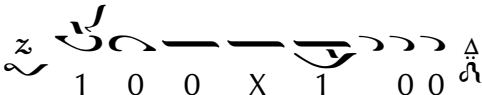
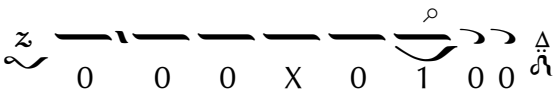

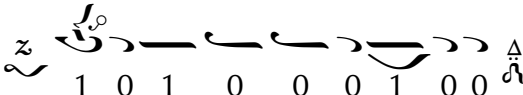
Grave Mode - Protovarys (Heirmologic)

From Ke

100010 

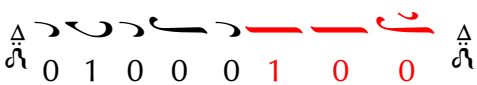
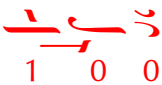
Accented on third to last syllable:

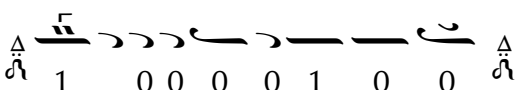
From Zo

100		
0100		
		
		
00100		
100100		
0100100		
100X100		
000X0100		
100100100		
101000100		

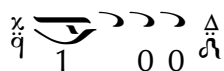
From Di

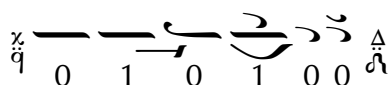
Grave Mode - Protovarys (Heirmologic)

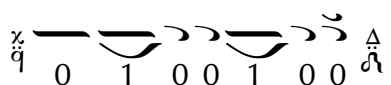
01000100  

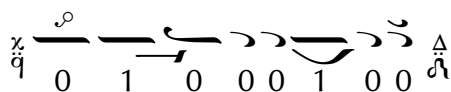
10000100 

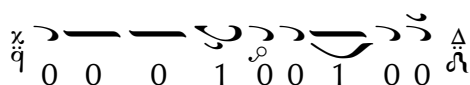
From Ke

100 

010100 


0100100 

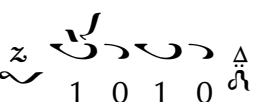
01000100 

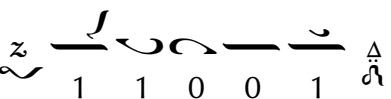
000100100 


Accented on fourth to last syllable:

From Zo

1001 

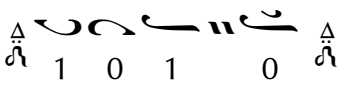
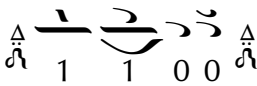

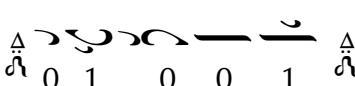
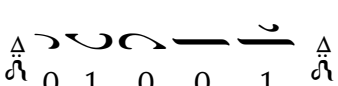
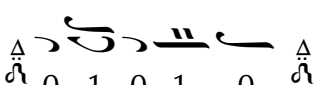
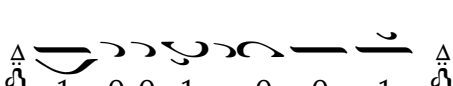
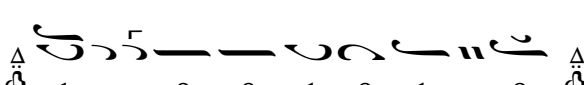
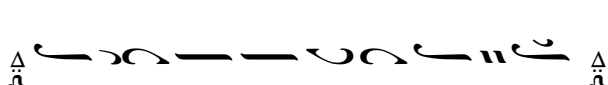
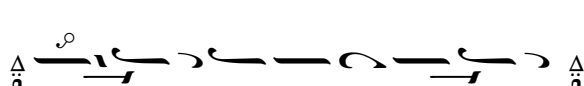
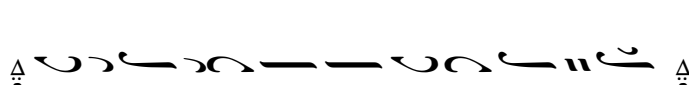

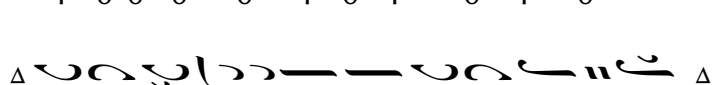
1010 

01001 

1001001 

From Di

Grave Mode - Protovarys (Heirmologic)

1010	
1100	
01001	
	
	
01010	
1001001	
1001010	
00001010	
10001010	
1000001010	
10000101010	
1010001010	

From Ke

Grave Mode - Protovarys (Heirmologic)

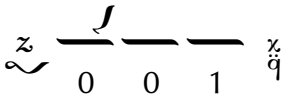
1010 $\begin{array}{cccc} \times & \text{---} & \text{---} & \text{---} \\ \text{q} & 1 & 0 & 1 \\ & & & \Delta \\ & & & \text{q} \end{array}$

1001010 $\begin{array}{cccccc} \times & \text{---} & \text{---} & \text{---} & \text{---} & \text{---} \\ \text{q} & 1 & 0 & 0 & 1 & 0 \\ & & & & & \Delta \\ & & & & & \text{q} \end{array}$

E) Medial Cadences on Ke

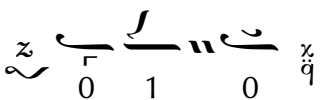
Accented on last syllable:

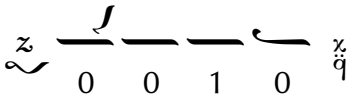
From Zo

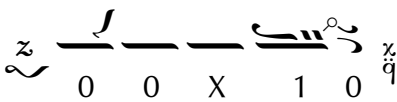
001 

Accented on second to last syllable:

From Zo

010 

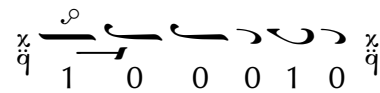
0010 

00X10 

From Di

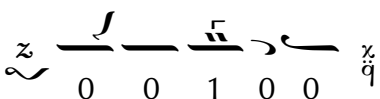
0010 

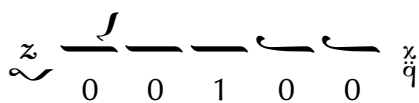
From Ke

100010 

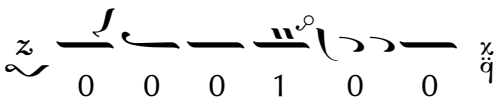
Accented on third to last syllable:

From Zo

00100 

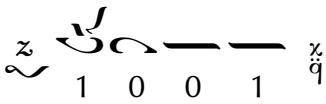


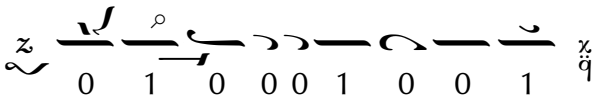
Grave Mode - Protovarys (Heirmologic)

000100 

Accented on fourth to last syllable:

From Zo

1001 

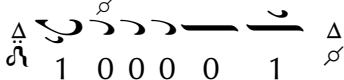
010001001 

F) Formulae with Fthoras

Accented on last syllable:


From Di

10001 

100001 

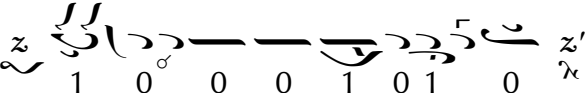
Accented on second to last syllable:

From Zo

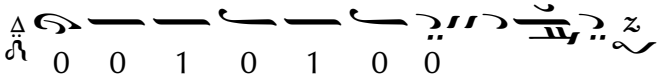
010 

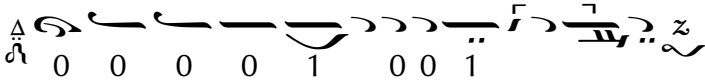
Accented on fourth to last syllable:

From Zo

10001010 

G) Endings for Theotokia

0010100 $\overset{\Delta}{\delta}$  $\overset{\Delta}{\delta}$ 0 0 1 0 1 0 0

00001001 $\overset{\Delta}{\delta}$  $\overset{\Delta}{\delta}$ 0 0 0 0 1 0 0 1



Plagal Fourth Mode



BYZANTINE MUSIC FORMULAE

Plagal Fourth Mode - Sticheraric

Contents*

<u>Medial Cadences on Nee</u>	
A) Accented on Last Syllable	806
B) Accented on Second to Last Syllable	808
C) Accented on Third to Last Syllable	812
D) Accented on Fourth to Last Syllable	816
<u>Medial Cadences on Vou</u>	
E) Accented on Last Syllable	819
F) Accented on Second to Last Syllable.....	821
G) Accented on Third to Last Syllable.....	825
H) Accented on Fourth to Last Syllable.....	829
<u>Medial Cadences on Di</u>	
I) Accented on Last Syllable.....	831
J) Accented on Second to Last Syllable	837
K) Accented on Third to Last Syllable	844
L) Accented on Fourth to Last Syllable.....	852
<u>Other Formulae</u>	
M) Medial Formulae Nee - Low Di	857
N) Medial Formulae Di - High Nee	860
O) Cadences on Pa.....	865
P) Fthoras	867
Q) Old (slow) Sticheraric Formulae	873
<u>Ending Formulae</u>	
R) Final Cadences.....	894
S) Final Cadences for Theotokia.....	899

* The Byzantine music formulae herein were extracted from sticheraric melodies found in the *Zoe Anastasi-matarion* (14th edition, 2002) Volume I of *Mousike Kypsele* (1883 edition), and Volume I of the *Athonias* (1906 edition) by Petros Philanthidis.

Key:

1 = accented syllable
0 = unaccented syllable
X = syllable that may be either
accented or unaccented

Variations of the same formula
are indicated in color

Medial Cadences on Nee

A) Accented on Last Syllable

Nee - Nee

000		
001		
0001		
10001		

Vou - Nee

00X001	
010001	
0X0X0X	
0100001	
10010001	

Di - Nee

Plagal Fourth Mode - Sticheraric

00010010		
00100010		
0100X010		
0010X010		
01000010		
0101000010		

Vou - Nee

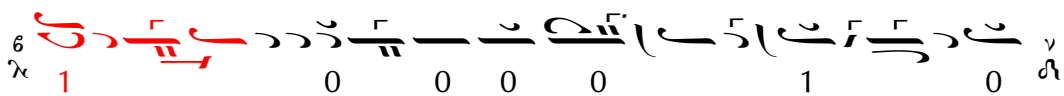
00010	
1010010	
X010010	
0100010	


Plagal Fourth Mode - Sticheraric




 0 1

1000010

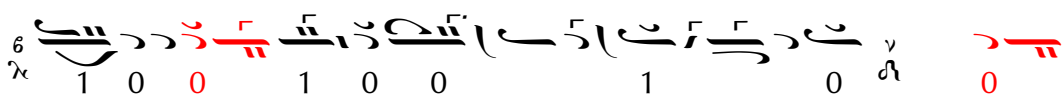




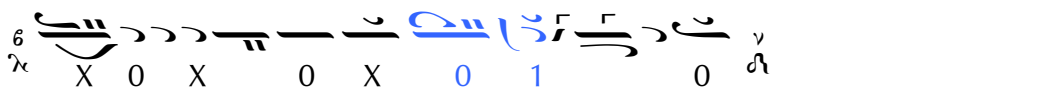
00100010




10010010

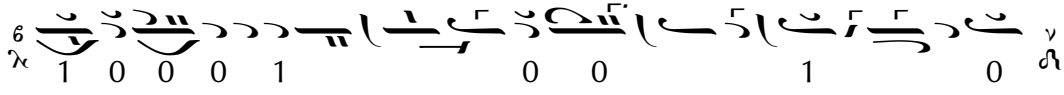


X0X0X010

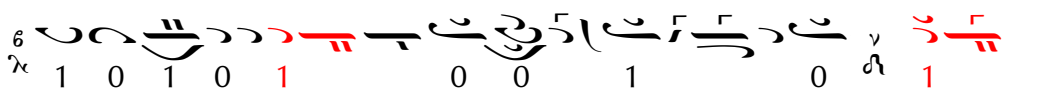




100010010

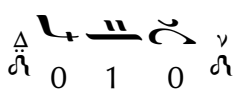


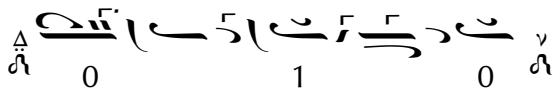
101010010



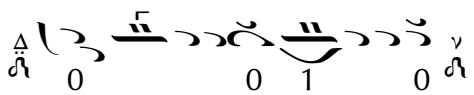
Di - Nee

010

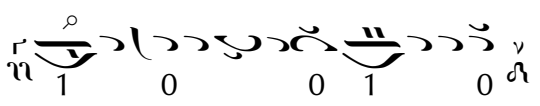




0010



10010



Plagal Fourth Mode - Sticheraric

0100010 $\begin{matrix} \Delta \\ \text{♩} \\ \text{♩} \\ 0 & 1 & 0 & 0 & & 0 & 1 & 0 \end{matrix}$

$\begin{matrix} \Delta \\ \text{♩} \\ \text{♩} \\ 0 & 1 & 0 & 0 & & 0 & 1 & 0 \end{matrix}$

$\begin{matrix} \text{♩} \\ 0 \end{matrix}$ $\begin{matrix} \text{♩} \\ 0 \end{matrix}$

0000010 $\begin{matrix} \Delta \\ \text{♩} \\ \text{♩} \\ 0 & 0 & 0 & 0 & 0 & & 1 & 0 \end{matrix}$

0010010 $\begin{matrix} \Delta \\ \text{♩} \\ \text{♩} \\ 0 & 0 & 1 & 0 & 0 & & 1 & 0 \end{matrix}$

$\begin{matrix} \Delta \\ \text{♩} \\ \text{♩} \\ 0 & 0 & 1 & 0 & & 0 & 1 & 0 \end{matrix}$

$\begin{matrix} \text{♩} \\ 1 & 0 \end{matrix}$

$\begin{matrix} \text{♩} \\ 1 & 0 \end{matrix}$

00010010 $\begin{matrix} \Delta \\ \text{♩} \\ \text{♩} \\ 0 & 0 & 0 & 1 & 0 & & 0 & 1 & 0 \end{matrix}$ $\begin{matrix} \text{♩} \\ 0 \end{matrix}$

01000010 $\begin{matrix} \Delta \\ \text{♩} \\ \text{♩} \\ 0 & 1 & 0 & 0 & 0 & 0 & & 1 & 0 \end{matrix}$

000100010 $\begin{matrix} \Delta \\ \text{♩} \\ \text{♩} \\ 0 & 0 & 0 & 1 & 0 & 0 & & 0 & 1 & 0 \end{matrix}$

0000100010 $\begin{matrix} \Delta \\ \text{♩} \\ \text{♩} \\ 0 & 0 & 0 & 0 & 1 & 0 & 0 & & 0 & 1 & 0 \end{matrix}$

Plagal Fourth Mode - Sticheraric

0X0100

$\overset{6}{\lambda}$ 0 X 0 1 0 0 $\overset{\nu}{\rho}$

0

100100

$\overset{6}{\lambda}$ 1 0 0 1 0 0 $\overset{\nu}{\rho}$

10010X

$\overset{6}{\lambda}$ 1 0 0 1 0 X $\overset{\nu}{\rho}$

0100100

$\overset{6}{\lambda}$ 0 1 0 0 1 0 0 $\overset{\nu}{\rho}$

0

1010100

$\overset{6}{\lambda}$ 1 0 1 0 1 0 0 $\overset{\nu}{\rho}$

10X0100

$\overset{6}{\lambda}$ 1 0 X 0 1 0 0 $\overset{\nu}{\rho}$

1 0

10X0100

$\overset{6}{\lambda}$ 1 0 X 0 1 0 0 $\overset{\nu}{\rho}$

1 0

Plagal Fourth Mode - Sticheraric

D) Accented on Fourth to Last Syllable

Nee - Nee

1001 $\overset{\gamma}{\delta}$ $\overset{\gamma}{\delta}$
 1 0 0 1

1010 $\overset{\gamma}{\delta}$ $\overset{\gamma}{\delta}$
 1 0 1 0

$\overset{\gamma}{\delta}$ $\overset{\gamma}{\delta}$ $\overset{\gamma}{\delta}$
 1 0 1

101010 $\overset{\gamma}{\delta}$ $\overset{\gamma}{\delta}$
 1 0 1 0 1 0

0101010 $\overset{\gamma}{\delta}$ $\overset{\gamma}{\delta}$ $\overset{\gamma}{\delta}$
 0 1 0 1 0 1 0 1

$\overset{\gamma}{\delta}$ $\overset{\gamma}{\delta}$ $\overset{\gamma}{\delta}$ $\overset{\gamma}{\delta}$
 0 1 0 1 0 1 0 1

1001010 $\overset{\gamma}{\delta}$ $\overset{\gamma}{\delta}$
 1 0 0 1 0 1 0

You - Nee

001001 $\overset{6}{\lambda}$ $\overset{\gamma}{\delta}$
 0 0 1 0 0 1

$\overset{6}{\lambda}$ $\overset{\gamma}{\delta}$
 0 0 1 0 0 1

000X010 $\overset{6}{\lambda}$ $\overset{\gamma}{\delta}$
 0 0 0 X 0 1 0

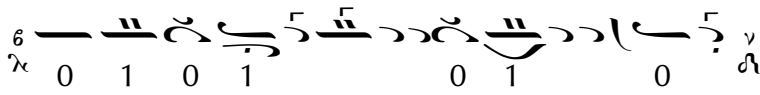
$\overset{\gamma}{\delta}$ $\overset{\gamma}{\delta}$ $\overset{\gamma}{\delta}$
 0 0 1


1001001 $\overset{6}{\lambda}$ $\overset{\gamma}{\delta}$
 1 0 0 1 0 0 1

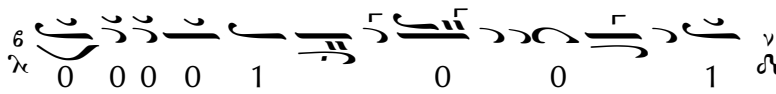
Plagal Fourth Mode - Sticheraric

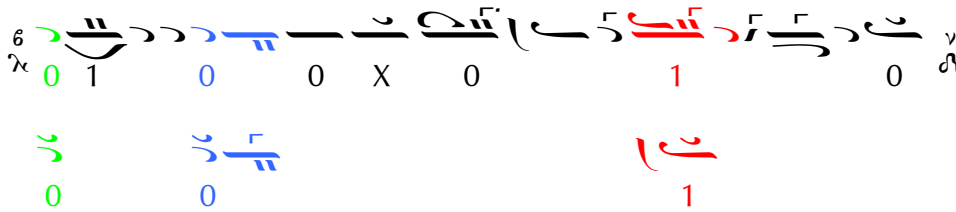


 1 0 0 1

0101010 

100X010 

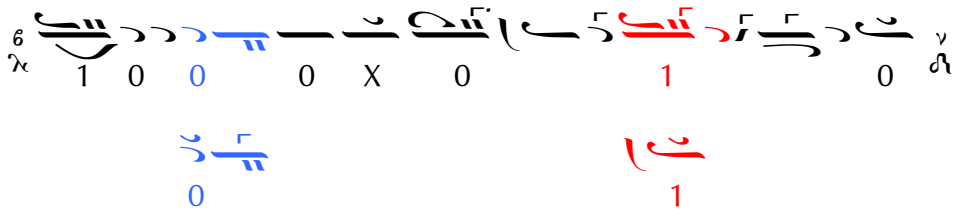
00001001 

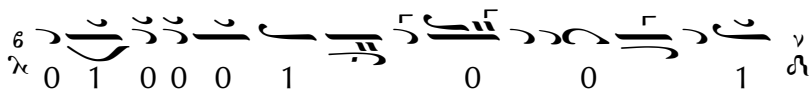
0100X010 

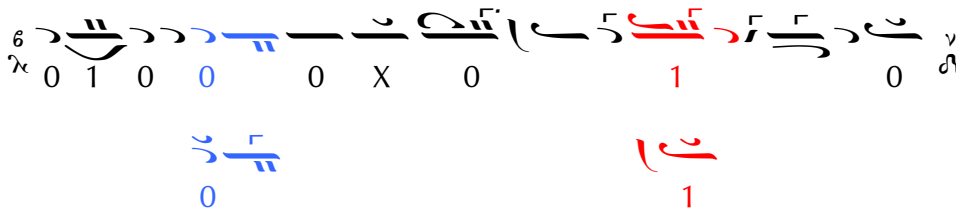
01001001 



 1 0 0 1

1000X010 

010001001 

01000X010 

Plagal Fourth Mode - Sticheraric

Di - Nee

001001		
0101001		
1001001		
0001010		
0101010		
00101010		
01001010		

Plagal Fourth Mode - Sticheraric

Di - Vou

000

0000

01

001

0101

0001

10001

010001

Plagal Fourth Mode - Sticheraric

F) Accented on Second to Last Syllable

Nee - Vou

10		
010		
0110		
00010		
10010		
010010		

Vou - Vou

Plagal Fourth Mode - Sticheraric

6
λ 1 0 0 0 1 0 λ 6

Di - Vou

10 Δ 1 0 λ 6

010 Δ 0 1 0 λ 6 0 1

Δ 0 1 0 λ 6

Δ 0 1 0 λ 6

0010 Δ 0 0 1 0 λ 6 0 1

Δ 0 0 1 0 λ 6 0 1

Δ 0 0 1 0 λ 6

Δ 0 0 1 0 λ 6

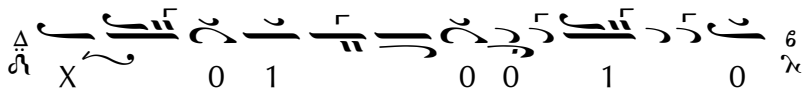
00010 Δ 0 0 0 1 0 λ 6

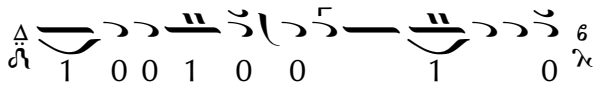
Δ 0 0 0 1 0 λ 6

10010 Δ 1 0 0 1 0 λ 6 1 0

Δ 1 0 0 1 0 λ 6

Plagal Fourth Mode - Sticheraric

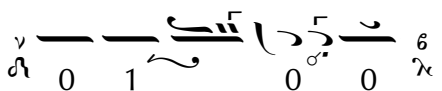
X010010 

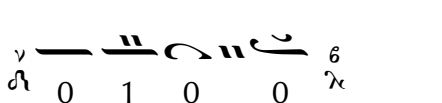
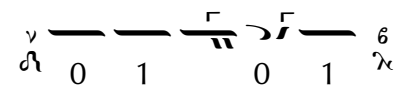
10010010 

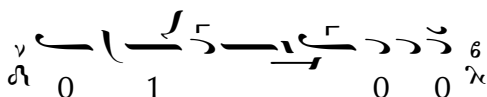
Plagal Fourth Mode - Sticheraric

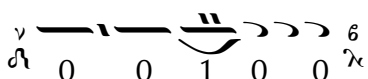
G) Accented on Third to Last Syllable

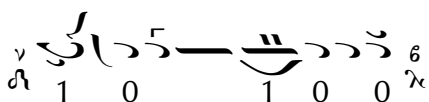
Nee - Vou

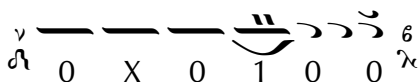
0100 


 0101 

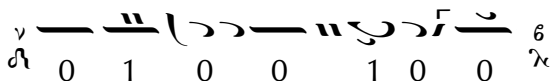


00100 


10100 

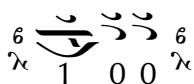
0X0100 

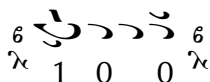
100100 

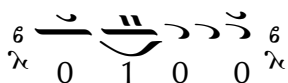
0100100 

Vou - Vou

100 





0100 

Plagal Fourth Mode - Sticheraric

$\overset{6}{\lambda}$ $\overset{6}{\text{—}} \overset{6}{\text{—}} \overset{6}{\text{—}} \overset{6}{\text{—}} \overset{6}{\lambda}$
 0 1 0 0

$\overset{6}{\lambda}$ $\overset{6}{\text{—}} \overset{6}{\text{—}} \overset{6}{\text{—}} \overset{6}{\text{—}} \overset{6}{\text{—}} \overset{6}{\text{—}} \overset{6}{\text{—}} \overset{6}{\lambda}$
 0 1 0 0

00100

$\overset{6}{\lambda}$ $\overset{6}{\text{—}} \overset{6}{\text{—}} \overset{6}{\text{—}} \overset{6}{\text{—}} \overset{6}{\text{—}} \overset{6}{\text{—}} \overset{6}{\lambda}$
 0 0 1 0 0

0X100

$\overset{6}{\lambda}$ $\overset{6}{\text{—}} \overset{6}{\text{—}} \overset{6}{\text{—}} \overset{6}{\text{—}} \overset{6}{\text{—}} \overset{6}{\lambda}$
 0 X 1 0 0

100100

$\overset{6}{\lambda}$ $\overset{6}{\text{—}} \overset{6}{\text{—}} \overset{6}{\text{—}} \overset{6}{\text{—}} \overset{6}{\text{—}} \overset{6}{\text{—}} \overset{6}{\lambda}$
 1 0 0 1 0 0

$\overset{6}{\lambda}$ $\overset{6}{\text{—}} \overset{6}{\text{—}} \overset{6}{\text{—}} \overset{6}{\text{—}} \overset{6}{\text{—}} \overset{6}{\lambda}$
 1 0 0 1 0 0

Di - Vou

100

$\overset{\Delta}{\delta}$ $\overset{\Delta}{\text{—}} \overset{\Delta}{\text{—}} \overset{\Delta}{\text{—}} \overset{\Delta}{\lambda}$
 1 0 0

$\overset{\Delta}{\delta}$ $\overset{\Delta}{\text{—}} \overset{\Delta}{\text{—}} \overset{\Delta}{\text{—}} \overset{\Delta}{\text{—}} \overset{\Delta}{\text{—}} \overset{\Delta}{\lambda}$
 1 0 0

$\overset{\Delta}{\delta}$ $\overset{\Delta}{\text{—}} \overset{\Delta}{\text{—}} \overset{\Delta}{\text{—}} \overset{\Delta}{\lambda}$
 1 0 0

0100

$\overset{\Delta}{\delta}$ $\overset{\Delta}{\text{—}} \overset{\Delta}{\text{—}} \overset{\Delta}{\text{—}} \overset{\Delta}{\text{—}} \overset{\Delta}{\lambda}$
 0 1 0 0

$\overset{\Delta}{\delta}$ $\overset{\Delta}{\text{—}} \overset{\Delta}{\text{—}} \overset{\Delta}{\text{—}} \overset{\Delta}{\text{—}} \overset{\Delta}{\lambda}$
 0 1 0 0

$\overset{\Delta}{\text{—}} \overset{\Delta}{\text{—}} \overset{\Delta}{\text{—}} \overset{\Delta}{\lambda}$
 1 0 0

$\overset{\Delta}{\text{—}} \overset{\Delta}{\text{—}} \overset{\Delta}{\text{—}} \overset{\Delta}{\text{—}} \overset{\Delta}{\text{—}} \overset{\Delta}{\lambda}$
 1 0 0

$\overset{\Delta}{\text{—}} \overset{\Delta}{\text{—}} \overset{\Delta}{\text{—}} \overset{\Delta}{\lambda}$
 1 0 0

Plagal Fourth Mode - Sticheraric

جے اداک
1 0 0

جے اداک
1 0 0

X0100

جے اداک جے اداک جے اداک جے اداک جے اداک
X 0 1 0 0

جے اداک جے اداک جے اداک جے اداک جے اداک
X 0 1 0 0

جے اداک جے اداک جے اداک
1 0 0

جے اداک جے اداک جے اداک
1 0 0

جے اداک جے اداک جے اداک
1 0 0

جے اداک جے اداک جے اداک جے اداک جے اداک
1 0 0

?

100100

جے اداک جے اداک جے اداک جے اداک جے اداک
1 0 0 1 0 0

جے اداک
0

جے اداک جے اداک جے اداک جے اداک جے اداک جے اداک جے اداک
1 0 0 1 0 0

جے اداک
0

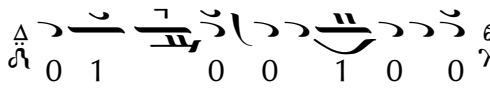
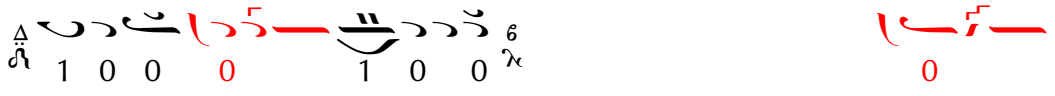
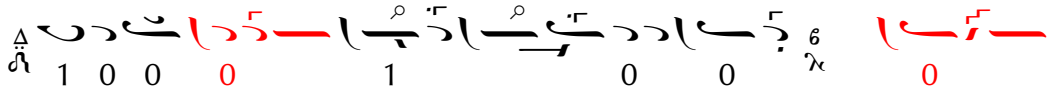
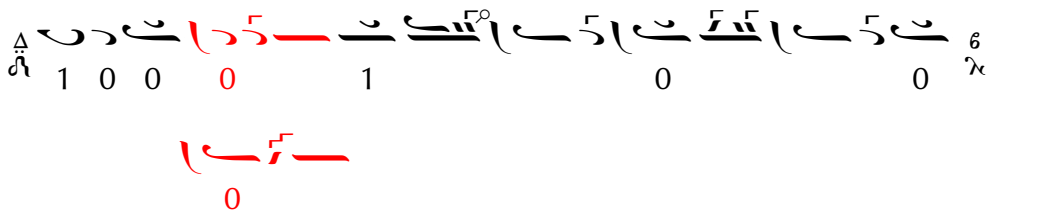
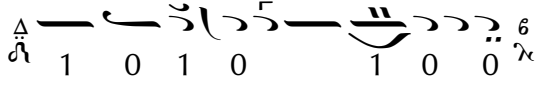
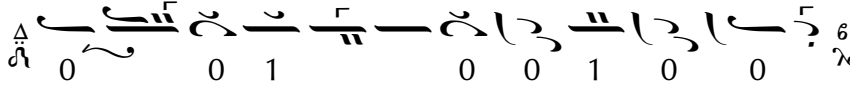
جے اداک جے اداک جے اداک جے اداک جے اداک جے اداک جے اداک جے اداک
1 0 0 1 0 0

جے اداک
0

0010100

جے اداک جے اداک جے اداک جے اداک جے اداک جے اداک جے اداک جے اداک
0 0 1 0 1 0 0

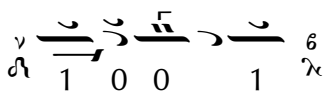
Plagal Fourth Mode - Sticheraric

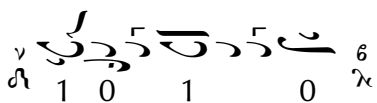
0100100 Δ  λ^6
 1000100 Δ  λ^6
 Δ  λ^6
 Δ  λ^6
 1010100 Δ  λ^6
 00100100 Δ  λ^6

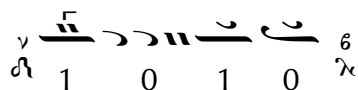
Plagal Fourth Mode - Sticheraric

H) Accented on Fourth to Last Syllable

Nee - Vou

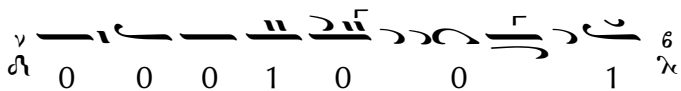
1001 

1010 



01001 

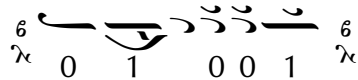


0001001 

Vou - Vou


01001 

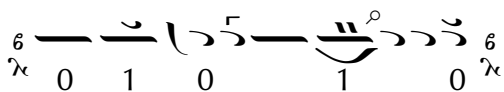








1010 

01010 

Di - Vou

Plagal Fourth Mode - Sticheraric

1000	
01010	
001001	
0001001	
00101010	

Medial Cadences on Di

I) Accented on Last Syllable

Nee - Di

0000

0

01

001

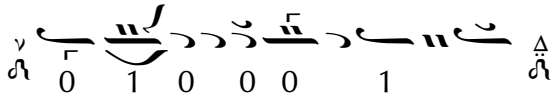
0001

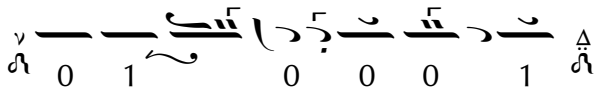
00101

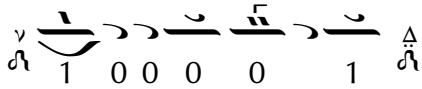
10001

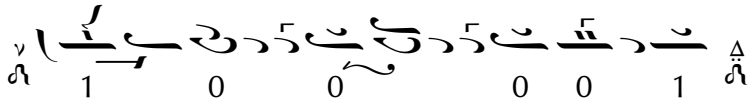
010001

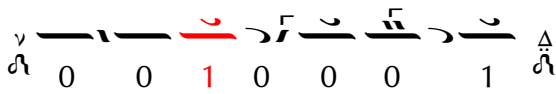
Plagal Fourth Mode - Sticheraric

010001  Δ

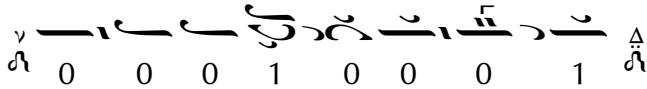
 Δ

100001  Δ

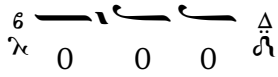
 Δ

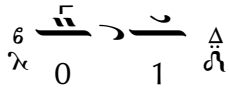
0010001  Δ

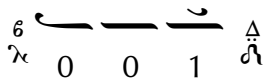
 Δ

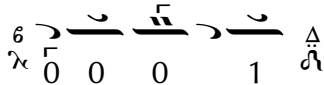
 Δ

Vou - Di

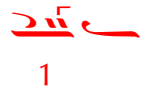
000  Δ

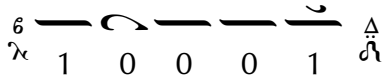
01  Δ

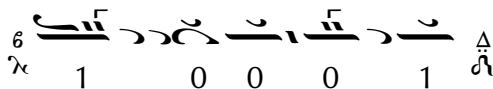
001  Δ

0001  Δ

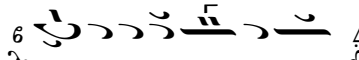
10001  Δ

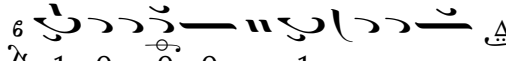
 Δ

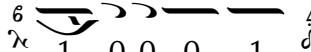
 Δ

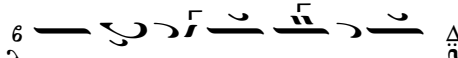
 Δ

Plagal Fourth Mode - Sticheraric

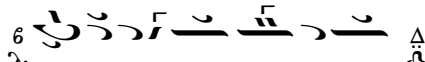
$\overset{6}{\lambda}$  $\overset{\Delta}{\lambda}$
 1 0 0 0 1

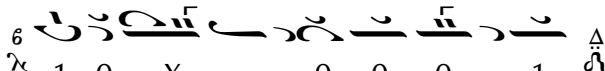
$\overset{6}{\lambda}$  $\overset{\Delta}{\lambda}$
 1 0 0 0 1

$\overset{6}{\lambda}$  $\overset{\Delta}{\lambda}$
 1 0 0 0 1

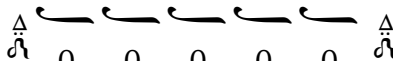
010001 $\overset{6}{\lambda}$  $\overset{\Delta}{\lambda}$
 0 1 0 0 0 1

100001 $\overset{6}{\lambda}$  $\overset{\Delta}{\lambda}$
 1 0 0 0 0 1

$\overset{6}{\lambda}$  $\overset{\Delta}{\lambda}$
 1 0 0 0 0 1

10X0001 $\overset{6}{\lambda}$  $\overset{\Delta}{\lambda}$
 1 0 X 0 0 0 1

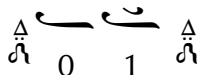
Di - Di

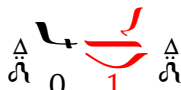
00000 $\overset{\Delta}{\lambda}$  $\overset{\Delta}{\lambda}$
 0 0 0 0 0

01 $\overset{\Delta}{\lambda}$  $\overset{\Delta}{\lambda}$
 0 1

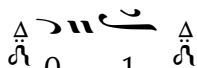

 1

$\overset{\Delta}{\lambda}$  $\overset{\Delta}{\lambda}$
 0 1

$\overset{\Delta}{\lambda}$  $\overset{\Delta}{\lambda}$
 0 1

$\overset{\Delta}{\lambda}$  $\overset{\Delta}{\lambda}$
 0 1


 1

$\overset{\Delta}{\lambda}$  $\overset{\Delta}{\lambda}$
 0 1

Plagal Fourth Mode - Sticheraric

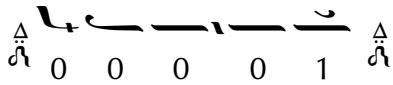
001		
0001		
X001		
10001		
X0001		

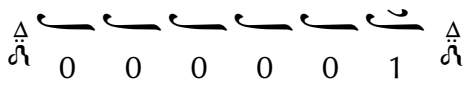
Plagal Fourth Mode - Sticheraric

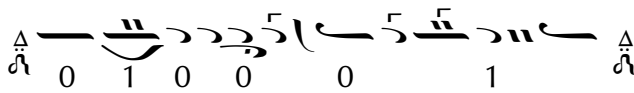


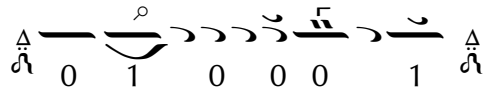
 X 1

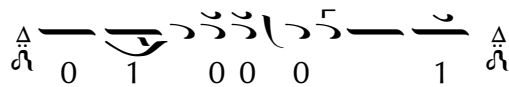

 X

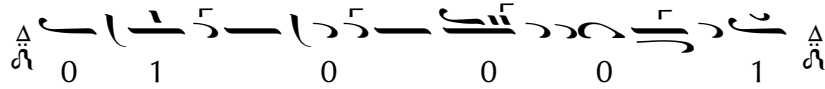
00001 

000001 



010001 





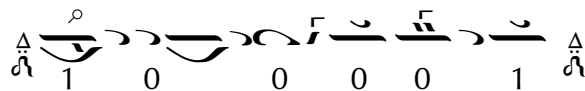


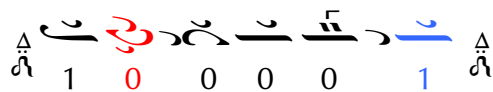
10X001 



 X 1


 X

100001 





Plagal Fourth Mode - Sticheraric

0

1

X

10X0001

Δ Δ
1 0 X 0 0 0 1 Δ Δ

0

1 0 X

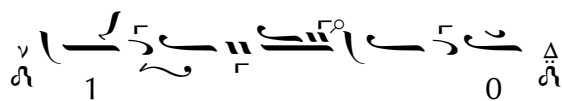
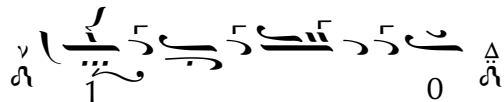
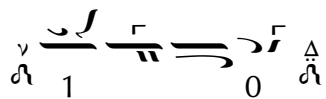
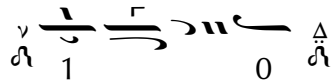
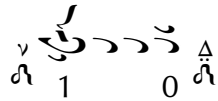
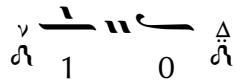
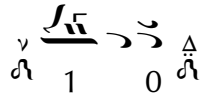
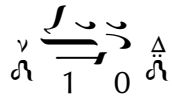
1

X

J) Accented on Second to Last Syllable

Nee - Di

10



Note:

All these 10 formulae may be used as a 010 formula by inserting an 010 before the first character)



Plagal Fourth Mode - Sticheraric

010

$\delta \begin{matrix} \text{v} \\ 0 & 1 & 0 \end{matrix} \delta^{\Delta}$

$\delta \begin{matrix} \text{v} \\ 0 & 1 & 0 \end{matrix} \delta^{\Delta}$

$\delta \begin{matrix} \text{v} \\ 0 & 1 & 0 \end{matrix} \delta^{\Delta}$

$\delta \begin{matrix} \text{v} \\ 0 & 1 & 0 \end{matrix} \delta^{\Delta}$

$\delta \begin{matrix} \text{v} \\ 0 & 1 & 0 \end{matrix} \delta^{\Delta}$

$\begin{matrix} \text{v} \\ 1 & 0 \end{matrix}$

0010

$\delta \begin{matrix} \text{v} \\ 0 & 0 & 1 & 0 \end{matrix} \delta^{\Delta}$

$\begin{matrix} \text{v} \\ 1 & 0 \end{matrix}$

$\delta \begin{matrix} \text{v} \\ 0 & 0 & 1 & 0 \end{matrix} \delta^{\Delta}$

$\begin{matrix} \text{v} \\ 1 & 0 \end{matrix}$

X010

$\delta \begin{matrix} \text{v} \\ X & 0 & 1 & 0 \end{matrix} \delta^{\Delta}$

100010

$\delta \begin{matrix} \text{v} \\ 1 & 0 & 0 & 0 & 1 & 0 \end{matrix} \delta^{\Delta}$

$\delta \begin{matrix} \text{v} \\ 1 & 0 & 0 & 0 & 1 & 0 \end{matrix} \delta^{\Delta}$

$\delta \begin{matrix} \text{v} \\ 1 & 0 & 0 & 0 & 1 & 0 \end{matrix} \delta^{\Delta}$

$\begin{matrix} \text{v} \\ 1 & 0 \end{matrix}$

$\delta \begin{matrix} \text{v} \\ 1 & 0 & 0 & 0 & 1 & 0 \end{matrix} \delta^{\Delta}$

0

0

Vou - Di

Plagal Fourth Mode - Sticheraric

00010

$\overset{6}{\lambda}$ $\overset{\Delta}{\delta}$

λ 0 0 0 1 0 δ

010010

$\overset{6}{\lambda}$ $\overset{\Delta}{\delta}$

λ 0 1 0 0 1 0 δ

10010

$\overset{6}{\lambda}$ $\overset{\Delta}{\delta}$

λ 1 0 0 1 0 δ

010010

$\overset{6}{\lambda}$ $\overset{\Delta}{\delta}$

λ 0 1 0 0 1 0 δ

100010

$\overset{6}{\lambda}$ $\overset{\Delta}{\delta}$

λ 0 1 0 0 0 1 0 δ

Di - Di

10

$\overset{\Delta}{\delta}$ $\overset{\Delta}{\delta}$

δ 1 0 δ

$\overset{\Delta}{\delta}$ $\overset{\Delta}{\delta}$

δ 1 0 δ

$\overset{\Delta}{\delta}$ $\overset{\Delta}{\delta}$

δ 1 0 δ

$\overset{\Delta}{\delta}$ $\overset{\Delta}{\delta}$

δ 1 0 δ

$\overset{\Delta}{\delta}$ $\overset{\Delta}{\delta}$

δ 1 0 δ

$\overset{\Delta}{\delta}$ $\overset{\Delta}{\delta}$

δ 1 0 δ

Plagal Fourth Mode - Sticheraric

010

$\overset{\Delta}{\text{A}} \overset{\Gamma}{\text{A}} \overset{\text{red}}{\text{1}} \overset{\text{red}}{\text{0}} \overset{\Delta}{\text{A}}$

$\overset{\text{red}}{\text{0}}$

$\overset{\Delta}{\text{A}} \overset{\text{0}}{\text{A}} \overset{\text{1}}{\text{A}} \overset{\text{0}}{\text{A}} \overset{\Delta}{\text{A}}$

$\overset{\Delta}{\text{A}} \overset{\text{0}}{\text{A}} \overset{\text{1}}{\text{A}} \overset{\text{0}}{\text{A}} \overset{\Delta}{\text{A}}$

$\overset{\Delta}{\text{A}} \overset{\text{0}}{\text{A}} \overset{\text{1}}{\text{A}} \overset{\text{0}}{\text{A}} \overset{\Delta}{\text{A}}$

$\overset{\Delta}{\text{A}} \overset{\text{0}}{\text{A}} \overset{\text{1}}{\text{A}} \overset{\text{0}}{\text{A}} \overset{\Delta}{\text{A}}$

$\overset{\Delta}{\text{A}} \overset{\text{0}}{\text{A}} \overset{\text{1}}{\text{A}} \overset{\text{0}}{\text{A}} \overset{\Delta}{\text{A}}$

$\overset{\Delta}{\text{A}} \overset{\text{0}}{\text{A}} \overset{\text{1}}{\text{A}} \overset{\text{0}}{\text{A}} \overset{\Delta}{\text{A}}$

$\overset{\Delta}{\text{A}} \overset{\text{0}}{\text{A}} \overset{\text{1}}{\text{A}} \overset{\text{0}}{\text{A}} \overset{\Delta}{\text{A}}$

$\overset{\Delta}{\text{A}} \overset{\text{0}}{\text{A}} \overset{\text{red}}{\text{1}} \overset{\text{0}}{\text{A}} \overset{\Delta}{\text{A}}$

$\overset{\text{red}}{\text{1}}$

$\overset{\Delta}{\text{A}} \overset{\text{0}}{\text{A}} \overset{\text{red}}{\text{1}} \overset{\text{red}}{\text{0}} \overset{\Delta}{\text{A}}$

$\overset{\text{red}}{\text{1}} \overset{\text{red}}{\text{0}}$

$\overset{\text{red}}{\text{1}} \overset{\text{red}}{\text{0}}$

$\overset{\Delta}{\text{A}} \overset{\text{red}}{\text{0}} \overset{\text{1}}{\text{A}} \overset{\text{blue}}{\text{0}} \overset{\Delta}{\text{A}}$

$\overset{\text{red}}{\text{0}} \overset{\text{blue}}{\text{0}}$

Plagal Fourth Mode - Sticheraric

0010

Ⲁ ⲛⲓⲛⲓ ⲛⲓⲛⲓ ⲛⲓⲛⲓ ⲛⲓⲛⲓ Ⲁ
0 0 1 0

Ⲁ ⲛⲓⲛⲓ ⲛⲓⲛⲓ ⲛⲓⲛⲓ Ⲁ
0 0 1 0

Ⲁ ⲛⲓⲛⲓ ⲛⲓⲛⲓ ⲛⲓⲛⲓ ⲛⲓⲛⲓ Ⲁ
0 0 1 0

Ⲁ ⲛⲓⲛⲓ ⲛⲓⲛⲓ ⲛⲓⲛⲓ Ⲁ
0 0 1 0

Ⲁ ⲛⲓⲛⲓ ⲛⲓⲛⲓ ⲛⲓⲛⲓ Ⲁ
0 0 1 0

Ⲁ ⲛⲓⲛⲓ ⲛⲓⲛⲓ ⲛⲓⲛⲓ Ⲁ
0 0 1 0

X010

Ⲁ ⲛⲓⲛⲓ ⲛⲓⲛⲓ ⲛⲓⲛⲓ ⲛⲓⲛⲓ Ⲁ
X 0 1 0

00010

Ⲁ ⲛⲓⲛⲓ ⲛⲓⲛⲓ ⲛⲓⲛⲓ Ⲁ
0 0 0 1 0

Ⲁ ⲛⲓⲛⲓ ⲛⲓⲛⲓ ⲛⲓⲛⲓ ⲛⲓⲛⲓ Ⲁ
0 0 0 1 0

Ⲁ ⲛⲓⲛⲓ ⲛⲓⲛⲓ ⲛⲓⲛⲓ Ⲁ
0 0 0 1 0

10010

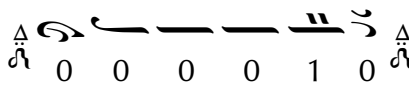
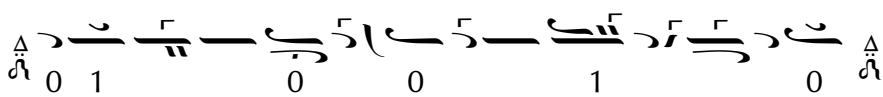
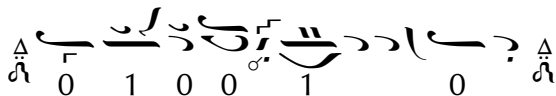
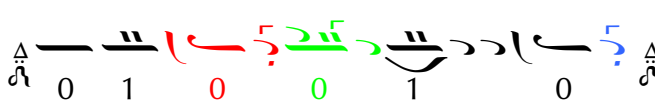

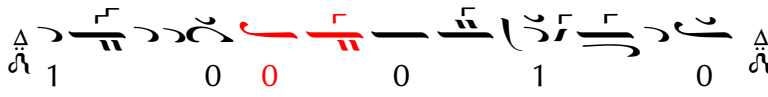

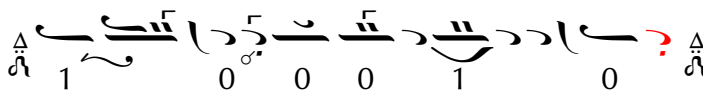

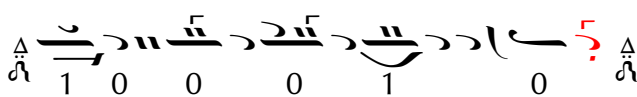

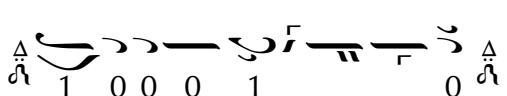
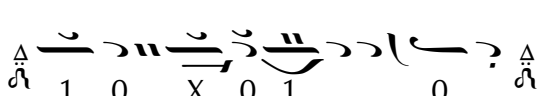
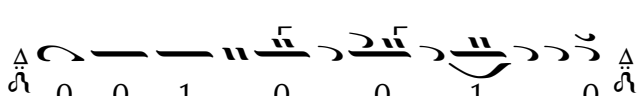
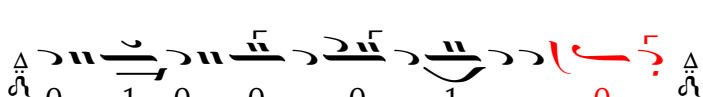


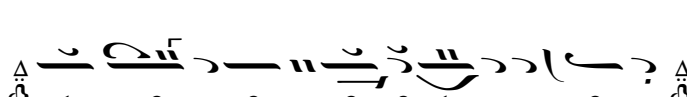

Ⲁ ⲛⲓⲛⲓ ⲛⲓⲛⲓ ⲛⲓⲛⲓ ⲛⲓⲛⲓ ⲛⲓⲛⲓ Ⲁ 1
1 0 0 1 0

Ⲁ ⲛⲓⲛⲓ ⲛⲓⲛⲓ ⲛⲓⲛⲓ ⲛⲓⲛⲓ Ⲁ 1 0
1 0 0 1 0

Ⲁ ⲛⲓⲛⲓ ⲛⲓⲛⲓ ⲛⲓⲛⲓ Ⲁ
1 0 0 1 0

Ⲁ ⲛⲓⲛⲓ ⲛⲓⲛⲓ ⲛⲓⲛⲓ Ⲁ 1
1 0 0 1 0

Plagal Fourth Mode - Sticheraric

000010		
010010		
		
		
		
100010		
		
		
		
10X010		
0010010		
0100010		
1000010		
		
10010010		

Plagal Fourth Mode - Sticheraric

K) Accented on Third to Last Syllable

Nee - Di

100

101

10X

0100

0101

0100

Plagal Fourth Mode - Sticheric

00100

Δ

Δ

Δ

Δ

10100

Δ

010100

Δ

Δ

1000100

Δ

Δ

Δ

10X0100

Δ

00100100

Δ

Δ

Δ

Plagal Fourth Mode - Sticheraric

Vou - Di

100	$\begin{array}{c} \overset{6}{\lambda} \\ \text{1 0 0 } \overset{\Delta}{\text{di}} \end{array}$
	$\begin{array}{c} \overset{6}{\lambda} \\ \text{1 0 0 } \overset{\Delta}{\text{di}} \end{array}$
	$\begin{array}{c} \overset{6}{\lambda} \\ \text{1 0 0 } \overset{\Delta}{\text{di}} \end{array}$
	$\begin{array}{c} \overset{6}{\lambda} \\ \text{1 0 0 } \overset{\Delta}{\text{di}} \end{array}$
0100	$\begin{array}{c} \overset{6}{\lambda} \\ \text{0 1 0 0 } \overset{\Delta}{\text{di}} \end{array}$
	$\begin{array}{c} \overset{6}{\lambda} \\ \text{0 1 0 0 } \overset{\Delta}{\text{di}} \end{array}$
010100	$\begin{array}{c} \overset{6}{\lambda} \\ \text{0 1 0 1 0 0 } \overset{\Delta}{\text{di}} \end{array}$
0100100	$\begin{array}{c} \overset{6}{\lambda} \\ \text{0 1 0 0 1 0 0 } \overset{\Delta}{\text{di}} \end{array}$
	$\begin{array}{c} \overset{6}{\lambda} \\ \text{0 1 0 0 1 0 0 } \overset{\Delta}{\text{di}} \end{array}$
	$\begin{array}{c} \overset{6}{\lambda} \\ \text{0 1 0 0 1 0 0 } \overset{\Delta}{\text{di}} \end{array}$
1010100	$\begin{array}{c} \overset{6}{\lambda} \\ \text{1 0 1 0 1 0 0 } \overset{\Delta}{\text{di}} \end{array}$
01000100	$\begin{array}{c} \overset{6}{\lambda} \\ \text{0 1 0 0 0 1 0 0 } \overset{\Delta}{\text{di}} \end{array}$
	$\begin{array}{c} \overset{6}{\lambda} \\ \text{0 1 0 0 0 1 0 0 } \overset{\Delta}{\text{di}} \end{array}$

Plagal Fourth Mode - Sticheraric

Di - Di

100

Δ Δ
 Δ Δ 1 0 0 Δ Δ

Δ Δ
 Δ Δ 1 0

Δ Δ
 Δ Δ 1 0 0 Δ Δ

Δ Δ
 Δ Δ 1 0 0 Δ Δ

Δ Δ
 Δ Δ 1 0 0 Δ Δ

Δ Δ
 Δ Δ 1 0 0 Δ Δ

Δ Δ
 Δ Δ 1 0 0 Δ Δ

Δ Δ
 Δ Δ 1 0 0 Δ Δ

Δ Δ
 Δ Δ 0

Δ Δ
 Δ Δ 1 0 0 Δ Δ

Δ Δ
 Δ Δ 1 0 1 Δ Δ

Δ Δ
 Δ Δ 1 0 0 Δ Δ

Δ Δ
 Δ Δ 1 0 0 Δ Δ



Δ Δ
 Δ Δ 1

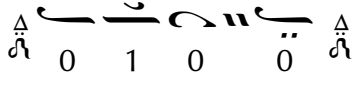
Δ Δ
 Δ Δ 1 0 0 Δ Δ

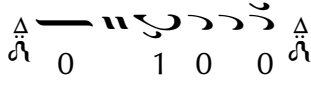
Δ Δ
 Δ Δ 1 0 0 Δ Δ


Δ Δ
 Δ Δ 1 0 0 Δ Δ

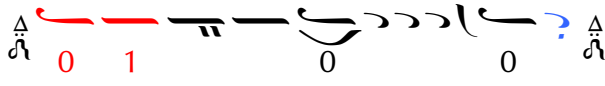

Plagal Fourth Mode - Sticheraric



10X  



0100 

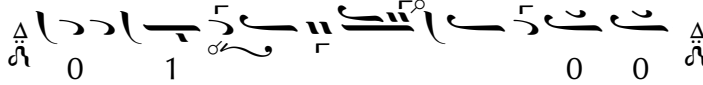








 

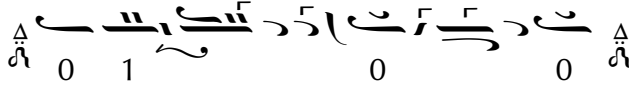
 

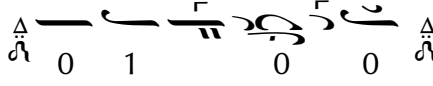
 

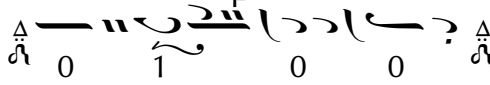


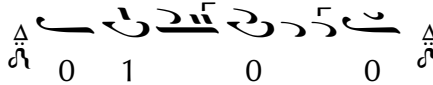
  

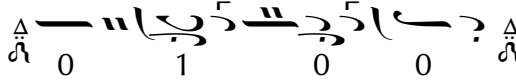










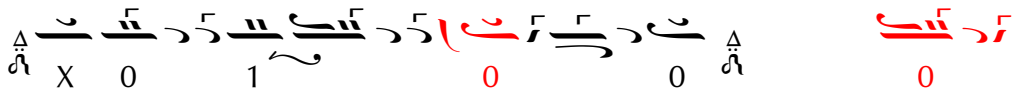


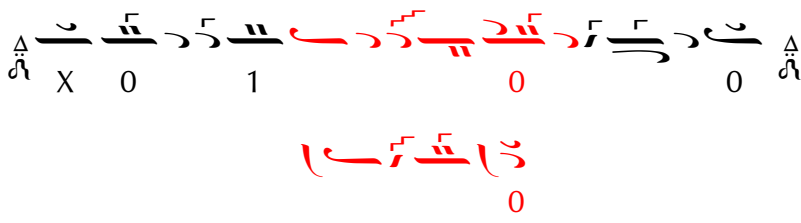
Plagal Fourth Mode - Sticheraric

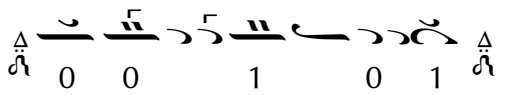
010X

00100

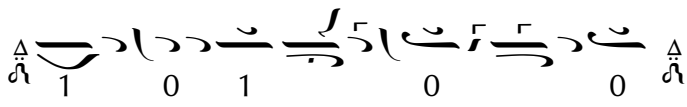
Plagal Fourth Mode - Sticheraric

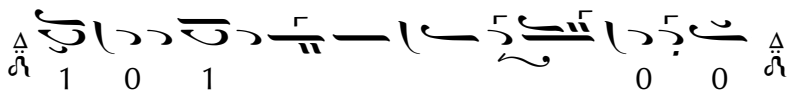
X0100 

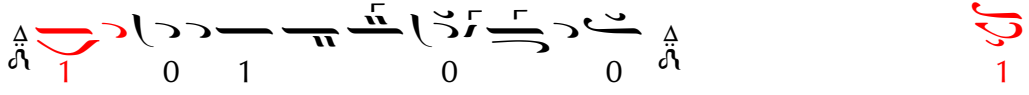


00101 

10100 

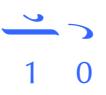














000100 



010100 

Plagal Fourth Mode - Sticheraric

Δ 1 0 0 1 0 0 Δ 1 0

Δ 1 0 0 1 0 0 Δ 1 0 0

Δ 1 0 0 1 0 0 Δ

0100100

Δ 0 1 0 0 1 0 0 Δ 1

Δ 0 1 0 0 1 0 0 Δ

1000100

Δ 1 0 0 0 1 0 0 Δ 1

X000100

Δ X 0 0 0 1 0 0 Δ

Δ X 0 0 0 1 0 0 Δ 0

00100100

Δ 0 0 1 0 0 1 0 0 Δ 1

Δ 0 0 1 0 0 1 0 0 Δ

000100100

Δ 0 0 0 1 0 0 1 0 0 Δ

L) Accented on Fourth to Last Syllable

Nee - Di

1001

$\begin{matrix} \nu & & & & \Delta \\ \text{Nee} & \text{Di} & \text{Di} & \text{Nee} & \text{Di} \\ \text{1} & \text{0} & \text{0} & \text{1} & \text{1} \end{matrix}$

1010

$\begin{matrix} \nu & & & & \Delta \\ \text{Nee} & \text{Di} & \text{Di} & \text{Nee} & \text{Di} \\ \text{1} & \text{0} & \text{0} & \text{1} & \text{1} \end{matrix}$

$\begin{matrix} \nu & & & & \Delta \\ \text{Nee} & \text{Di} & \text{Di} & \text{Nee} & \text{Di} \\ \text{1} & \text{0} & \text{1} & \text{0} & \text{1} \end{matrix}$

$\begin{matrix} \nu & & & & \Delta \\ \text{Nee} & \text{Di} & \text{Di} & \text{Nee} & \text{Di} \\ \text{1} & \text{0} & \text{1} & \text{0} & \text{1} \end{matrix}$

$\begin{matrix} \nu & & & & \Delta \\ \text{Nee} & \text{Di} & \text{Di} & \text{Nee} & \text{Di} \\ \text{1} & \text{0} & \text{1} & \text{0} & \text{1} \end{matrix}$

$\begin{matrix} \nu & & & & \Delta \\ \text{Nee} & \text{Di} & \text{Di} & \text{Nee} & \text{Di} \\ \text{1} & \text{0} & \text{1} & \text{0} & \text{1} \end{matrix}$

01001

$\begin{matrix} \nu & & & & \Delta \\ \text{Nee} & \text{Di} & \text{Di} & \text{Nee} & \text{Di} \\ \text{0} & \text{1} & \text{0} & \text{0} & \text{1} \end{matrix}$

$\begin{matrix} \nu & & & & \Delta \\ \text{Nee} & \text{Di} & \text{Di} & \text{Nee} & \text{Di} \\ \text{0} & \text{1} & \text{0} & \text{0} & \text{1} \end{matrix}$

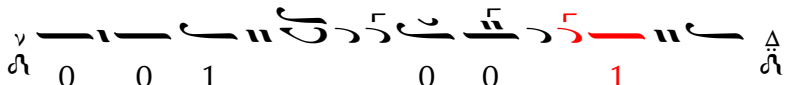

$\begin{matrix} \nu & & & & \Delta \\ \text{Nee} & \text{Di} & \text{Di} & \text{Nee} & \text{Di} \\ \text{0} & \text{1} & \text{0} & \text{0} & \text{1} \end{matrix}$

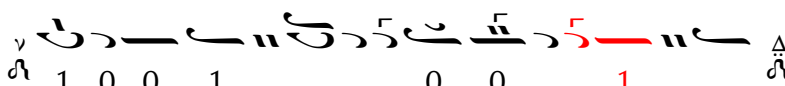

$\begin{matrix} \nu & & & & \Delta \\ \text{Nee} & \text{Di} & \text{Di} & \text{Nee} & \text{Di} \\ \text{0} & \text{1} & \text{0} & \text{0} & \text{1} \end{matrix}$

01010

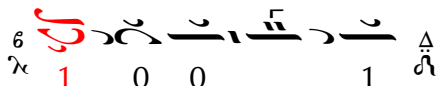

$\begin{matrix} \nu & & & & \Delta \\ \text{Nee} & \text{Di} & \text{Di} & \text{Nee} & \text{Di} \\ \text{0} & \text{1} & \text{0} & \text{1} & \text{0} \end{matrix}$

Plagal Fourth Mode - Sticheraric

001001  

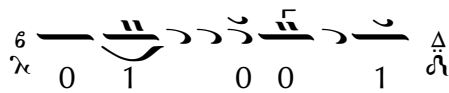
1001001  

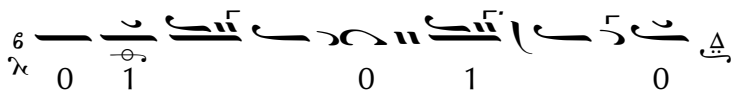
Vou - Di

1001  

01001 

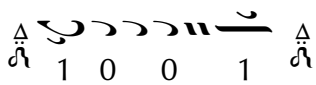


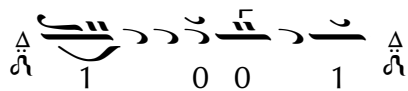
01010 

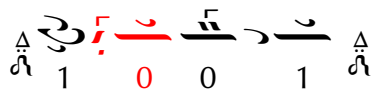
0001001 

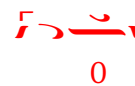
Di - Di

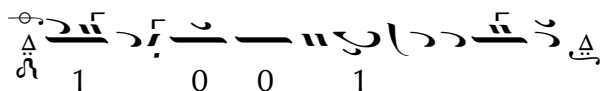
100X 

1001 









Plagal Fourth Mode - Sticheraric

1 0 0 1

1 0 0 1

1 0 0 1

د

د

1010

1 0 1 0

1X0X

1 X 0 X

01001

0 1 0 0 1

0 1 0 0 1

0 1 0 0 1

0 1 0 0 1

0 1 0 0 1

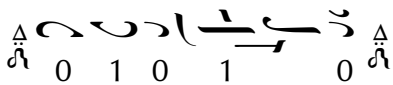
0 1 0 0 1

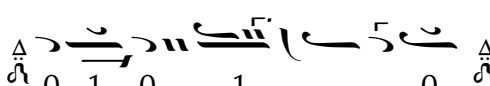
د 0 1

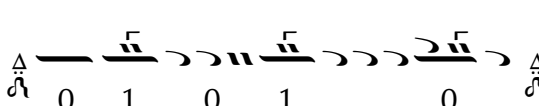
Plagal Fourth Mode - Sticheraric



01010



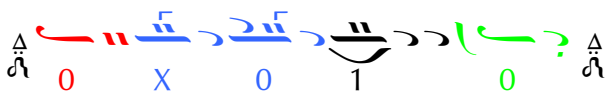






01X00



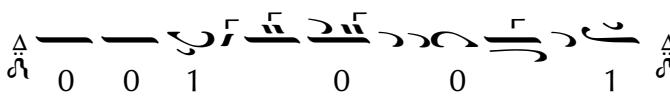
0X010








001001



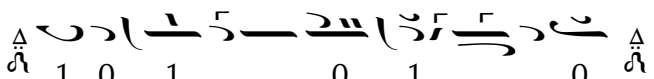


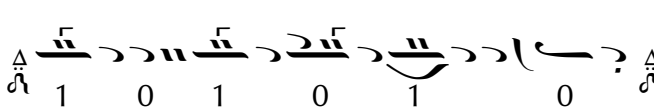


001X0X



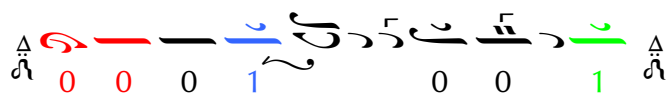
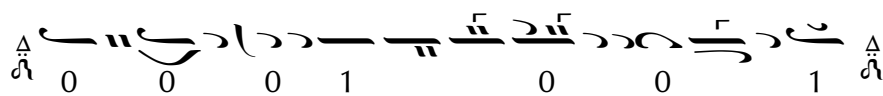
101010





Plagal Fourth Mode - Sticheraric

0001001




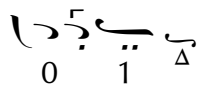
Plagal Fourth Mode - Sticheraric

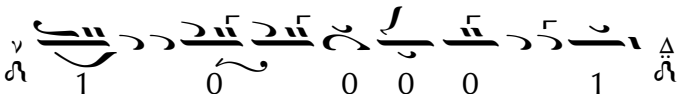
M) Medial Formulae Nee - Low Di

Accented on last syllable:

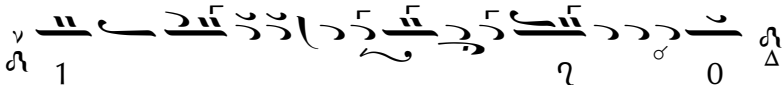
(A formula ending in 100 or 1001 may also be used for a phrase accentuated on the last syllable.)

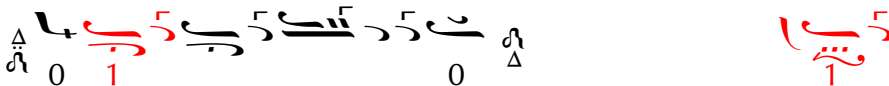
00001 (old sticheraric) 

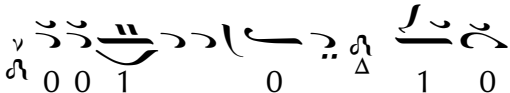


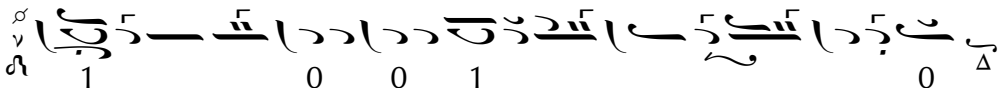
100001 

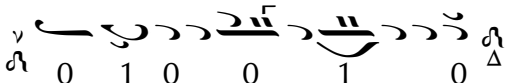
Accented on second to last syllable:

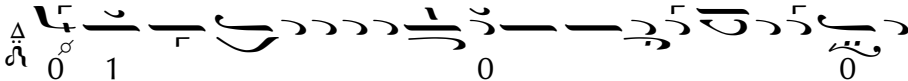
10 

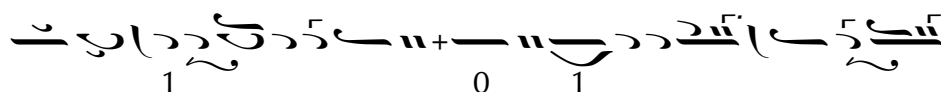
010 

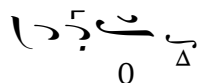
0010 

10010 

010010 

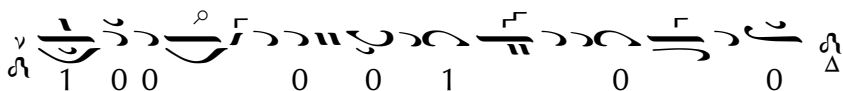
010010 (old sticheraric) 

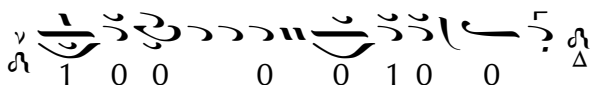




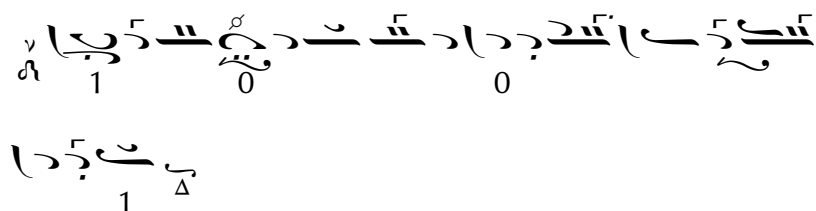
Plagal Fourth Mode - Sticheraric

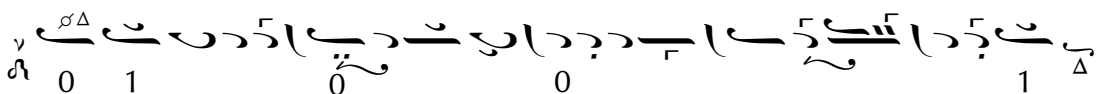
1000100 

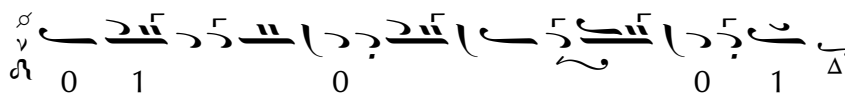
1000100 

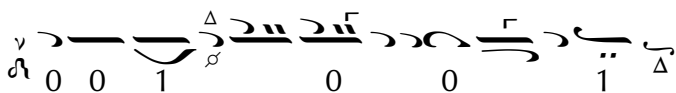
10000100 

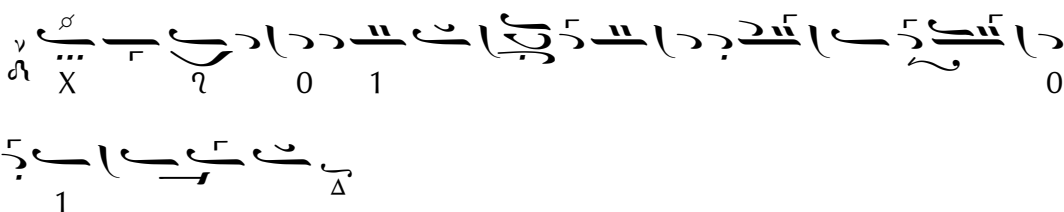
Accented on fourth to last syllable:

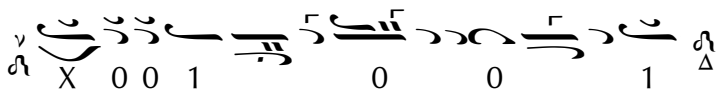
1001 (old sticheraric) 

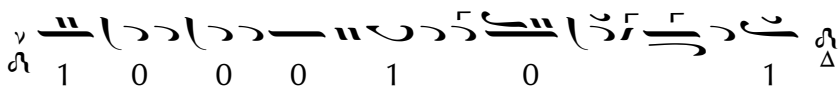
01001 

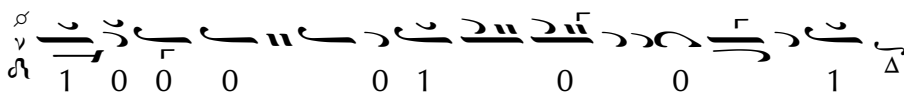


001001 

X01001 

X001001 


10001010 

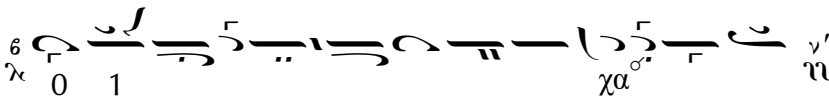
100001001 

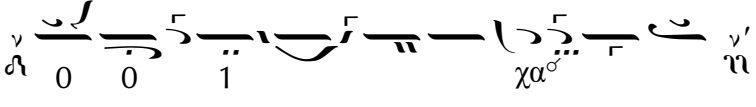
Plagal Fourth Mode - Sticheraric


N) Medial Formulae Di - High Nee

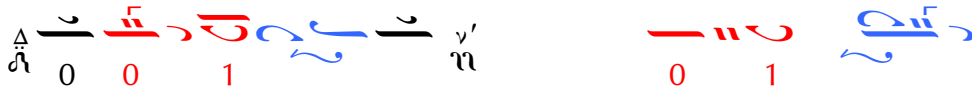
Accented on last syllable:

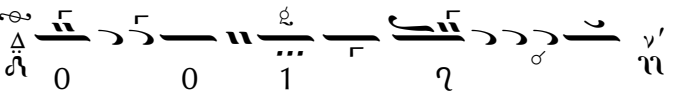
1 (old sticheraric) 

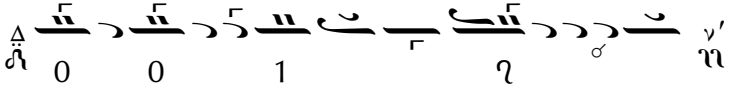
01 (old sticheraric) 

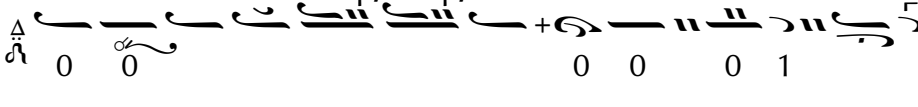
001 (old sticheraric) 


001 




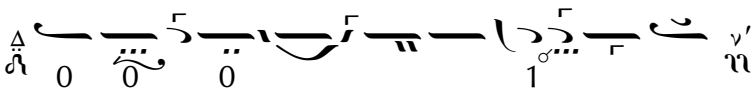
001 (old sticheraric) 

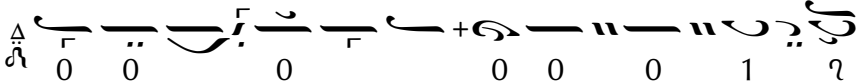
001 (old sticheraric) 

001 (old sticheraric) 



0001 

0001 (old sticheraric) 

0001 (old sticheraric) 

Plagal Fourth Mode - Sticheraric

$\overset{6}{\lambda}$ 0 1 0 v'

010 (old sticheraric) 0 1 0 v'

v' delta v'

00010 (old sticheraric) 0 0 0 1 0 v'

10010 (old sticheraric) 1 0 0 1 0 v'

v' delta v'

10010 (old sticheraric) 1 0 0 1 v'

v' delta v'

00X010 0 0 X 0 1 v'

100010 1 0 0 1 0 v'

100010 (old sticheraric) 1 0 0 0 1 v' delta v'

Accented on third to last syllable:

100 1 0 0 v' delta v'

1 0 0 v' delta v'

Plagal Fourth Mode - Sticheraric

01001 (old sticheraric) $\overset{\Delta}{\mathfrak{A}}$ 0 1 0 0 1

$\overset{\nu'}{\mathfrak{A}}$

001001 $\overset{\Delta}{\mathfrak{A}}$ 0 0 1 0 0 1 $\overset{\nu'}{\mathfrak{A}}$

$\overset{\Delta}{\mathfrak{A}}$ 0 0 1 0 0 1 $\overset{\nu'}{\mathfrak{A}}$

0 0 1 0 1

1

$\overset{\Delta}{\mathfrak{A}}$ 0 0 1 0 0 1 $\overset{\nu'}{\mathfrak{A}}$

From High Nee:

(Usually instead of these formulae, a formula from Di is used by subtracting three from the interval of the initial neume.)

010 $\overset{\nu'}{\mathfrak{A}}$ 0 1 0 $\overset{\nu'}{\mathfrak{A}}$

100 $\overset{\nu'}{\mathfrak{A}}$ 1 0 2 0 $\overset{\Delta}{\mathfrak{A}}$

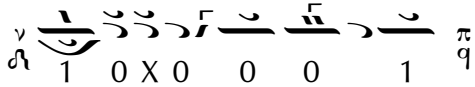
00100 $\overset{\nu'}{\mathfrak{A}}$ 0 0 1 0 2 0 $\overset{\Delta}{\mathfrak{A}}$

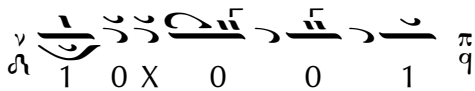
00100 $\overset{\nu'}{\mathfrak{A}}$ 0 0 1 0 2 0 $\overset{\Delta}{\mathfrak{A}}$

Plagal Fourth Mode - Sticheraric

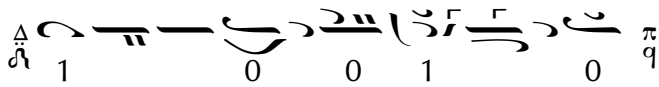
O) Cadences on Pa

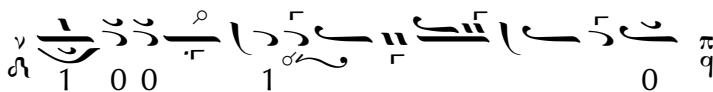
Accented on last syllable:

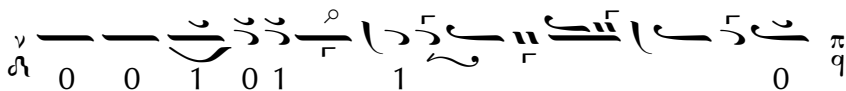
10X0001 

10X0001 

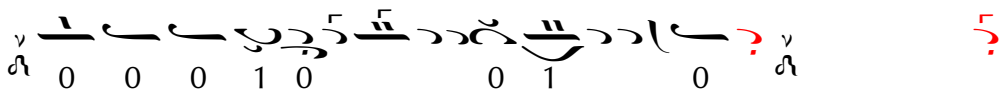
Accented on second to last syllable:

10010 




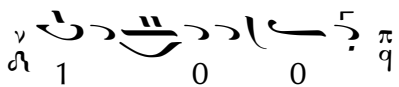
0010010 

1010010 

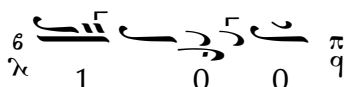
00010010 

Accented on third to last syllable:

100 







Plagal Fourth Mode - Sticheric

0100 $\overset{\vee}{\delta} \overset{\ulcorner}{\text{—}} \overset{\lrcorner}{\text{—}} \overset{\rceil}{\text{—}} \overset{\llcorner}{\text{—}} \overset{\pi}{\text{q}}$

$\overset{\Delta}{\delta} \overset{\rceil}{\text{—}} \overset{\ulcorner}{\text{—}} \overset{\lrcorner}{\text{—}} \overset{\llcorner}{\text{—}} \overset{\rceil}{\text{—}} \overset{\ulcorner}{\text{—}} \overset{\lrcorner}{\text{—}} \overset{\llcorner}{\text{—}} \overset{\rceil}{\text{—}} \overset{\pi}{\text{q}}$

000100 $\overset{\vee}{\delta} \overset{\ulcorner}{\text{—}} \overset{\lrcorner}{\text{—}} \overset{\llcorner}{\text{—}} \overset{\rceil}{\text{—}} \overset{\lrcorner}{\text{—}} \overset{\rceil}{\text{—}} \overset{\pi}{\text{q}}$

Accented on fourth to last syllable:

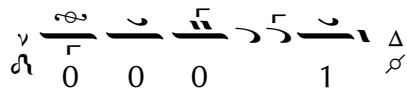
1001 $\overset{\vee}{\delta} \overset{\ulcorner}{\text{—}} \overset{\lrcorner}{\text{—}} \overset{\rceil}{\text{—}} \overset{\llcorner}{\text{—}} \overset{\rceil}{\text{—}} \overset{\ulcorner}{\text{—}} \overset{\lrcorner}{\text{—}} \overset{\llcorner}{\text{—}} \overset{\rceil}{\text{—}} \overset{\pi}{\text{q}}$

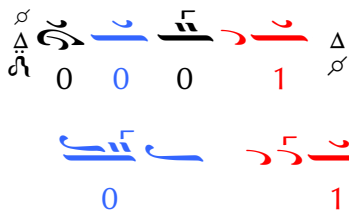
Plagal Fourth Mode - Sticheraric

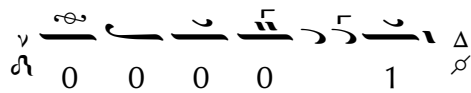
P) Fthoras

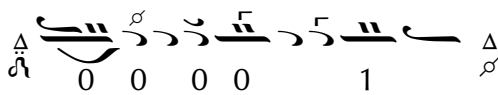
Accented on last syllable:

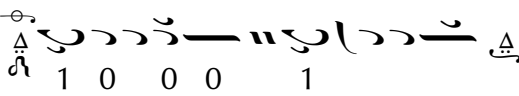
001 

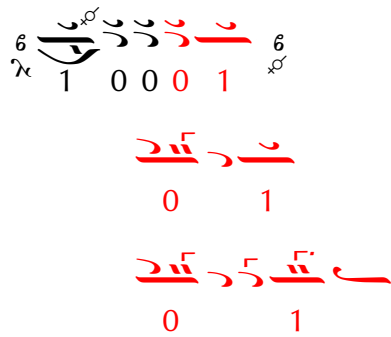


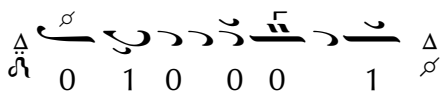
0001 

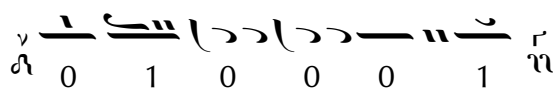


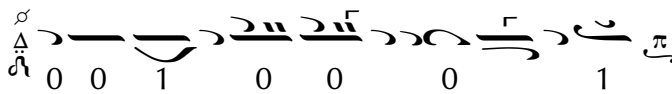
00001 

10001 



010001 

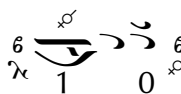



0010001 


Plagal Fourth Mode - Sticheric

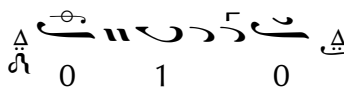
0100001 


Accented on second to last syllable:


10 

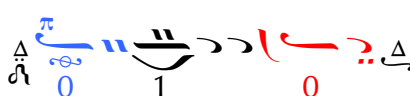






010 

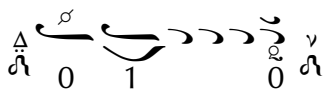


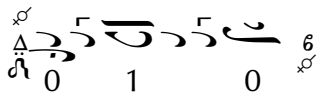















Plagal Fourth Mode - Sticheraric

0010

6
λ 0 1 0 0

Δ
0 0 1 0

Δ
0 0 1 0

6
λ 0 0 1 0

Δ
0 0 1 0

Δ
0 0 1 0

Δ
0 0 1 0

Δ
0 0 1 0

00010

Δ
0 0 0 1 0

10010

Δ
1 0 0 1 0

Δ
1 0 0 1 0

Δ
1 0 0 1 0

Δ
1 0 0 1 0

Δ
1 0 0 1 0

6
λ 1 0 0 1 0

Δ
1 0 0 1 0

0

1

Plagal Fourth Mode - Sticheraric



00100 $\overset{\Delta}{\underset{\Delta}{\lambda}}$ $\frac{\lambda}{\rho}$

$\overset{6}{\underset{\lambda}{\lambda}}$ π

$\overset{\Delta}{\underset{\Delta}{\lambda}}$ Δ

10100 $\overset{6}{\underset{\lambda}{\lambda}}$ $\frac{\lambda}{\rho}$

$\overset{6}{\underset{\lambda}{\lambda}}$ $\frac{\lambda}{\rho}$

10101 $\overset{\gamma}{\underset{\Delta}{\lambda}}$ η

100100 $\overset{\Delta}{\underset{\Delta}{\lambda}}$ Δ

$\overset{6}{\underset{\lambda}{\lambda}}$ $\frac{\gamma}{\rho}$

$\overset{\circ}{\underset{\Delta}{\lambda}}$ $\frac{\rho}{\rho}$

010100 $\overset{\Delta}{\underset{\Delta}{\lambda}}$ π

01010X $\overset{\Delta}{\underset{\Delta}{\lambda}}$ X

0010100 $\overset{\Delta}{\underset{\Delta}{\lambda}}$ Δ

0100100 $\overset{\circ}{\underset{\lambda}{\lambda}}$ Δ

Plagal Fourth Mode - Sticheraric

Accented on fourth to last syllable:

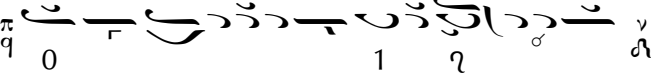
1010		
X010		
01010		
100010		


Plagal Fourth Mode - Sticheraric

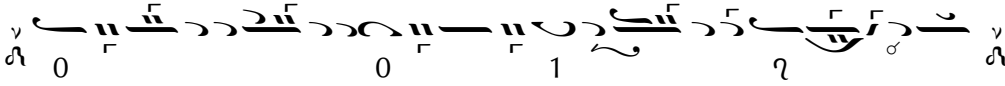
Q) Old (slow) Sticheraric Formulae

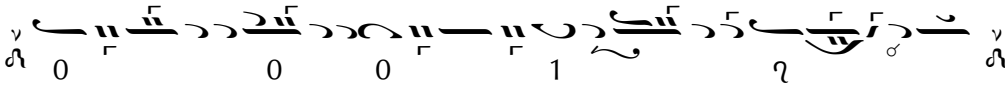
Accented on last syllable:

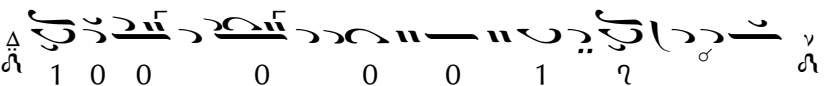
Cadences on Nee:

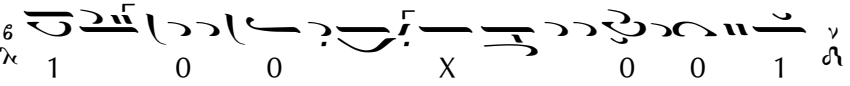
01  $\frac{\pi}{q}$ 0 1 2 δ

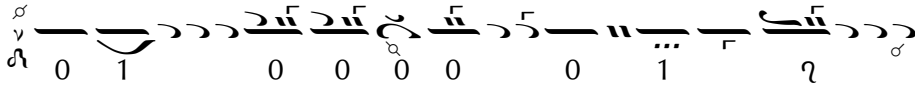
01  δ 0 1 δ


001  δ 0 0 1 2 δ

001  δ 0 0 0 1 2 δ

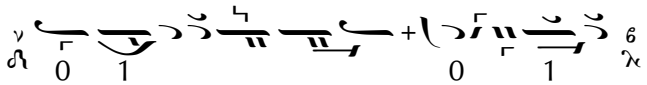
1010001  Δ 1 0 0 0 0 1 2 δ

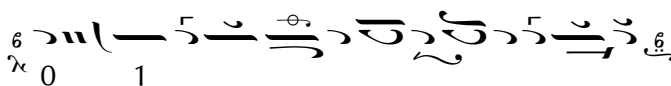
100X001  λ 1 0 0 X 0 0 1 δ

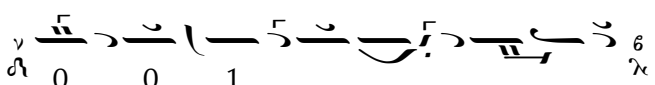
0100001  δ 0 1 0 0 0 0 1 2 δ

 δ

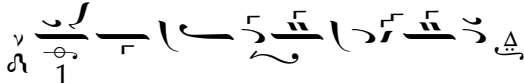
Cadences on Vou:

01  δ 0 1 0 1 λ


01  λ 0 1 δ

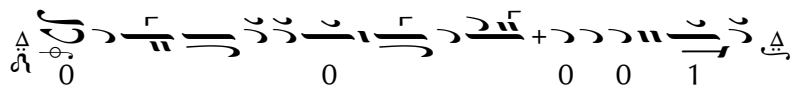
001  δ 0 0 1 λ

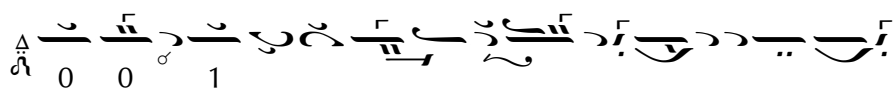
Cadences on Di:

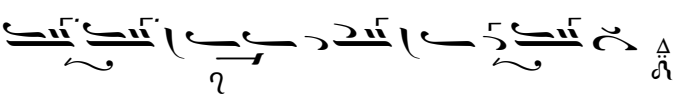
1  δ 1 Δ

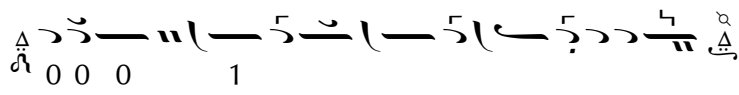
Plagal Fourth Mode - Sticheraric

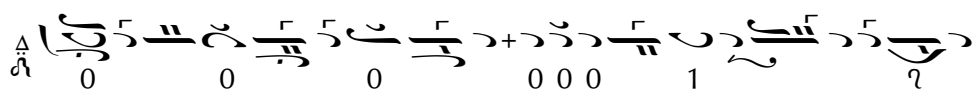
01 

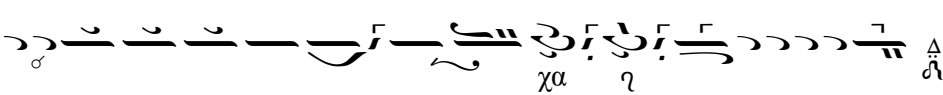
001 

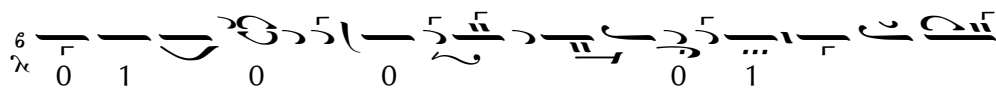
001 

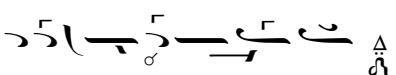


0001 

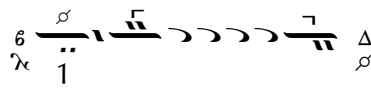
0001 

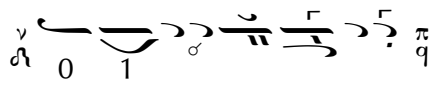


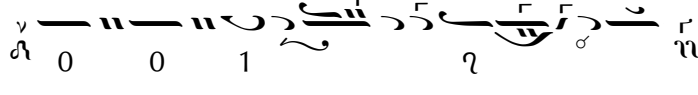
010001 





Other Cadences:

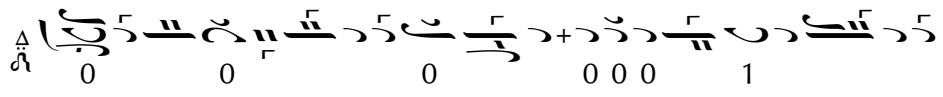
1 


01 

001 



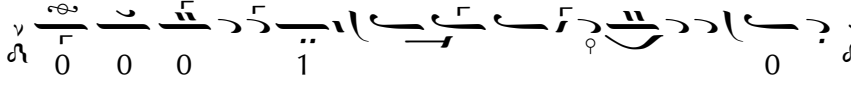
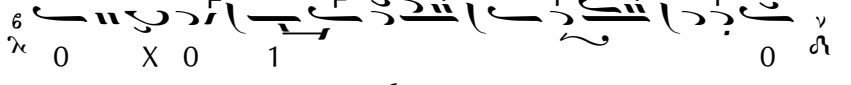

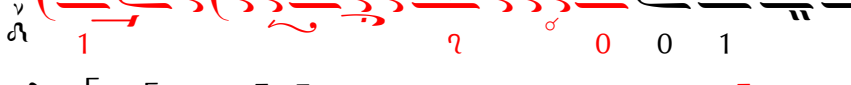
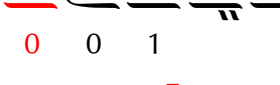
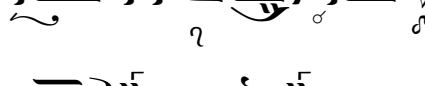

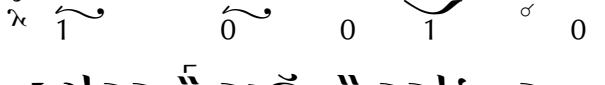
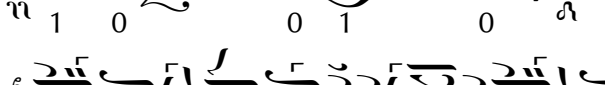
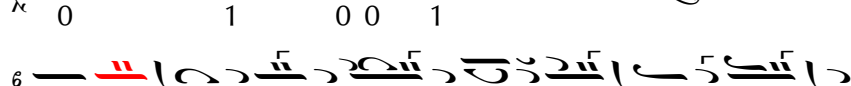
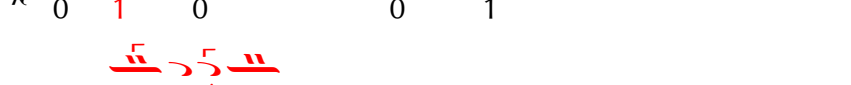
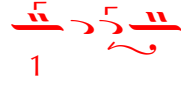
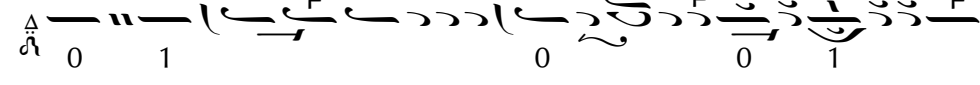

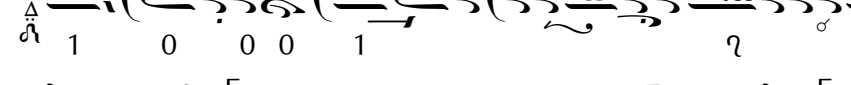



0001 



0001 



Plagal Fourth Mode - Sticheraric

0010		
00010		
0X010		
00010		
10010		
		
10010		
10010		
010010		
010010		
		
010010		
		
100010		
100010		
		
100010		

Plagal Fourth Mode - Sticheraric

0 1 2 0 2

0 0 1 2

100010 Δ 1 0 2

0 0 1 2 0 2

100010 1 0 0 0 1 2 0 2

1000010 1 0 0 0 1 2

0 0 2 0 1

0010010 0 0 1 0 0 0

1 2 0 2 1

1

0010010 0 0 1 0 0 1

2 0 2

1 0 0 1 0

0010010 0 0 1 0 0

1 2 0 2

00010010 0 0 0 1 0 0 1

2 0 2

Plagal Fourth Mode - Sticheraric

00100010 $\overset{\Delta}{\mathcal{A}}$ $\overset{\circ}{\mathcal{A}}$ 0 0 1 0 0 0 1 0

10000010 $\overset{6}{\lambda}$ 1 0 0 0 0 0 1

Cadences on Vou:

10 $\overset{\nu}{\mathcal{A}}$ 1 0 $\overset{6}{\lambda}$

10 $\overset{\nu}{\mathcal{A}}$ 1 0 $\overset{6}{\lambda}$ ϑ

010 $\overset{6}{\lambda}$ 0 1 0 $\overset{6}{\lambda}$

010 $\overset{6}{\lambda}$ 0 1 ϑ $\overset{6}{\lambda}$

010 $\overset{\Delta}{\mathcal{A}}$ 0 1 0 $\overset{6}{\lambda}$

0010 $\overset{\nu}{\mathcal{A}}$ 0 0 1 0 $\overset{6}{\lambda}$

00010 $\overset{\Delta}{\mathcal{A}}$ 0 0 ϑ 0 0 0 1

000010 $\overset{\nu}{\mathcal{A}}$ 0 0 0 0 1 0

000010 $\overset{6}{\lambda}$ 0 0 0 0 1 0 $\overset{6}{\lambda}$

Plagal Fourth Mode - Sticheraric

Cadences on Di:

10		
10		
10		
10		
010		
010		
010		
010		
010		
010		
010		
010		
010		


Plagal Fourth Mode - Sticheraric

1

0

010	
110	
00010	
00010	
00010	
10010	
010010	
010010	
010010	
100010	
100010	
100010	

Plagal Fourth Mode - Sticheraric


 Δ
 δ
 0

Other Cadences:

Δ
 δ
 1 0 π 9

ν
 δ
 0 1 2 0 π 9
 1 0

ν
 δ
 0 0 1 2 0 π 9
 2 0

ξ
 λ
 0 0 1 2
 π 9
 0

Δ
 δ
 0 0 1 2
 π 9
 0

ν
 δ
 1 0 0 1 0 π 9

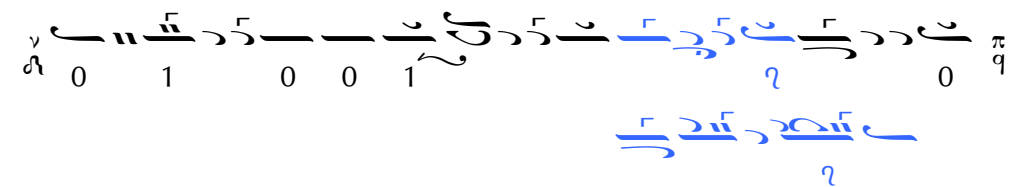
ν
 δ
 1 0 0 1 0 π 9


Δ
 δ
 1 0 0

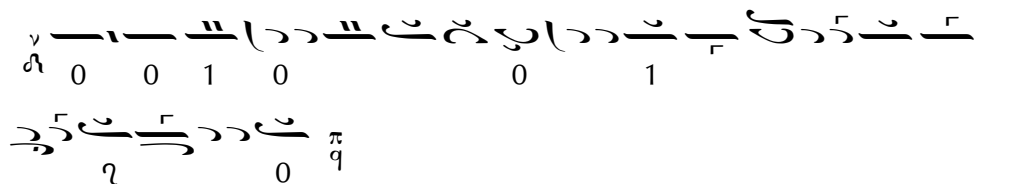
ν
 δ
 1 0 1

ν
 δ
 0 2 1

Plagal Fourth Mode - Sticheraric

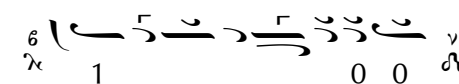
010010 

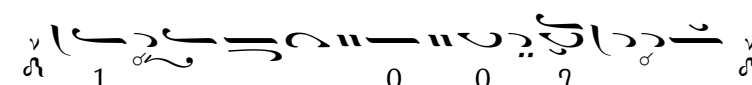
010010 

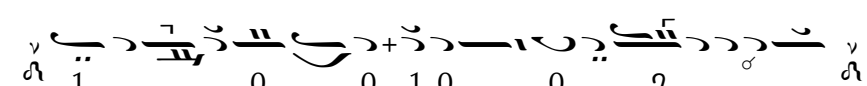
0010010 

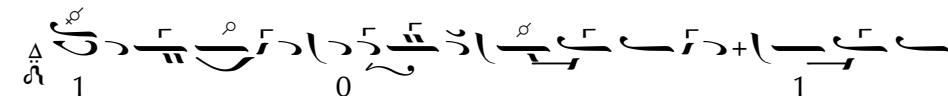
Accented on third to last syllable:

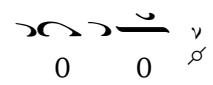
Cadences on Nee:

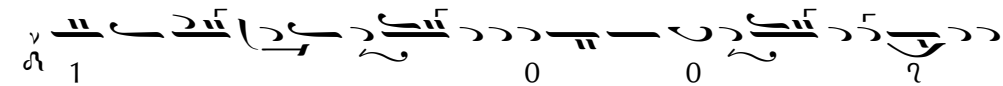
100 


100 

100 

100 



100 



Plagal Fourth Mode - Sticheraric

100100

100100

100100

1000100

1000100

1000100

1000100

1000100

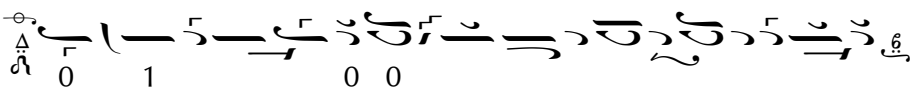
Cadences on Vou:

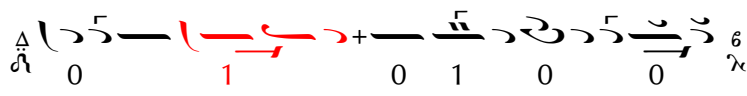
100


100

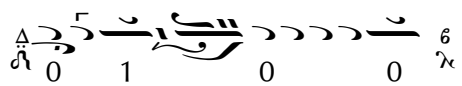
100

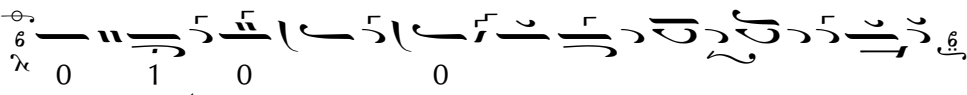
Plagal Fourth Mode - Sticheraric

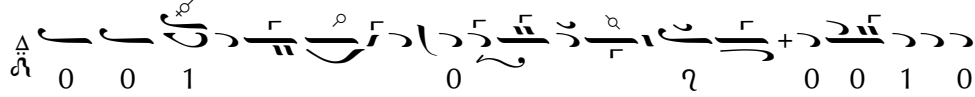
0100 

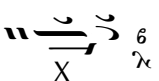
0100 




0100 

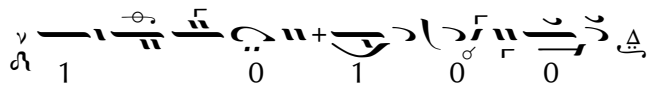
0100 

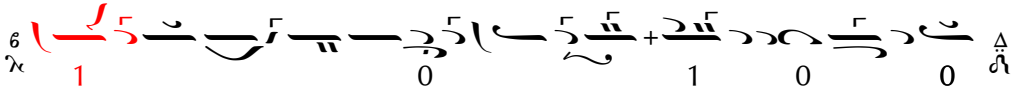
0010X 




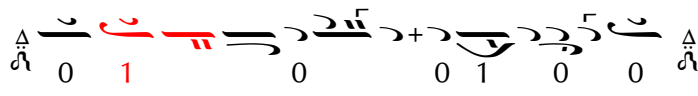
Cadences on Di:

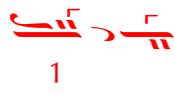
100 

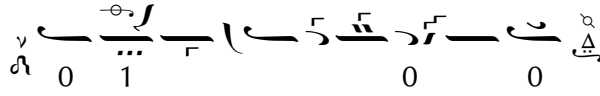
100 

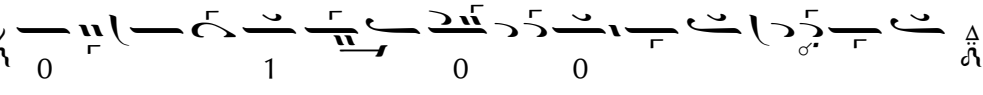
100 

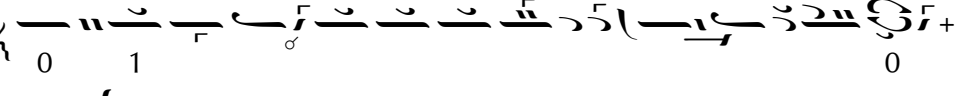


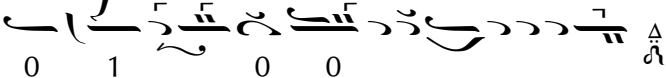
0100 



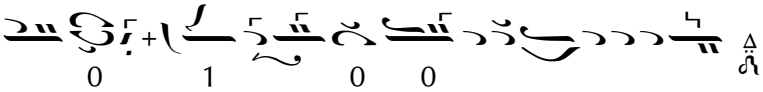
0100 

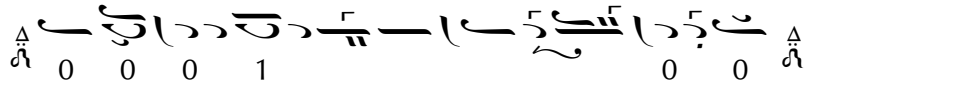
0100 

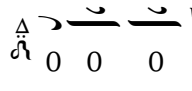
0100 




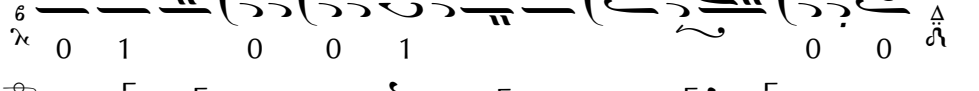
Plagal Fourth Mode - Sticheraric

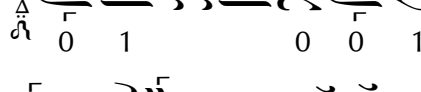
000100  Δ
 Δ 0 0 0 1 0 0 Δ

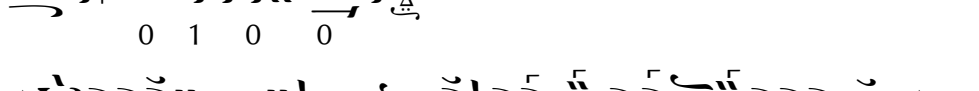
000100  Δ
 Δ 0 0 0 1 0 0 1 0

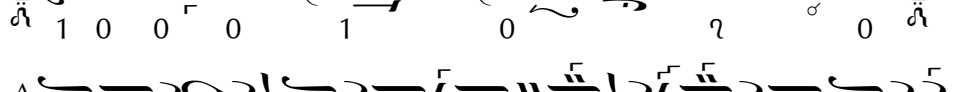
 Δ
 Δ 0


0100100  Δ
 Δ 0 1 0 0 1 0 0 Δ

0100100  Δ
 Δ 0 1 0 0 1 0

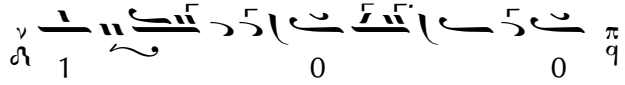
 Δ
 Δ 0 1 0 0

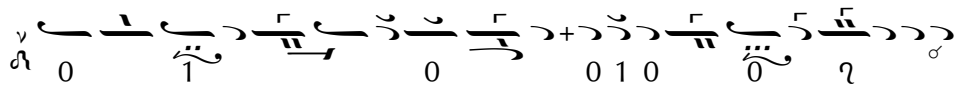
1000100  Δ
 Δ 1 0 0 0 1 0 2 0 Δ


1000100  Δ
 Δ 1 0 0 0 0 1 0

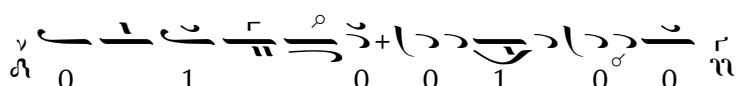
 Δ
 Δ 0


Other Cadences:

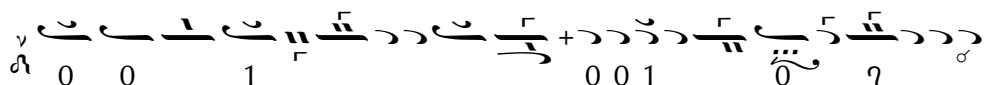
100  Δ π
 Δ 1 0 0

0100  Δ π
 Δ 0 1 0 0 1 0 0 2

 Δ π

0100  Δ π
 Δ 0 1 0 0 1 0 0 π

0100  Δ π
 Δ 0 1 0 0 1 0 0 π

00100  Δ π
 Δ 0 0 1 0 0 1 0 2

Plagal Fourth Mode - Sticheraric

$\frac{\nu}{0} \text{r} \text{n}$
 00100 ν
 δ 0 0 1 0 0 0 1 0 0 r
 00100 ξ
 λ 0 0 1 0 0 η
 10100 ξ
 λ 1 0 1 0 1 0 1 0 0 r
 10100 ξ
 λ 1 0 1 0 1 0 0 0 r
 100100 Δ
 δ 1 0 0 1 0 0 0 1 0 0
 $\frac{\nu}{0} \text{r} \text{n}$
 η
 1000100 Δ
 δ 1 0 0 0 1 0 0 1 0
 $\frac{\nu}{0} \text{r} \text{n}$
 σ

Accented on fourth to last syllable:

Cadences on Nee:

1001 ν
 δ 1 0 0 1 2 σ δ
 1001 ν
 δ 1 0 0 1 2 σ δ
 1010 ν
 δ 1 0 1 0 δ
 1010 ν
 δ 1 0 1 2 0 δ

Plagal Fourth Mode - Sticheraric

1010 $\overset{\Delta}{\mathfrak{A}}$ $\overset{\nu}{\mathfrak{A}}$ 1 0 1 0 $\overset{\nu}{\mathfrak{A}}$

01001 $\overset{\Delta}{\mathfrak{A}}$ 0 1 0 1 0 1 0

$\overset{\nu}{\mathfrak{A}}$ 0 1 $\overset{\nu}{\mathfrak{A}}$

01001 $\overset{\Delta}{\mathfrak{A}}$ 0 1 0 0 1 $\overset{\nu}{\mathfrak{A}}$

01010 $\overset{\Delta}{\mathfrak{A}}$ 0 1 0 1 0 $\overset{\nu}{\mathfrak{A}}$

001001 $\overset{\Delta}{\mathfrak{A}}$ 0 0 1 0 0

$\overset{\nu}{\mathfrak{A}}$ 0 1 $\overset{\nu}{\mathfrak{A}}$

001010 $\overset{\Delta}{\mathfrak{A}}$ 0 0 1 0 1 0 0 $\overset{\nu}{\mathfrak{A}}$

001010 $\overset{\Delta}{\mathfrak{A}}$ 0 0 1 0 1

$\overset{\nu}{\mathfrak{A}}$ 0 $\overset{\nu}{\mathfrak{A}}$

0001010 $\overset{\Delta}{\mathfrak{A}}$ 0 0 0 1 0 1 0 1 $\overset{\nu}{\mathfrak{A}}$

00101010 $\overset{\Delta}{\mathfrak{A}}$ 0 0 1 0 1 0 1

$\overset{\nu}{\mathfrak{A}}$ 0 $\overset{\nu}{\mathfrak{A}}$

00001010 $\overset{\Delta}{\mathfrak{A}}$ 0 0 0 0 1 0 1

$\overset{\nu}{\mathfrak{A}}$ 0 $\overset{\nu}{\mathfrak{A}}$

Plagal Fourth Mode - Sticheraric

101010 $\overset{\Delta}{\delta}$

Other Cadences:

1010 $\overset{\nu}{\delta}$

h1010 $\overset{\Delta}{\delta}$

01001 $\overset{\Delta}{\delta}$

0101001 $\overset{\Delta}{\delta}$

Plagal Fourth Mode - Sticheraric

R) Final Cadences

Accented on last syllable:

X0X0X0X

X 0

X 0

X 0

100X0X0X

1 X 0

X 0

X 0

Accented on second to last syllable:

0010010

0 1

1000010

Plagal Fourth Mode - Sticheraric

دائک دائک
0 1

1000010 $\overset{\Delta}{\delta}$ 1 0 0 00 1 $\overset{\gamma}{\delta}$ 0

00100010 $\overset{\Delta}{\delta}$ 0 0 1 0 0 0 1 0 $\overset{\gamma}{\delta}$ 0

دائک دائک
0 1

Accented on third to last syllable:

0010X $\overset{\Delta}{\delta}$ 0 0 1 0 $\overset{\gamma}{\delta}$ X

010100 $\overset{\Delta}{\delta}$ 0 1 0 1 0 0 $\overset{\gamma}{\delta}$ 0

10010X $\overset{\Delta}{\delta}$ 1 0 0 1 0 $\overset{\gamma}{\delta}$ X

10010X $\overset{\Delta}{\delta}$ 1 0 0 1 0 $\overset{\gamma}{\delta}$ X

دائک دائک
1 0 0

دائک دائک
1 00 1 0

دائک
1 0

دائک
1 0

Plagal Fourth Mode - Sticheraric

10010X

Δ
 δ 1 0 0 1 0 0 δ

1 0 0

1 00

1 0 0 1 0 0 δ

1 0 0 1 0 0 δ

1 0 0 0 1 0 0 δ

100010X

Δ
 δ 1 0 0 0 1 0 X δ

1 0 0 0

1 0 00 1 0

1 0

1 0

100010X

Δ
 δ 1 0 0 0 1 0 0 δ

1 0 0 0

1 0 00

Plagal Fourth Mode - Sticheraric

Accented on fourth to last syllable:

01001

101001

1001001

Plagal Fourth Mode - Sticheraric

10001001

1 0 0 0 1 0 0 1

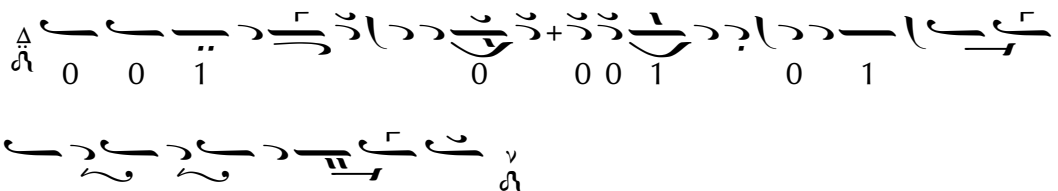
1001010

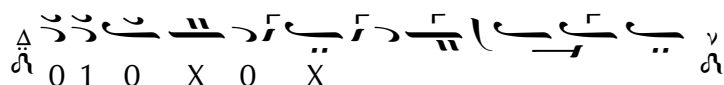
1 0 0 1 0 1 0

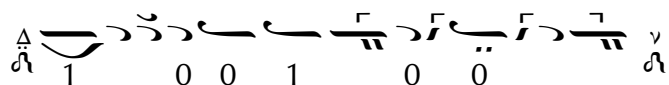
Plagal Fourth Mode - Sticheraric

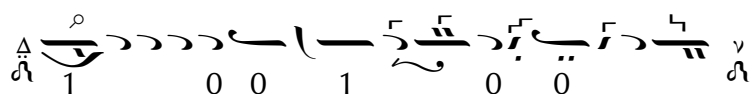
S) Final Cadences for Theotokia

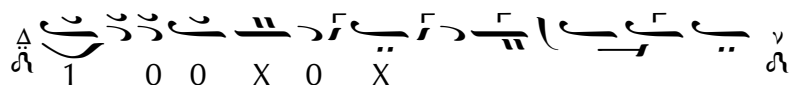
Accented on last syllable and/or third to last syllable:

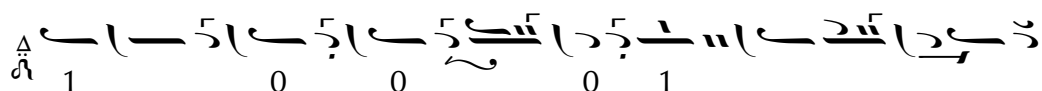
00101 

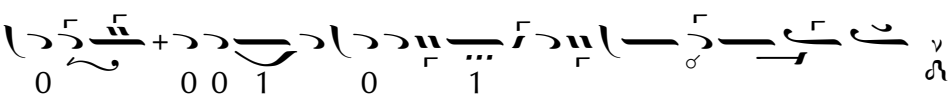
010X0X 

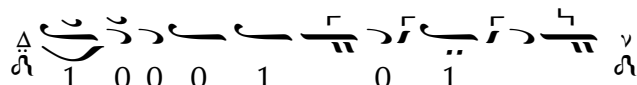
100100 



100X0X 

1000100 



1000101 

100010X 





Plagal Fourth Mode - Sticheraric

Accented on fourth to last syllable:

01001	
101001	

BYZANTINE MUSIC FORMULAE

Plagal Fourth Mode - Heirmologic

Contents*

A) Medial Cadences on Nee	902
B) Medial Cadences on Vou	909
C) Medial Cadences on Di.....	914
D) Formulae with Fthores	931
E) Ending Formulae.....	934
F) Endings for Theotokia	936

Key:

1 = accented syllable

0 = unaccented syllable

X = syllable that may be either
accented or unaccented

Variations of the same formula
are indicated in color

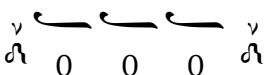
* The Byzantine music formulae herein were extracted from heirmologic melodies found in the *Zoe Anastasimatarion* (14th edition, 2002).

Plagal Fourth Mode - Heirmologic


A) Medial Cadences on Nee


Accented on last syllable:

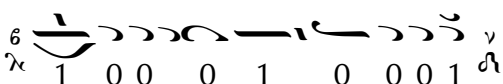
From Nee

00 

From Vou

010001 

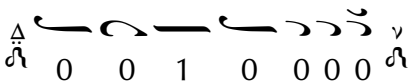
0010001 


100010001 

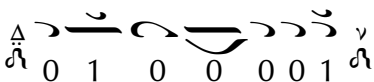
From Di

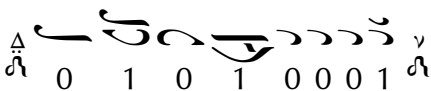
00001 

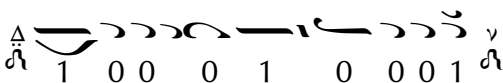
010001 

0010001 

0100001 

0100001 

01010001 

100010001 

Plagal Fourth Mode - Heirmologic

0100010001		
0100100001		

Accented on second to last syllable:

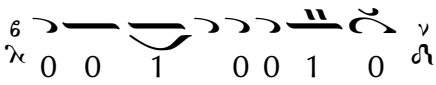
From Nee

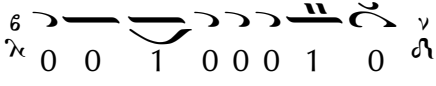
10	
0010	
0010010	
0100X010	
10010010	

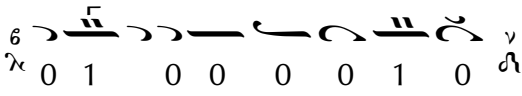
From Vou

000010	
010010	
100010	

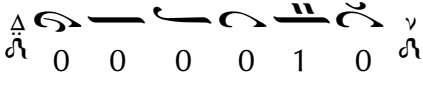
Plagal Fourth Mode - Heirmologic

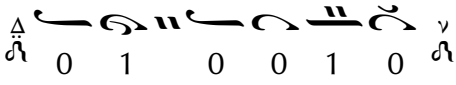
0010010 

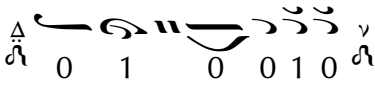
00100010 

01000010 


From Di

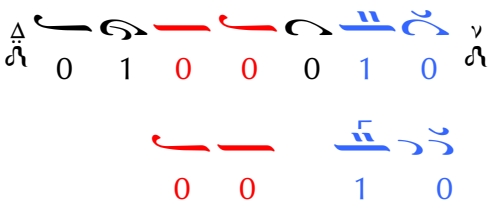
000010 

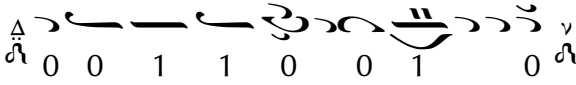
010010 




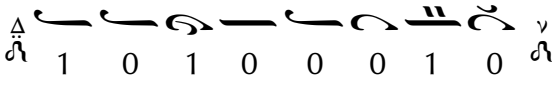
100010 

110010 

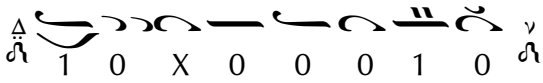
0100010 

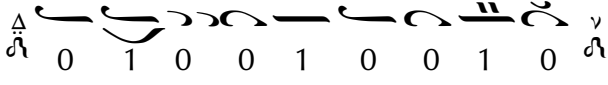
00110010 

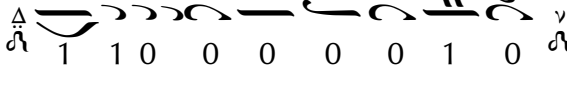
01000010 


10100010 

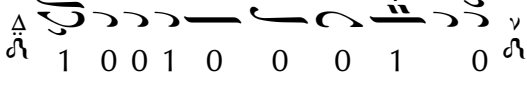
Plagal Fourth Mode - Heirmologic

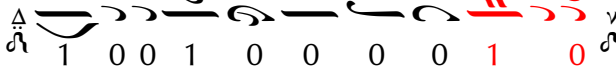
10X00010 

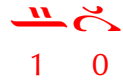
010010010 

110000010 

100010010 

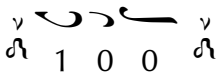
100100010 

1001000010 

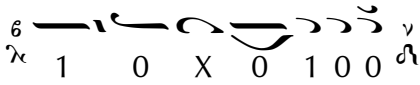


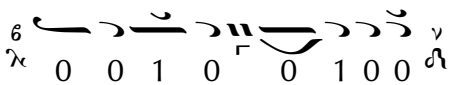
Accented on third to last syllable:

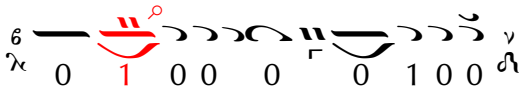
From Nee

100 

From Vou

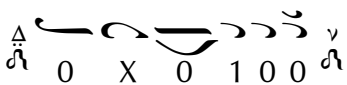
10X0100 

00100100 

010000100 




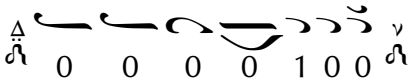
From Di

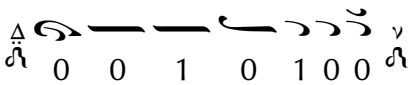
0X0100 

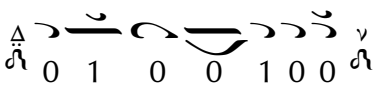
Plagal Fourth Mode - Heirmologic


100100 



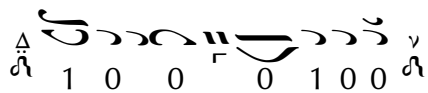
0000100 

0010100 

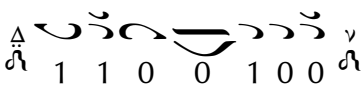
0100100 

1000100 

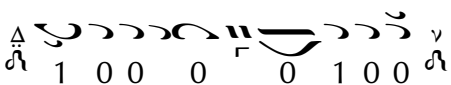


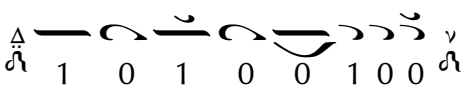


100010X 

1100100 

010X0100 

10000100 

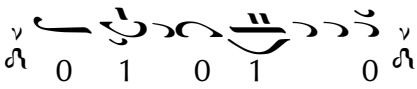
10100100 

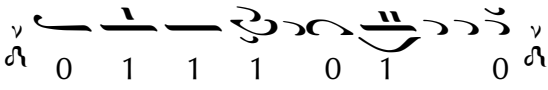
100100100 

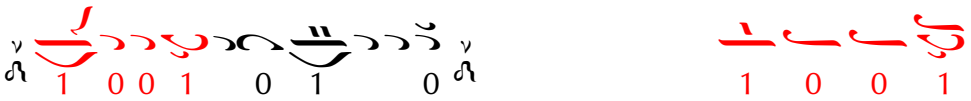
Accented on fourth to last syllable:

Plagal Fourth Mode - Heirmologic

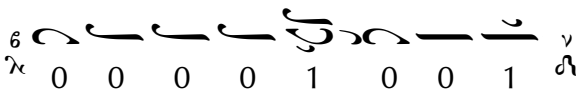
From Nee

01010  Musical notation for 01010 from Nee. The notes are Ne, Pa, Ga, Ne, Pa, Ga, Ne, Pa. The binary sequence 0 1 0 1 0 is written below the notes.

0111010  Musical notation for 0111010 from Nee. The notes are Ne, Pa, Ga, Ne, Pa, Ga, Ne, Pa, Ga, Ne, Pa. The binary sequence 0 1 1 1 0 1 0 is written below the notes.

1001010  Musical notation for 1001010 from Nee. The notes are Ne, Pa, Ga, Ne, Pa, Ga, Ne, Pa. The binary sequence 1 0 0 1 0 1 0 is written below the notes. To the right, a red musical notation shows the sequence 1 0 0 1.

From Vou


00001001  Musical notation for 00001001 from Vou. The notes are Ne, Pa, Ga, Ne, Pa, Ga, Ne, Pa, Ga, Ne, Pa. The binary sequence 0 0 0 0 1 0 0 1 is written below the notes.

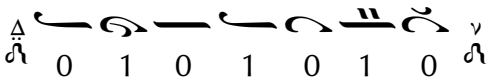
From Di

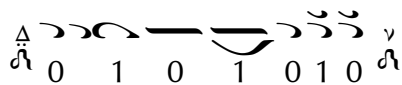
001010  Musical notation for 001010 from Di. The notes are Ne, Pa, Ga, Ne, Pa, Ga, Ne, Pa. The binary sequence 0 0 1 0 1 0 is written below the notes.

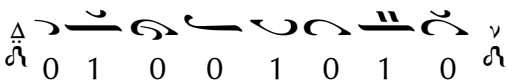
 Musical notation for 001010 from Di. The notes are Ne, Pa, Ga, Ne, Pa, Ga, Ne, Pa. The binary sequence 0 0 1 0 is written below the notes.

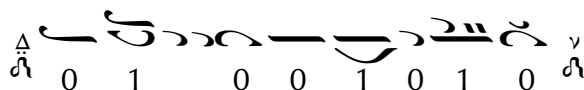
 Musical notation for 10 from Di. The notes are Ne, Pa. The binary sequence 1 0 is written below the notes.

0001001  Musical notation for 0001001 from Di. The notes are Ne, Pa, Ga, Ne, Pa, Ga, Ne, Pa. The binary sequence 0 0 0 1 0 0 1 is written below the notes. To the right, a red musical notation shows the sequence 1.

0101010  Musical notation for 0101010 from Di. The notes are Ne, Pa, Ga, Ne, Pa, Ga, Ne, Pa, Ga, Ne, Pa. The binary sequence 0 1 0 1 0 1 0 is written below the notes.

 Musical notation for 0101010 from Di. The notes are Ne, Pa, Ga, Ne, Pa, Ga, Ne, Pa. The binary sequence 0 1 0 1 0 1 0 is written below the notes.

01001010  Musical notation for 01001010 from Di. The notes are Ne, Pa, Ga, Ne, Pa, Ga, Ne, Pa, Ga, Ne, Pa. The binary sequence 0 1 0 0 1 0 1 0 is written below the notes.

 Musical notation for 01001010 from Di. The notes are Ne, Pa, Ga, Ne, Pa, Ga, Ne, Pa, Ga, Ne, Pa. The binary sequence 0 1 0 0 1 0 1 0 is written below the notes.

Plagal Fourth Mode - Heirmologic

10001001	$\overset{\Delta}{\underset{\delta}{\text{A}}}$ $\underset{\delta}{1} \ 000 \ 1 \ 00 \ 1 \ \underset{\delta}{y}$	
	$\overset{\Delta}{\underset{\delta}{\text{A}}}$ $\underset{\delta}{1} \ 000 \ 1 \ 00 \ 1 \ \underset{\delta}{y}$	 $\underset{\delta}{1}$
010001010	$\overset{\Delta}{\underset{\delta}{\text{A}}}$ $\underset{\delta}{0} \ 1 \ 0 \ 0 \ 0 \ 1 \ 0 \ 1 \ 0 \ \underset{\delta}{y}$	 $\underset{\delta}{1} \ 0$
110001010	$\overset{\Delta}{\underset{\delta}{\text{A}}}$ $\underset{\delta}{1} \ 10 \ 0 \ 0 \ 1 \ 0 \ 1 \ 0 \ \underset{\delta}{y}$	
0001001001	$\overset{\Delta}{\underset{\delta}{\text{A}}}$ $\underset{\delta}{0} \ 0 \ 0 \ 1 \ 0 \ 0 \ 1 \ 0 \ 0 \ 1 \ \underset{\delta}{y}$	 $\underset{\delta}{1}$

Plagal Fourth Mode - Heirmologic

B) Medial Cadences on Vou

Accented on last syllable:

From Nee

00 $\begin{array}{c} \gamma \\ \delta \end{array} \overline{\quad} \overline{\quad} \begin{array}{c} \delta \\ \gamma \end{array}$
 $\begin{array}{c} 0 \\ 0 \end{array}$

From Vou

00 $\begin{array}{c} \delta \\ \gamma \end{array} \overline{\quad} \overline{\quad} \begin{array}{c} \delta \\ \gamma \end{array}$
 $\begin{array}{c} 0 \\ 0 \end{array}$

$\begin{array}{c} \delta \\ \gamma \end{array} \overline{\quad} \overline{\quad} \begin{array}{c} \delta \\ \gamma \end{array}$
 $\begin{array}{c} 0 \\ 0 \end{array}$

000 $\begin{array}{c} \delta \\ \gamma \end{array} \overline{\quad} \overline{\quad} \overline{\quad} \begin{array}{c} \delta \\ \gamma \end{array}$
 $\begin{array}{c} 0 \\ 0 \\ 0 \end{array}$

0100001 $\begin{array}{c} \delta \\ \gamma \end{array} \overline{\quad} \overline{\quad} \overline{\quad} \overline{\quad} \overline{\quad} \overline{\quad} \overline{\quad} \begin{array}{c} \delta \\ \gamma \end{array}$
 $\begin{array}{c} 0 \\ 1 \\ 0 \\ 0 \\ 0 \\ 0 \\ 1 \end{array}$

From Di

00 $\begin{array}{c} \Delta \\ \delta \end{array} \overline{\quad} \overline{\quad} \begin{array}{c} \delta \\ \gamma \end{array}$
 $\begin{array}{c} 0 \\ 0 \end{array}$

Accented on second to last syllable:

From Nee

10 $\begin{array}{c} \gamma \\ \delta \end{array} \overline{\quad} \overline{\quad} \overline{\quad} \begin{array}{c} \delta \\ \gamma \end{array}$
 $\begin{array}{c} 1 \\ 0 \end{array}$

0010010 $\begin{array}{c} \gamma \\ \delta \end{array} \overline{\quad} \overline{\quad} \overline{\quad} \overline{\quad} \overline{\quad} \overline{\quad} \overline{\quad} \begin{array}{c} \delta \\ \gamma \end{array}$
 $\begin{array}{c} 0 \\ 0 \\ 1 \\ 0 \\ 0 \\ 1 \\ 0 \end{array}$

Plagal Fourth Mode - Heirmologic

01000010 $\overset{\gamma}{\delta} \overset{\delta}{\lambda} \overset{\delta}{\lambda} \overset{\delta}{\lambda} \overset{\delta}{\lambda} \overset{\delta}{\lambda} \overset{\delta}{\lambda} \overset{\delta}{\lambda} \overset{\delta}{\lambda} \overset{\delta}{\lambda}$

From Vou

10 $\overset{\delta}{\lambda} \overset{\delta}{\lambda} \overset{\delta}{\lambda}$

$\overset{\delta}{\lambda} \overset{\delta}{\lambda} \overset{\delta}{\lambda}$

00010 $\overset{\delta}{\lambda} \overset{\delta}{\lambda} \overset{\delta}{\lambda} \overset{\delta}{\lambda} \overset{\delta}{\lambda}$

000010 $\overset{\delta}{\lambda} \overset{\delta}{\lambda} \overset{\delta}{\lambda} \overset{\delta}{\lambda} \overset{\delta}{\lambda} \overset{\delta}{\lambda} \overset{\delta}{\lambda}$

0010010 $\overset{\delta}{\lambda} \overset{\delta}{\lambda} \overset{\delta}{\lambda} \overset{\delta}{\lambda} \overset{\delta}{\lambda} \overset{\delta}{\lambda} \overset{\delta}{\lambda}$

From Di

010 $\overset{\Delta}{\delta} \overset{\delta}{\lambda} \overset{\delta}{\lambda} \overset{\delta}{\lambda} \overset{\delta}{\lambda} \overset{\delta}{\lambda}$ 0 0

$\overset{\Delta}{\delta} \overset{\delta}{\lambda} \overset{\delta}{\lambda} \overset{\delta}{\lambda}$

$\overset{\Delta}{\delta} \overset{\delta}{\lambda} \overset{\delta}{\lambda} \overset{\delta}{\lambda}$

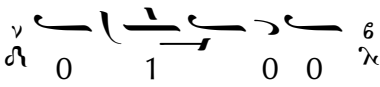
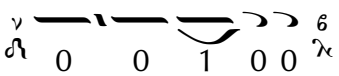
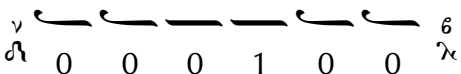
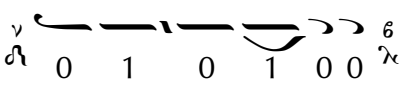
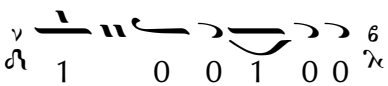
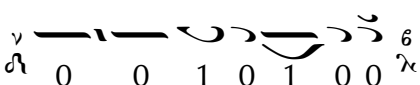
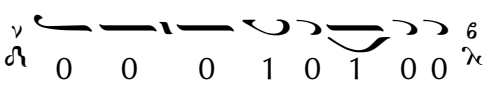

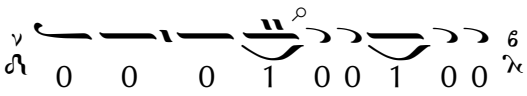
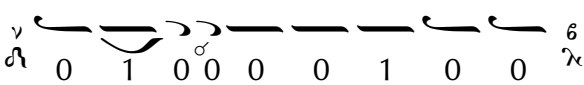
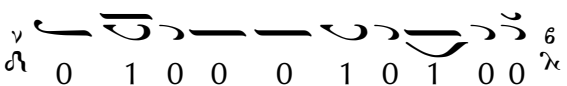
0010 $\overset{\Delta}{\delta} \overset{\delta}{\lambda} \overset{\delta}{\lambda} \overset{\delta}{\lambda} \overset{\delta}{\lambda}$

Accented on third to last syllable:


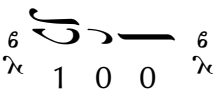
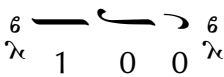
From Nee

100 $\overset{\gamma}{\delta} \overset{\delta}{\lambda} \overset{\delta}{\lambda} \overset{\delta}{\lambda}$

Plagal Fourth Mode - Heirmologic

0100	
00100	
000100	
010100	
100100	
0010100	
00010100	
10100100	
000100100	
010000100	
0100010100	

From Vou

100		
		

Plagal Fourth Mode - Heirmologic

00100 $\overset{6}{\lambda} \overline{\text{0}} \overline{\text{0}} \overline{\text{1}} \overline{\text{0}} \overset{6}{\lambda}$ $\overline{\text{0}} \overline{\text{1}}$

100100 $\overset{6}{\lambda} \overline{\text{1}} \overline{\text{0}} \overline{\text{0}} \overline{\text{1}} \overline{\text{0}} \overset{6}{\lambda}$

0100100 $\overset{6}{\lambda} \overline{\text{0}} \overline{\text{1}} \overline{\text{0}} \overline{\text{0}} \overline{\text{1}} \overline{\text{0}} \overset{6}{\lambda}$

00010100 $\overset{6}{\lambda} \overline{\text{0}} \overline{\text{0}} \overline{\text{0}} \overline{\text{1}} \overline{\text{0}} \overline{\text{1}} \overline{\text{0}} \overset{6}{\lambda}$

From Di

00100 $\overset{\Delta}{\text{d}} \overline{\text{0}} \overline{\text{0}} \overline{\text{1}} \overline{\text{0}} \overset{6}{\lambda}$ $\overline{\text{0}}$

0010X $\overset{\Delta}{\text{d}} \overline{\text{0}} \overline{\text{0}} \overline{\text{1}} \overline{\text{0}} \text{X} \overset{6}{\lambda}$

10100 $\overset{\Delta}{\text{d}} \overline{\text{1}} \overline{\text{0}} \overline{\text{1}} \overline{\text{0}} \overset{6}{\lambda}$

000110 $\overset{\Delta}{\text{d}} \overline{\text{0}} \overline{\text{0}} \overline{\text{0}} \overline{\text{1}} \overline{\text{1}} \overline{\text{0}} \overset{6}{\lambda}$

100100 $\overset{\Delta}{\text{d}} \overline{\text{1}} \overline{\text{0}} \overline{\text{0}} \overline{\text{1}} \overline{\text{0}} \overset{6}{\lambda}$

$\overline{\text{1}}$

$\overline{\text{1}}$

0010100 $\overset{\Delta}{\text{d}} \overline{\text{0}} \overline{\text{0}} \overline{\text{1}} \overline{\text{0}} \overline{\text{1}} \overline{\text{0}} \overset{6}{\lambda}$

0100100 $\overset{\Delta}{\text{d}} \overline{\text{0}} \overline{\text{1}} \overline{\text{0}} \overline{\text{0}} \overline{\text{1}} \overline{\text{0}} \overset{6}{\lambda}$

Plagal Fourth Mode - Heirmologic



Accented on fourth to last syllable:

From Nee

1000	
01001	
01010	

From Di

1010	
01010	
001010	
001X00	
0001010	

C) Medial Cadences on Di

Accented on last syllable:

From Nee

0		
1		
01		
001		
0001		
10001		
010001		
100001		
0010001		
0100001		
1000001		

Plagal Fourth Mode - Heirmologic



00010001		
00100001		
010010001		
100010001		
1000100001		

From Vou

001		
10001		
010001		
100001		
0100001		

Plagal Fourth Mode - Heirmologic

10X0001 $\overset{\delta}{\Delta}$ $\overset{\delta}{\Delta}$

From Di

00 $\overset{\Delta}{\delta}$ $\overset{\Delta}{\delta}$ $\overset{\delta}{\Delta}$

0000 $\overset{\Delta}{\delta}$ $\overset{\Delta}{\delta}$

001 $\overset{\Delta}{\delta}$ $\overset{\Delta}{\delta}$

0001 $\overset{\Delta}{\delta}$ $\overset{\Delta}{\delta}$ $\overset{\delta}{\Delta}$

$\overset{\Delta}{\delta}$ $\overset{\Delta}{\delta}$

10001 $\overset{\Delta}{\delta}$ $\overset{\Delta}{\delta}$

$\overset{\Delta}{\delta}$ $\overset{\Delta}{\delta}$ $\overset{\delta}{\Delta}$

010001 $\overset{\Delta}{\delta}$ $\overset{\Delta}{\delta}$

$\overset{\Delta}{\delta}$ $\overset{\Delta}{\delta}$ $\overset{\delta}{\Delta}$

100001 $\overset{\Delta}{\delta}$ $\overset{\Delta}{\delta}$

$\overset{\Delta}{\delta}$ $\overset{\Delta}{\delta}$

$\overset{\delta}{\Delta}$ $\overset{\delta}{\Delta}$

Plagal Fourth Mode - Heirmologic

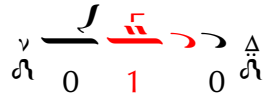
110001		
0100001		
01000001		
010010001		
110000001		
10000100001		

Accented on second to last syllable:

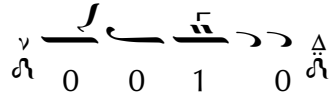
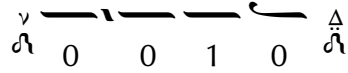
From Nee

10	
010	

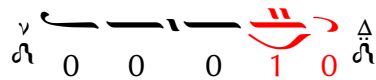
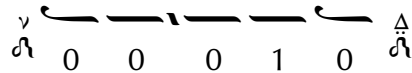
Plagal Fourth Mode - Heirmologic



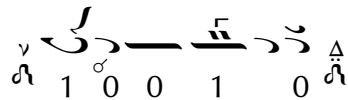
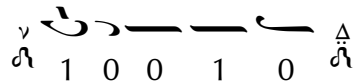
0010



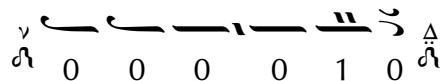
00010



10010



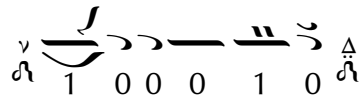
000010



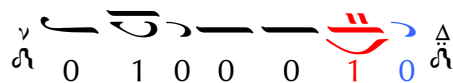
010010



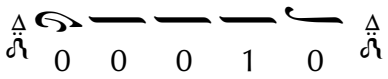
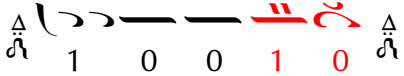
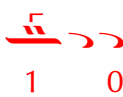
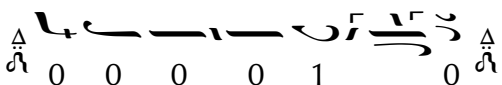
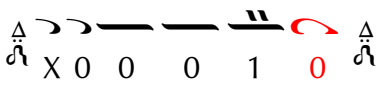

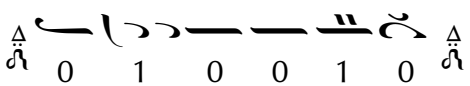
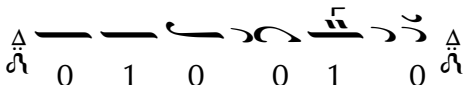
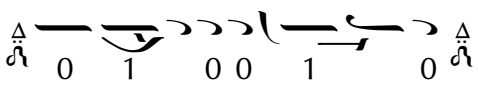
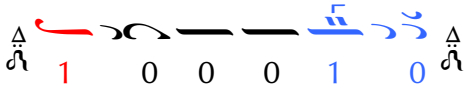


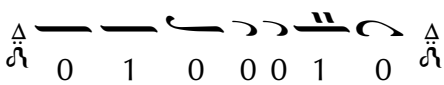
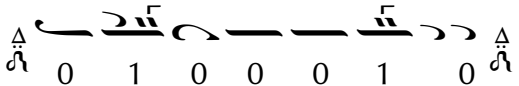
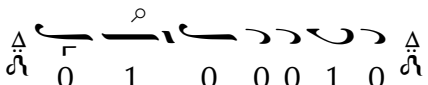
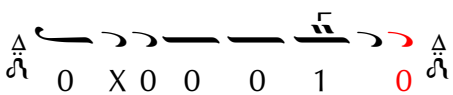

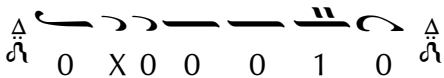
100010



0100010



Plagal Fourth Mode - Heirmologic

	$\overset{\Delta}{\delta}$  $\overset{\Delta}{\delta}$	
10010	$\overset{\Delta}{\delta}$  $\overset{\Delta}{\delta}$	
000010	$\overset{\Delta}{\delta}$  $\overset{\Delta}{\delta}$	
X00010	$\overset{\Delta}{\delta}$ X  $\overset{\Delta}{\delta}$	
010010	$\overset{\Delta}{\delta}$  $\overset{\Delta}{\delta}$	
	$\overset{\Delta}{\delta}$  $\overset{\Delta}{\delta}$	
	$\overset{\Delta}{\delta}$  $\overset{\Delta}{\delta}$	
100010	$\overset{\Delta}{\delta}$  $\overset{\Delta}{\delta}$	
	 	
0100010	$\overset{\Delta}{\delta}$  $\overset{\Delta}{\delta}$	
	$\overset{\Delta}{\delta}$  $\overset{\Delta}{\delta}$	
	$\overset{\Delta}{\delta}$  $\overset{\Delta}{\delta}$	
0X00010	$\overset{\Delta}{\delta}$  $\overset{\Delta}{\delta}$	
	$\overset{\Delta}{\delta}$  $\overset{\Delta}{\delta}$	

Plagal Fourth Mode - Heirmologic

1000010		
1100010		
00010010		
10000010		
10X00010		
11000010		
101000010		
0001100010		

Accented on third to last syllable:

From Nee

100	

Plagal Fourth Mode - Heirmologic

$\begin{matrix} \vee \\ \delta \end{matrix} \begin{matrix} 1 \\ 0 \\ 0 \\ 0 \end{matrix} \begin{matrix} \Delta \\ \delta \end{matrix}$

$\begin{matrix} \vee \\ \delta \end{matrix} \begin{matrix} 1 \\ 0 \\ 0 \end{matrix} \begin{matrix} \Delta \\ \delta \end{matrix}$

$\begin{matrix} \vee \\ \delta \end{matrix} \begin{matrix} 1 \\ 0 \\ 0 \end{matrix} \begin{matrix} \Delta \\ \delta \end{matrix}$

$\begin{matrix} 1 \\ \delta \end{matrix}$

$\begin{matrix} \vee \\ \delta \end{matrix} \begin{matrix} 1 \\ 0 \\ 0 \end{matrix} \begin{matrix} \Delta \\ \delta \end{matrix}$

0100

$\begin{matrix} \vee \\ \delta \end{matrix} \begin{matrix} 0 \\ 1 \\ 0 \\ 0 \end{matrix} \begin{matrix} \Delta \\ \delta \end{matrix}$

$\begin{matrix} \vee \\ \delta \end{matrix} \begin{matrix} 0 \\ 1 \\ 0 \\ 0 \end{matrix} \begin{matrix} \Delta \\ \delta \end{matrix}$

$\begin{matrix} 1 \\ \delta \end{matrix}$

$\begin{matrix} \vee \\ \delta \end{matrix} \begin{matrix} 0 \\ 1 \\ 0 \\ 0 \end{matrix} \begin{matrix} \Delta \\ \delta \end{matrix}$

$\begin{matrix} \vee \\ \delta \end{matrix} \begin{matrix} 0 \\ 1 \\ 0 \\ 0 \end{matrix} \begin{matrix} \Delta \\ \delta \end{matrix}$

$\begin{matrix} \vee \\ \delta \end{matrix} \begin{matrix} 0 \\ 1 \\ 0 \\ 0 \end{matrix} \begin{matrix} \Delta \\ \delta \end{matrix}$

$\begin{matrix} \vee \\ \delta \end{matrix} \begin{matrix} 0 \\ 1 \\ 0 \\ 0 \end{matrix} \begin{matrix} \Delta \\ \delta \end{matrix}$

00100

$\begin{matrix} \vee \\ \delta \end{matrix} \begin{matrix} 0 \\ 0 \\ 1 \\ 0 \\ 0 \end{matrix} \begin{matrix} \Delta \\ \delta \end{matrix}$

10100

$\begin{matrix} \vee \\ \delta \end{matrix} \begin{matrix} 1 \\ 0 \\ 1 \\ 0 \\ 0 \end{matrix} \begin{matrix} \Delta \\ \delta \end{matrix}$

000100

$\begin{matrix} \vee \\ \delta \end{matrix} \begin{matrix} 0 \\ 0 \\ 0 \\ 1 \\ 0 \\ 0 \end{matrix} \begin{matrix} \Delta \\ \delta \end{matrix}$

$\begin{matrix} \vee \\ \delta \end{matrix} \begin{matrix} 0 \\ 0 \\ 0 \\ 1 \\ 0 \\ 0 \end{matrix} \begin{matrix} \Delta \\ \delta \end{matrix}$


Plagal Fourth Mode - Heirmologic

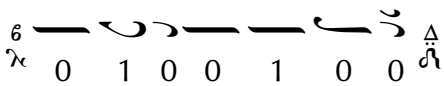
000101	
100100	
1000100	
01000100	
0X0100100	
100100100	
101000100	

From Vou

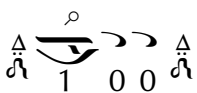
100	
0100	
00100	

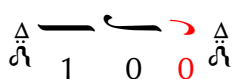
Plagal Fourth Mode - Heirmologic

000100 

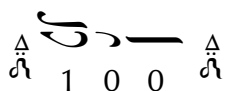
0100100 

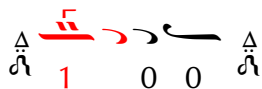
From Di

100 

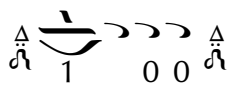


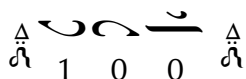




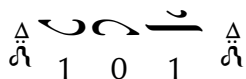






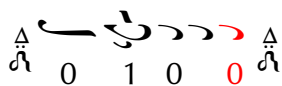


101 



0100 







Plagal Fourth Mode - Heirmologic

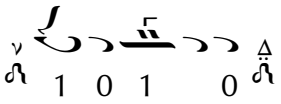
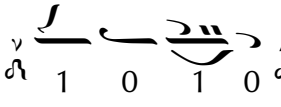
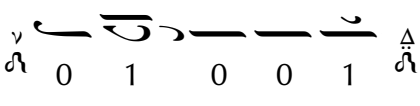
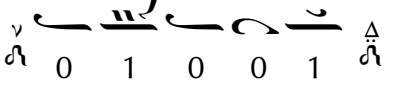
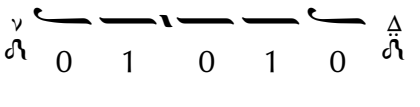
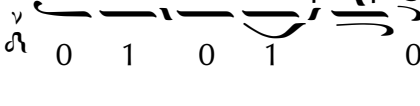
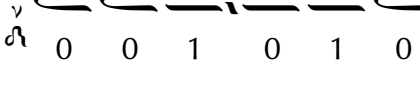

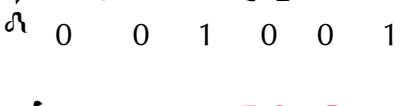
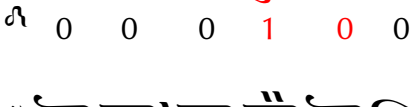
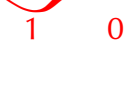
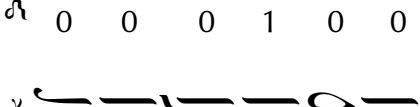
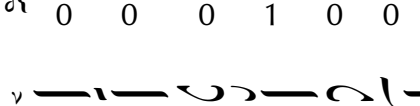

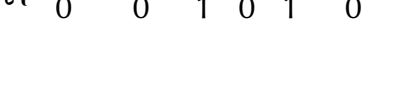
1000100	
0100100	
01000100	
10010100	
0100000100	

Accented on fourth to last syllable:

From Nee

1001		

Plagal Fourth Mode - Heirmologic

1010		$\begin{matrix} \gamma \\ \delta \end{matrix} \begin{matrix} 1 & 0 & 1 & 0 \end{matrix} \begin{matrix} \Delta \\ \delta \end{matrix}$	
		$\begin{matrix} \gamma \\ \delta \end{matrix} \begin{matrix} 1 & 0 & 1 & 0 \end{matrix} \begin{matrix} \Delta \\ \delta \end{matrix}$	
01001		$\begin{matrix} \gamma \\ \delta \end{matrix} \begin{matrix} 0 & 1 & 0 & 0 & 1 \end{matrix} \begin{matrix} \Delta \\ \delta \end{matrix}$	
		$\begin{matrix} \gamma \\ \delta \end{matrix} \begin{matrix} 0 & 1 & 0 & 0 & 1 \end{matrix} \begin{matrix} \Delta \\ \delta \end{matrix}$	
01010		$\begin{matrix} \gamma \\ \delta \end{matrix} \begin{matrix} 0 & 1 & 0 & 1 & 0 \end{matrix} \begin{matrix} \Delta \\ \delta \end{matrix}$	
		$\begin{matrix} \gamma \\ \delta \end{matrix} \begin{matrix} 0 & 1 & 0 & 1 & 0 \end{matrix} \begin{matrix} \Delta \\ \delta \end{matrix}$	
		$\begin{matrix} \gamma \\ \delta \end{matrix} \begin{matrix} 0 & 0 & 1 & 0 & 1 & 0 \end{matrix} \begin{matrix} \Delta \\ \delta \end{matrix}$	
01100		$\begin{matrix} \gamma \\ \delta \end{matrix} \begin{matrix} 0 & 1 & 1 & 0 & 0 \end{matrix} \begin{matrix} \Delta \\ \delta \end{matrix}$	
001001		$\begin{matrix} \gamma \\ \delta \end{matrix} \begin{matrix} 0 & 0 & 1 & 0 & 0 & 1 \end{matrix} \begin{matrix} \Delta \\ \delta \end{matrix}$	
0001001		$\begin{matrix} \gamma \\ \delta \end{matrix} \begin{matrix} 0 & 0 & 0 & 1 & 0 & 0 & 1 \end{matrix} \begin{matrix} \Delta \\ \delta \end{matrix}$	
		$\begin{matrix} \gamma \\ \delta \end{matrix} \begin{matrix} 0 & 0 & 0 & 1 & 0 & 0 & 1 \end{matrix} \begin{matrix} \Delta \\ \delta \end{matrix}$	
		$\begin{matrix} \gamma \\ \delta \end{matrix} \begin{matrix} 0 & 0 & 0 & 1 & 0 & 0 & 1 \end{matrix} \begin{matrix} \Delta \\ \delta \end{matrix}$	
00101010		$\begin{matrix} \gamma \\ \delta \end{matrix} \begin{matrix} 0 & 0 & 1 & 0 & 1 & 0 & 1 & 0 \end{matrix} \begin{matrix} \Delta \\ \delta \end{matrix}$	

From Vou

Plagal Fourth Mode - Heirmologic

01001	$\begin{array}{c} \overset{6}{\lambda} \text{ — — — — — } \overset{\Delta}{\delta} \\ \underset{\lambda}{0} \quad 1 \quad 0 \quad 0 \quad \overset{\cdot\cdot}{1} \end{array}$	$\begin{array}{c} \text{— — — — —} \\ 1 \end{array}$
0001001	$\begin{array}{c} \overset{6}{\lambda} \text{ — — — — — } \overset{\Delta}{\delta} \\ \underset{\lambda}{0} \quad 0 \quad 0 \quad 1 \quad 0 \quad 0 \quad \overset{\cdot\cdot}{1} \end{array}$	$\begin{array}{c} \text{— — — — —} \\ 1 \end{array}$
	$\begin{array}{c} \overset{6}{\lambda} \text{ — — — — — } \overset{\Delta}{\delta} \\ \underset{\lambda}{0} \quad 0 \quad 0 \quad \overset{\cup}{1} \quad 0 \quad 0 \quad 1 \end{array}$	
01000001001	$\begin{array}{c} \overset{6}{\lambda} \text{ — — — — — } \overset{\Delta}{\delta} \\ \underset{\lambda}{0} \quad 1 \quad 0 \quad 0 \quad 0 \quad 0 \quad 0 \quad 1 \quad 0 \quad 0 \quad \overset{\cdot\cdot}{1} \end{array}$	

From Di

1001	$\begin{array}{c} \overset{\Delta}{\delta} \text{ — — — — — } \overset{\Delta}{\delta} \\ \underset{\delta}{1} \quad 0 \quad 0 \quad 1 \end{array}$
1010	$\begin{array}{c} \overset{\Delta}{\delta} \text{ — — — — — } \overset{\Delta}{\delta} \\ \underset{\delta}{1} \quad 0 \quad 1 \quad 0 \end{array}$
01000	$\begin{array}{c} \overset{\Delta}{\delta} \text{ — — — — — } \overset{\Delta}{\delta} \\ \underset{\delta}{0} \quad 1 \quad 0 \quad 0 \quad 0 \end{array}$
01001	$\begin{array}{c} \overset{\Delta}{\delta} \text{ — — — — — } \overset{\Delta}{\delta} \\ \underset{\delta}{0} \quad 1 \quad 0 \quad 0 \quad 1 \end{array}$
	$\begin{array}{c} \overset{\Delta}{\delta} \text{ — — — — — } \overset{\Delta}{\delta} \\ \underset{\delta}{0} \quad 1 \quad 0 \quad 0 \quad 1 \end{array}$
	$\begin{array}{c} \overset{\Delta}{\delta} \text{ — — — — — } \overset{\Delta}{\delta} \\ \underset{\delta}{0} \quad 1 \quad 0 \quad 0 \quad 1 \end{array}$
	$\begin{array}{c} \overset{\Delta}{\delta} \text{ — — — — — } \overset{\Delta}{\delta} \\ \underset{\delta}{0} \quad 1 \quad \overset{\Gamma}{\text{— — — — —}} \end{array}$
	$\begin{array}{c} \overset{\Delta}{\delta} \text{ — — — — — } \overset{\Delta}{\delta} \\ \underset{\delta}{0} \quad 1 \quad 0 \quad 0 \quad 1 \end{array}$
	$\begin{array}{c} \overset{\Delta}{\delta} \text{ — — — — — } \overset{\Delta}{\delta} \\ \underset{\delta}{0} \quad 1 \quad \overset{\Gamma}{\text{— — — — —}} \quad \overset{\cup}{\text{— — — — —}} \end{array}$

Plagal Fourth Mode - Heirmologic

01010		
001X00		
011100		
0001100		
0101010		
010X010		
1001001		
1001010		

Plagal Fourth Mode - Heirmologic

D) Formulae with Fthores

Accented on last syllable:

From Vou

0100001

From Di

0001

10001

Accented on second to last syllable:

From Nee

00010

01000010

From Vou

10010

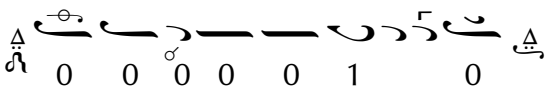
From Di

10

0010

10010

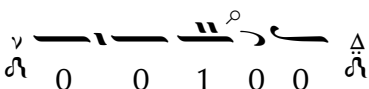
Plagal Fourth Mode - Heirmologic

0100010 


01000010 

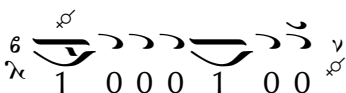
Accented on third to last syllable:

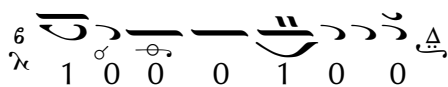
From Nee

00100 

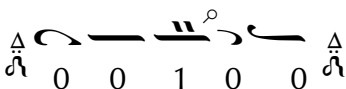
From Vou

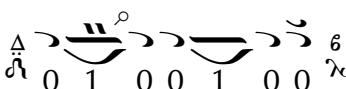
0100 

1000100 




From Di

00100 

0100100 

Accented on fourth to last syllable:

From Nee

1010 

From Vou

Plagal Fourth Mode - Heirmologic

00001001 $\overset{\delta}{\lambda} \overset{\delta}{\lambda} \overset{\delta}{\lambda} \overset{\delta}{\lambda} \overset{\delta}{\lambda} \overset{\delta}{\lambda} \overset{\delta}{\lambda} \overset{\delta}{\lambda} \overset{\delta}{\lambda}$

From Di

0001001 $\overset{\Delta}{\delta} \overset{\delta}{\lambda} \overset{\delta}{\lambda} \overset{\delta}{\lambda} \overset{\delta}{\lambda} \overset{\delta}{\lambda} \overset{\delta}{\lambda} \overset{\delta}{\lambda} \overset{\delta}{\lambda}$

Plagal Fourth Mode - Heirmologic

E) Ending Formulae

(Formulae from Di to Nee in section A may also be used here.)

Accented on last syllable:

010001

10X0001

Accented on second to last syllable:

0100010

Accented on third to last syllable:

000100

100100

Plagal Fourth Mode - Heirmologic

1000100

01000100

Accented on fourth to last syllable:

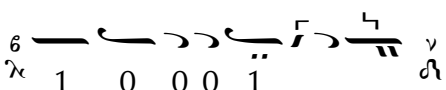
(Use a medial cadence from Di to Nee at the end of section A)

F) Endings for Theotokia*

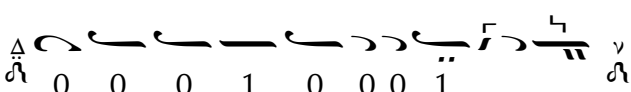
Accented on last syllable:

(A formula ending in 100 or 1001 may also be used here.)

From Vou

10001 

From Di

00010001 

Accented on second to last syllable:

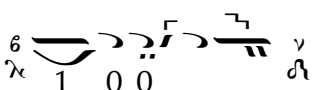
From Di


10010 

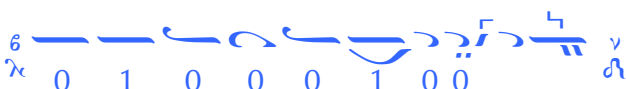
100010 

Accented on third to last syllable:

From Vou

100 


0100100 


01000100 



* The formulae in blue in this section are from the Athonite oral tradition, as represented in the book *Παρακλητική, Μουσικὸν Ἐγκόλπιον, Πλάγιοι Ἦχοι, Ἱεροθέου Ἱερομονάχου, ἐκδόσεις Ἱ.Μ. Φιλοθέου, Ἁγίου Ὄρους, 2004.*


Plagal Fourth Mode - Heirmologic


From Di

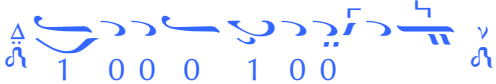
000100 

100100 

1000100  

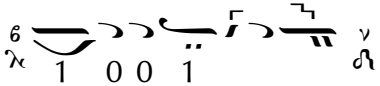
1000100 


1000100 

1000100 

Accented on fourth to last syllable:

From Vou

1001 



From Di

X01001 

BYZANTINE MUSIC FORMULAE

Plagal Fourth Mode - Heirmologic (Triphonos) *Apolytikia*

Contents*

A) Medial Cadences on Ga.....	939
B) Medial Cadences on Di.....	943
C) Endings for Theotokia.....	951

Key:

1 = accented syllable

0 = unaccented syllable

X = syllable that may be either
accented or unaccented

Variations of the same formula
are indicated in color

* The Byzantine music formulae herein were extracted from heirmologic melodies found in the *Zoe Anastasimatarion* (14th edition, 2002), the *Neon Anastasimatarion* by Petros Ephesios (1820 edition), the first volume of *Mousike Kypsele* (1883 edition), and the *Parakletikes Mousikon Engolpion*, by Hieromonk Hierotheos of Philotheou Monastery (2003 edition). Note that these formulae are applicable only to apolytikia, kontakia, and some kathismata. The compilation at: <http://www.stanthonysmonastery.org/music/Formula&c.pdf> contains formulae in heirmologic triphonos plagal fourth mode that are applicable to the canons.

Plagal Fourth Mode - Heirmologic (Triphonos) - Apolytikia

A) Medial Cadences on Ga

(These are also used as ending formulae)

Accented on last syllable:

From Ga

00

10001

From Di

00

010001

0010001

Accented on second to last syllable:

From Ga

10

10010

Plagal Fourth Mode - Heirmologic (Triphonos) - Apolytikia

1 0 0 1 0

From Di

- 10010
- 100010
- 0100010
- 0 1 0 0 0 1 0
- 1000010
- 1010010

Accented on third to last syllable:

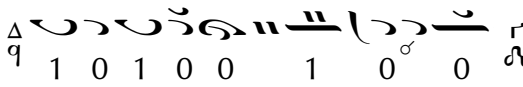
From Ga

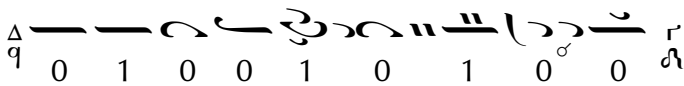
- 100
- 1 0 0
- 1 0 0
- 1 0 0
- 1 0 0

Plagal Fourth Mode - Heirmologic (Triphonos) - Apolytikia

0100		
100100		
<u>From Di</u>		
010100		
100100		
000X100		
1000100		
10000100		
10010100		


Plagal Fourth Mode - Heirmologic (Triphonos) - Apolytikia

10100100  $\begin{matrix} \Delta \\ q \\ \text{1} & \text{0} & \text{1} & \text{0} & \text{0} & \text{1} & \text{0} & \text{0} \end{matrix}$

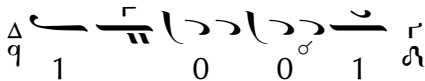
010010100  $\begin{matrix} \Delta \\ q \\ \text{0} & \text{1} & \text{0} & \text{0} & \text{1} & \text{0} & \text{1} & \text{0} & \text{0} \end{matrix}$

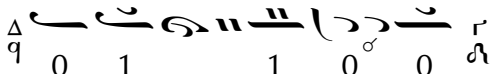
Accented on fourth to last syllable:


From Ga

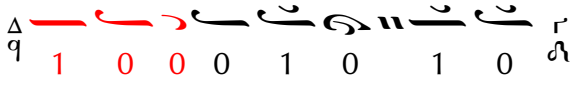
1001  $\begin{matrix} \text{1} & \text{0} & \text{0} & \text{1} \end{matrix}$


From Di


1001  $\begin{matrix} \Delta \\ q \\ \text{1} & \text{0} & \text{0} & \text{1} \end{matrix}$

01100  $\begin{matrix} \Delta \\ q \\ \text{0} & \text{1} & \text{1} & \text{0} & \text{0} \end{matrix}$

101001  $\begin{matrix} \Delta \\ q \\ \text{1} & \text{0} & \text{1} & \text{0} & \text{0} & \text{1} \end{matrix}$

10001010  $\begin{matrix} \Delta \\ q \\ \text{1} & \text{0} & \text{0} & \text{0} & \text{1} & \text{0} & \text{1} & \text{0} \end{matrix}$

1001001*  $\begin{matrix} \Delta \\ q \\ \text{1} & \text{0} & \text{0} & \text{1} & \text{0} & \text{0} & \text{1} \end{matrix}$


1 0 0

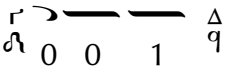
*Note: The above formula in blue was not taken from a publication in Greek but from the 1847 Slavonic Anastasimatarion published in Bucharest. This formula was included because at first it was the only occurrence of a 1001 formula in this mode with a full cadence on Ga that we could find in a nineteenth-century publication with traditional formulae. In August of 2009, however, we found the above 1001 and 101001 formulae from Di to Ga (from Georgios Raidestinis and Ioannis the Lampadarios respectively), which have now been included in this section.

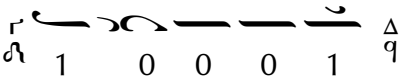
Plagal Fourth Mode - Heirmologic (Triphonos) - Apolytikia

B) Medial Cadences on Di

Accented on last syllable:

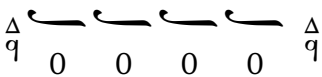
From Ga

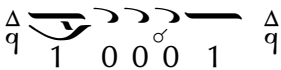
001 

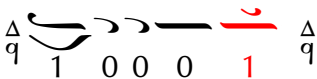
10001 

From Di

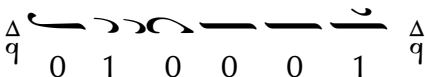
00 

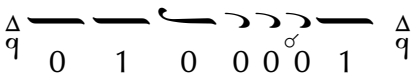
000 

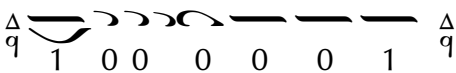
10001 

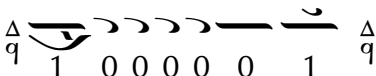




010001 

0100001 

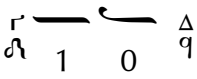
1000001 

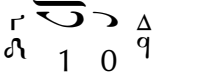


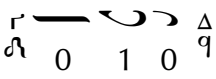
Accented on second to last syllable:

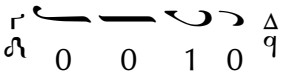
From Ga

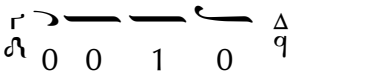
Plagal Fourth Mode - Heirmologic (Triphonos) - Apolytikia

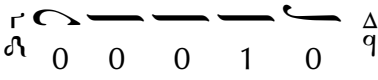
10 

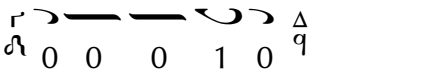
010 

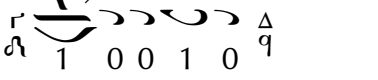
0010 

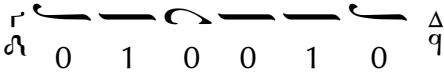
00010 

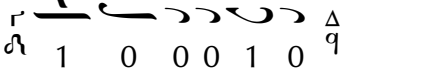
000010 

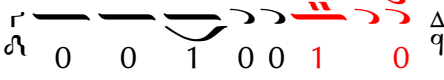
10010 

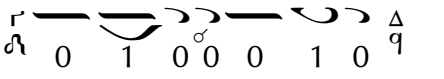
010010 

100010 

0010010 

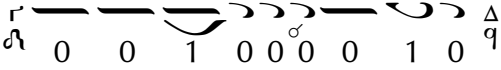
0100010 

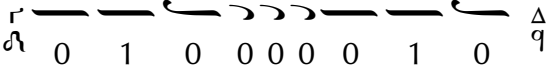
1000010 

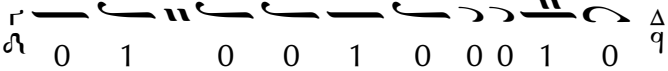
00100010 


1 0

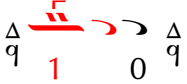

Plagal Fourth Mode - Heirmologic (Triphonos) - Apolytikia

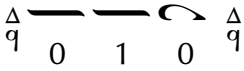
001000010 

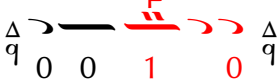

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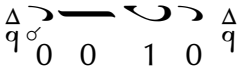
0100100010 

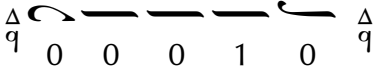
From Di

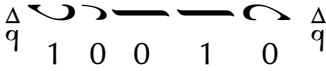
10  

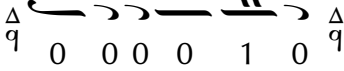
010 


0010  

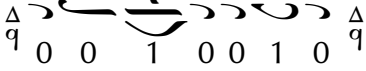


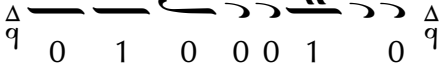
00010 

10010 

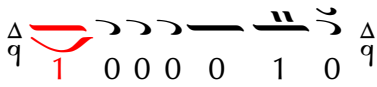

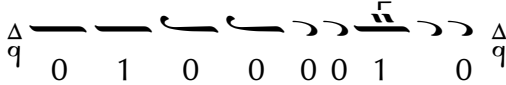
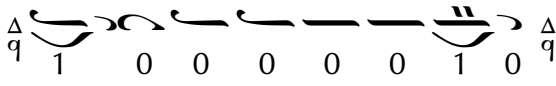
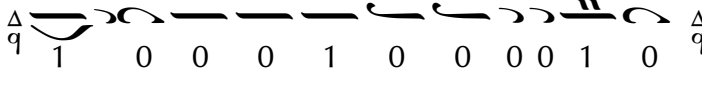
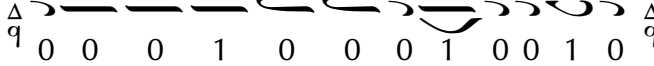
000010 

010010 

0010010 

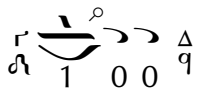
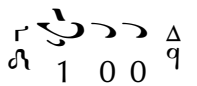
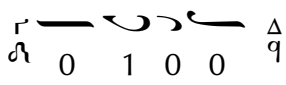
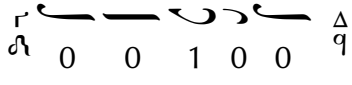
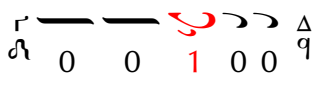

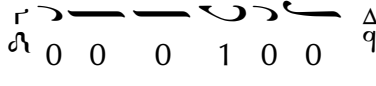
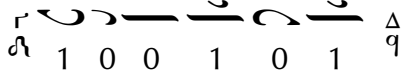
0100010 

Plagal Fourth Mode - Heirmologic (Triphonos) - Apolytikia

1000010		
01000010		
10000010		
10001000010		
000100010010		

Accented on third to last syllable:

From Ga

100		
		
0100		
00100		
		
000100		
100100		

Plagal Fourth Mode - Heirmologic (Triphonos) - Apolytikia

0100100

0 1 0 0 1 0 0

0 1 0 0 1 0 0

0 1 0 0 1 0 0

0 1 0 0 1 0 0

1000100

1 0 0 0 1 0 0

01000100

0 1 0 0 0 1 0 0

1 0 0

0 1 0 0 0 1 0 0

0001000100

0 0 0 1 0 0 0 1 0 0

From Di

100

1 0 0

1 0 0

1 0 0

1 0 0

0100

0 1 0 0

Plagal Fourth Mode - Heirmologic (Triphonos) - Apolytikia

	Δ q	$\overset{\circ}{-}$	$\overline{\text{U}}$	$\overline{\text{U}}$	$\overline{\text{U}}$	$\overline{\text{U}}$	Δ q		
		0	1	0	0				
	Δ q	$\overline{\text{U}}$	$\overline{\text{U}}$	$\overline{\text{U}}$	$\overline{\text{U}}$	Δ q			
		0	1	0	0				
	Δ q	$\overline{\text{U}}$	$\overline{\text{U}}$	$\overline{\text{U}}$	$\overline{\text{U}}$	Δ q			
		0	1	0	0				
10100	Δ q	$\overline{\text{U}}$	$\overline{\text{U}}$	$\overline{\text{U}}$	$\overline{\text{U}}$	Δ q			
		1	0	1	0	0			
000100	Δ q	$\overline{\text{U}}$	$\overline{\text{U}}$	$\overline{\text{U}}$	$\overline{\text{U}}$	$\overline{\text{U}}$	Δ q		
		0	0	0	1	0	0		
	Δ q	$\overline{\text{U}}$	$\overline{\text{U}}$	$\overline{\text{U}}$	$\overline{\text{U}}$	Δ q			
		0	0	0	1	0	0		
010100	Δ q	$\overline{\text{U}}$	$\overline{\text{U}}$	$\overline{\text{U}}$	$\overline{\text{U}}$	$\overline{\text{U}}$	Δ q	$\overline{\text{U}}$ 0 1	
		0	1	0	1	0	0		
100100	Δ q	$\overline{\text{U}}$	$\overline{\text{U}}$	$\overline{\text{U}}$	$\overline{\text{U}}$	Δ q			
		1	0	0	1	0	0		
	Δ q	$\overline{\text{U}}$	$\overline{\text{U}}$	$\overline{\text{U}}$	$\overline{\text{U}}$	$\overline{\text{U}}$	Δ q		
		1		0	0	1	0	0	
0010100	Δ q	$\overline{\text{U}}$	$\overline{\text{U}}$	$\overline{\text{U}}$	$\overline{\text{U}}$	$\overline{\text{U}}$	Δ q		
		0	0	1	0	1	0	0	
0100100	Δ q	$\overset{\circ}{-}$	$\overline{\text{U}}$	$\overline{\text{U}}$	$\overline{\text{U}}$	$\overline{\text{U}}$	Δ q	$\overline{\text{U}}$ 0 1	
		0	1	0	0	1	0	0	
	Δ q	$\overline{\text{U}}$	$\overline{\text{U}}$	$\overline{\text{U}}$	$\overline{\text{U}}$	$\overline{\text{U}}$	Δ q		
		0	1		0	0	1	0	0
00010100	Δ q	$\overline{\text{U}}$	$\overline{\text{U}}$	$\overline{\text{U}}$	$\overline{\text{U}}$	$\overline{\text{U}}$	Δ q		
		0	0	0	1	0	1	0	0
00100100	Δ q	$\overline{\text{U}}$	$\overline{\text{U}}$	$\overline{\text{U}}$	$\overline{\text{U}}$	$\overline{\text{U}}$	Δ q		
		0	0	1	0	0	1	0	0

Plagal Fourth Mode - Heirmologic (Triphonos) - Apolytikia

000100100	Δ η Δ η	 Δ η
001000100	Δ η Δ η	
010000100	Δ η Δ η	
0001000100	Δ η Δ η	

Accented on fourth to last syllable:

From Ga

1000	Γ δ Γ δ	
01000	Γ δ Γ δ	
001000	Γ δ Γ δ	
001001	Γ δ Γ δ	
0001001	Γ δ Γ δ	 Δ η
10001001	Γ δ Γ δ	

From Di

1000	Δ η Δ η
1001	Δ η Δ η

Plagal Fourth Mode - Heirmologic (Triphonos) - Apolytikia

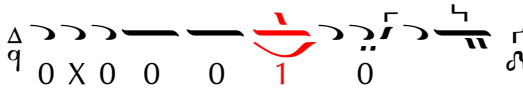
01000 $\overset{\Delta}{\underset{q}{|}} \text{---} \text{---} \text{---} \text{---} \overset{\Delta}{\underset{q}{|}}$
0 1 0 0 0

001000 $\overset{\Delta}{\underset{q}{|}} \text{---} \text{---} \text{---} \text{---} \text{---} \overset{\Delta}{\underset{q}{|}}$
0 0 1 0 0 0

C) Endings for Theotokia*

Accented on second to last syllable:

100010 

0X00010 



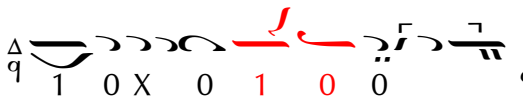
Accented on third to last syllable:

100100 




100010X 



10X0100 



Accented on fourth to last syllable:

1001 

* The formulae in blue in this section are from the Athonite oral tradition, as represented in the book *Οκτάηχον Εβδομάριον, Μοναχοῦ Δοσιθέου Κατουνακιώτου, ἐκδόσεις Ἱ.Μ. Ἀγίων Κυπριανῶν καὶ Ἰουστίνης, Ἀττική, 1995.*

BYZANTINE MUSIC FORMULÆ

Plagal Fourth Mode - Heirmologic (Triphonos) *Canons*

Contents*

A) Medial Cadences on Nee	953
B) Medial Cadences on Pa	954
C) Cadences on Ga	955
D) Medial Cadences on Di	961
E) Medial Cadences on Ke	967
F) Other Formulæ	970

Key:

1 = accented syllable

0 = unaccented syllable

X = syllable that may be either
accented or unaccented

Variations of the same formula
are indicated in color

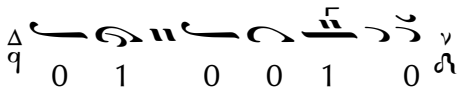
* The Byzantine music formulæ herein were extracted from all the heirmologic melodies found in the Zoe *Anastasimatarion* (14th edition, 2002), the *Heirmologion Katavasion* by Ioannis Protopsaltis (1903 edition), and the *Anastasimatarion* by Petros Peloponnesios (1869 edition). Note that these formulæ are applicable only to the canons. See our compilation at <http://www.stanthonysmonastery.org/music/Formula8t.pdf> for formulæ in heirmologic triphonos plagal fourth mode that are applicable to the apolytikia, kontakia, and kathismata.

Plagal Fourth Mode - Heirmologic (Triphonos) - Canons

A) Medial Cadences on Nee

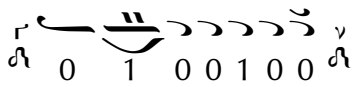
Accented on second to last syllable:

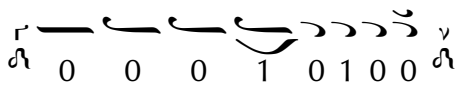
From Di

010010 


Accented on third to last syllable:

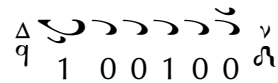
From Ga


0100100 

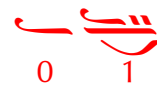
00010100 

From Di

10100 

100100 

0100100 



Plagal Fourth Mode - Heirmologic (Triphonos) - Canons

B) Medial Cadences on Pa

Note: In the nineteenth-century publications on which these formulae are based, cadences on Pa in this mode are almost non-existent. This contrasts sharply with most contemporary oral traditions in which cadences on Pa are frequent.

Accented on second to last syllable:

From Di

0010

Δ q 0 0 1 0 π q

Δ q 0 0 1 0 π q

Plagal Fourth Mode - Heirmologic (Triphonos) - Canons

C) Cadences on Ga

(These are also used as ending formulae)

Accented on last syllable:

From Nee

0 $\overset{\vee}{\text{a}} \text{---} \overset{\vee}{\text{0}} \text{---} \overset{\vee}{\text{a}}$

01 $\overset{\vee}{\text{a}} \text{---} \overset{\vee}{\text{0}} \text{---} \overset{\vee}{\text{1}} \text{---} \overset{\vee}{\text{a}}$

From Ga

00 $\overset{\vee}{\text{a}} \text{---} \overset{\vee}{\text{0}} \text{---} \overset{\vee}{\text{0}} \text{---} \overset{\vee}{\text{a}}$

01 $\overset{\vee}{\text{a}} \text{---} \overset{\vee}{\text{0}} \text{---} \overset{\vee}{\text{1}} \text{---} \overset{\vee}{\text{a}}$

$\overset{\vee}{\text{a}} \text{---} \overset{\vee}{\text{0}} \text{---} \overset{\vee}{\text{1}} \text{---} \overset{\vee}{\text{a}}$

00100001 $\overset{\vee}{\text{a}} \text{---} \overset{\vee}{\text{0}} \text{---} \overset{\vee}{\text{0}} \text{---} \overset{\vee}{\text{1}} \text{---} \overset{\vee}{\text{0}} \text{---} \overset{\vee}{\text{0}} \text{---} \overset{\vee}{\text{0}} \text{---} \overset{\vee}{\text{0}} \text{---} \overset{\vee}{\text{1}} \text{---} \overset{\vee}{\text{a}}$

0000100001 $\overset{\vee}{\text{a}} \text{---} \overset{\vee}{\text{0}} \text{---} \overset{\vee}{\text{0}} \text{---} \overset{\vee}{\text{0}} \text{---} \overset{\vee}{\text{0}} \text{---} \overset{\vee}{\text{1}} \text{---} \overset{\vee}{\text{0}} \text{---} \overset{\vee}{\text{0}} \text{---} \overset{\vee}{\text{0}} \text{---} \overset{\vee}{\text{0}} \text{---} \overset{\vee}{\text{1}} \text{---} \overset{\vee}{\text{a}}$

1000100001 $\overset{\vee}{\text{a}} \text{---} \overset{\vee}{\text{1}} \text{---} \overset{\vee}{\text{0}} \text{---} \overset{\vee}{\text{0}} \text{---} \overset{\vee}{\text{0}} \text{---} \overset{\vee}{\text{1}} \text{---} \overset{\vee}{\text{0}} \text{---} \overset{\vee}{\text{0}} \text{---} \overset{\vee}{\text{0}} \text{---} \overset{\vee}{\text{1}} \text{---} \overset{\vee}{\text{a}}$

$\overset{\vee}{\text{a}} \text{---} \overset{\vee}{\text{1}}$

From Di

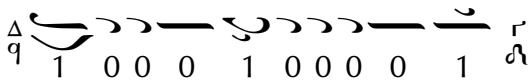
00 $\overset{\Delta}{\text{q}} \text{---} \overset{\Delta}{\text{0}} \text{---} \overset{\Delta}{\text{0}} \text{---} \overset{\Delta}{\text{a}}$

10001 $\overset{\Delta}{\text{q}} \text{---} \overset{\Delta}{\text{1}} \text{---} \overset{\Delta}{\text{0}} \text{---} \overset{\Delta}{\text{0}} \text{---} \overset{\Delta}{\text{0}} \text{---} \overset{\Delta}{\text{1}} \text{---} \overset{\Delta}{\text{a}}$

0000100001 $\overset{\Delta}{\text{q}} \text{---} \overset{\Delta}{\text{0}} \text{---} \overset{\Delta}{\text{0}} \text{---} \overset{\Delta}{\text{0}} \text{---} \overset{\Delta}{\text{0}} \text{---} \overset{\Delta}{\text{1}} \text{---} \overset{\Delta}{\text{0}} \text{---} \overset{\Delta}{\text{0}} \text{---} \overset{\Delta}{\text{0}} \text{---} \overset{\Delta}{\text{0}} \text{---} \overset{\Delta}{\text{1}} \text{---} \overset{\Delta}{\text{a}}$

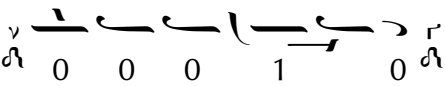
$\overset{\Delta}{\text{q}} \text{---} \overset{\Delta}{\text{1}}$

Plagal Fourth Mode - Heirmologic (Triphonos) - Canons

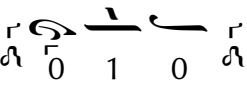
1000100001 

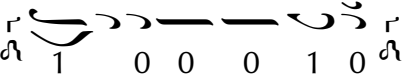
Accented on second to last syllable:

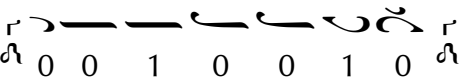
From Nee

00010 

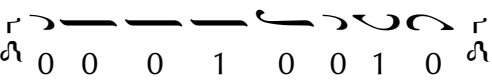
From Ga

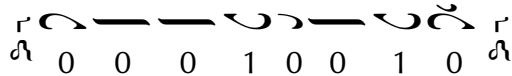
010 

100010 

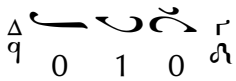
0010010 

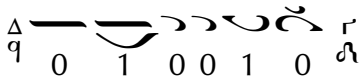
X000010 

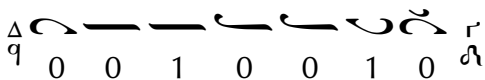
00010010 



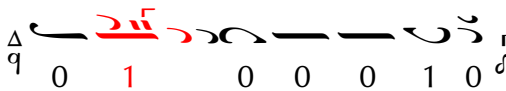

From Di


010 

010010 

0010010 

Plagal Fourth Mode - Heirmologic (Triphonos) - Canons

0100010  

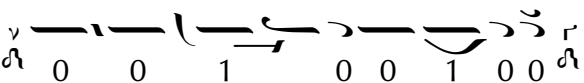
00010010 

From Ke


100010  

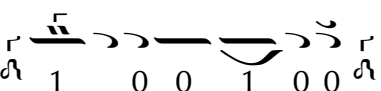
Accented on third to last syllable:

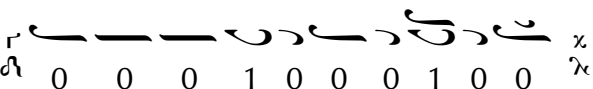
From Nee

00100100 

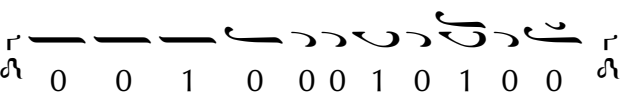
From Ga

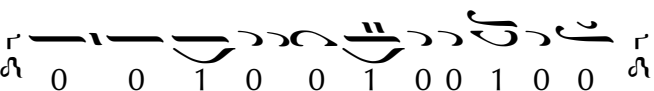
0100 

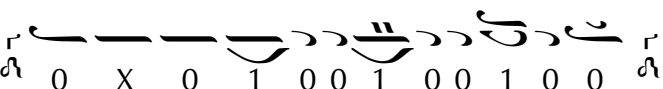
100100 

0001000100 

1000100100 

00100010100 

00100100100 

0X0100100100 

From Di

Plagal Fourth Mode - Heirmologic (Triphonos) - Canons

100	Δ q 1 0 0 r
	Δ q 1 0 0 r
0100	Δ q 0 1 0 0 r
10100	Δ q 1 0 1 0 0 r
100100	Δ q 1 0 0 1 0 0 r
0100100	Δ q 0 1 0 0 1 0 0 r
00010100	Δ q 0 0 0 1 0 1 0 0 r
00100100	Δ q 0 0 1 0 0 1 0 0 r
01000100	Δ q 0 1 0 0 0 1 0 0 r
0010X0100	Δ q 0 0 1 0 X 0 1 0 0 r
100100100	Δ q 1 0 0 1 0 0 1 0 0 r
00100100100	Δ q 0 0 1 0 0 1 0 0 1 0 0 r
00X01000100	Δ q 0 0 X 0 1 0 0 0 1 0 0 r
10000100100	Δ q 1 0 0 0 0 1 0 0 1 0 0 r

Plagal Fourth Mode - Heirmologic (Triphonos) - Canons

00X0100010100 $\overset{\Delta}{\underset{\eta}{\lambda}}$ $\overset{\Gamma}{\delta}$
 0 0 X 0 1 0 0 0 1 0 1 0 0

From Ke

00100 $\overset{\chi}{\lambda}$ $\overset{\Gamma}{\delta}$
 0 0 1 0 0

010100 $\overset{\chi}{\lambda}$ $\overset{\Gamma}{\delta}$
 0 1 0 1 0 0

100100 $\overset{\chi}{\lambda}$ $\overset{\Gamma}{\delta}$
 1 0 0 1 0 0

0010100 $\overset{\chi}{\lambda}$ $\overset{\Gamma}{\delta}$
 0 0 1 0 1 0 0

$\overset{\Gamma}{\delta}$
 0

0100100 $\overset{\chi}{\lambda}$ $\overset{\Gamma}{\delta}$
 0 1 0 0 1 0 0

00010X00 $\overset{\chi}{\lambda}$ $\overset{\Gamma}{\delta}$
 0 0 0 1 0 X 0 0

001000100 $\overset{\chi}{\lambda}$ $\overset{\Gamma}{\delta}$
 0 0 1 0 0 0 1 0 0

010010100 $\overset{\chi}{\lambda}$ $\overset{\Gamma}{\delta}$
 0 1 0 0 1 0 1 0 0

100100100 $\overset{\chi}{\lambda}$ $\overset{\Gamma}{\delta}$
 1 0 0 1 0 0 1 0 0

Accented on fourth to last syllable:

From Ga

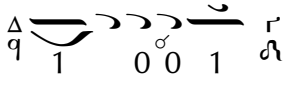
010001001 $\overset{\Gamma}{\delta}$ $\overset{\Gamma}{\delta}$
 0 1 0 0 0 1 0 0 1

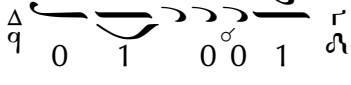
$\overset{\Gamma}{\delta}$
 1

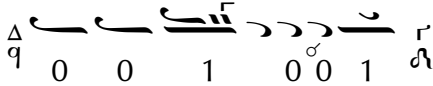
0100001001 $\overset{\Gamma}{\delta}$ $\overset{\Gamma}{\delta}$
 0 1 0 0 0 0 1 0 0 1

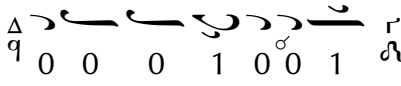
Plagal Fourth Mode - Heirmologic (Triphonos) - Canons

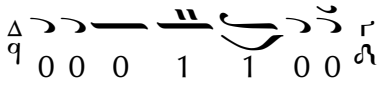
From Di

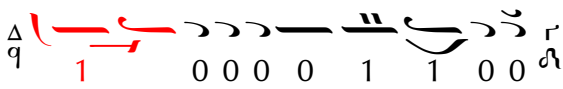
1001 

01001 

001001 

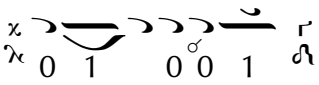
0001001 

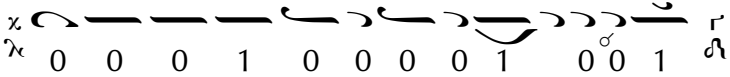
0001100 

100001100 



From Ke

01001 

000100001001 

Plagal Fourth Mode - Heirmologic (Triphonos) - Canons

D) Medial Cadences on Di

Accented on last syllable:

From Ga

0000		
00001		
10001		
100001		
00010001		
01000001		

From Di

001		
0001		
10001		

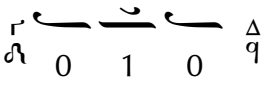
From Ke

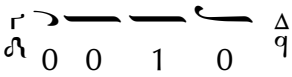
01000001		
10001000001		

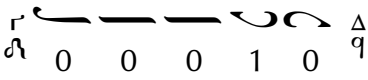
Plagal Fourth Mode - Heirmologic (Triphonos) - Canons

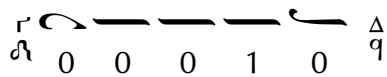
Accented on second to last syllable:

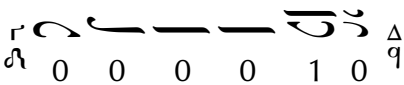
From Ga

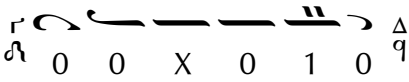
010 

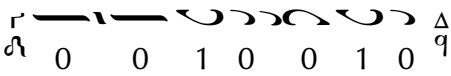
0010 

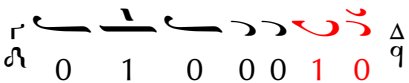
00010 



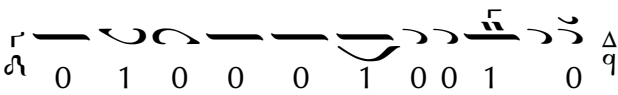
000010 

00X010 

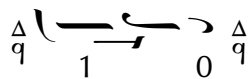
0010010 

0100010 

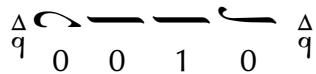


0100010010 

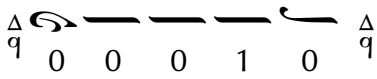
From Di

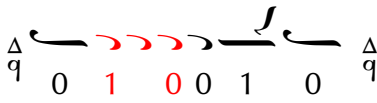
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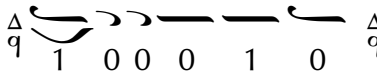
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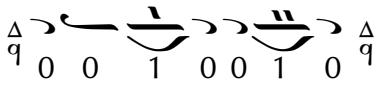
Plagal Fourth Mode - Heirmologic (Triphonos) - Canons

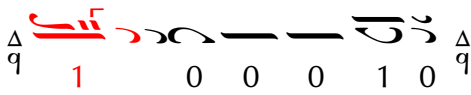
00010 

010010 

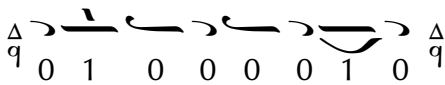


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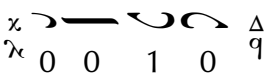
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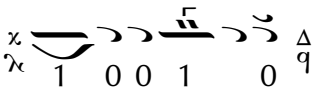
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01000010 

From Ke

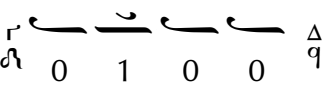
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10010 

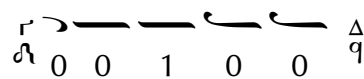
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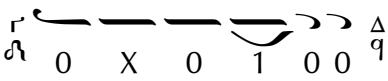
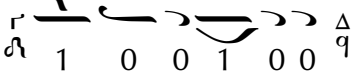



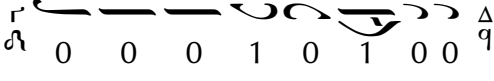


From Ga

0100 

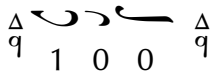
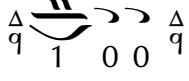
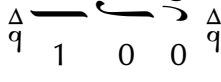


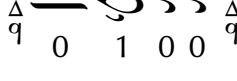
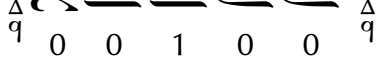
00100 



Plagal Fourth Mode - Heirmologic (Triphonos) - Canons

0X0100		
100100		
0010100		
0100100		
00010100		
0100100100		

From Di

100	
	
	
0100	
	
	
00100	

Plagal Fourth Mode - Heirmologic (Triphonos) - Canons

000100	$\overset{\Delta}{q}$ $\overset{\Delta}{q}$	
000100	$\overset{\Delta}{q}$ $\overset{\Delta}{q}$	
0100100	$\overset{\Delta}{q}$ $\overset{\Delta}{q}$	 1 0
	$\overset{\Delta}{q}$ $\overset{\Delta}{q}$	 0 1
1000100	$\overset{\Delta}{q}$ $\overset{\Delta}{q}$	

From Ke

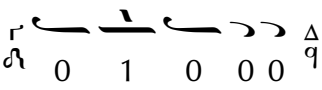
100	$\overset{x}{\lambda}$ $\overset{\Delta}{q}$	
00100	$\overset{x}{\lambda}$ $\overset{\Delta}{q}$	
000100	$\overset{x}{\lambda}$ $\overset{\Delta}{q}$	
0010100	$\overset{x}{\lambda}$ $\overset{\Delta}{q}$	
00100100	$\overset{x}{\lambda}$ $\overset{\Delta}{q}$	 1 0 0
001000100	$\overset{x}{\lambda}$ $\overset{\Delta}{q}$	

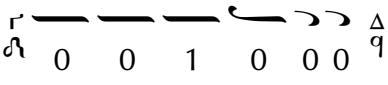
Accented on fourth to last syllable:

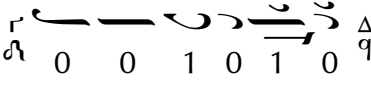
From Ga

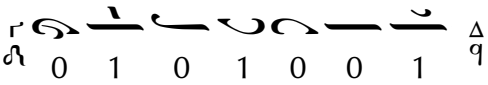
1001	$\overset{r}{d}$ $\overset{\Delta}{q}$	 1
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Plagal Fourth Mode - Heirmologic (Triphonos) - Canons

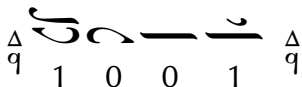
01000 

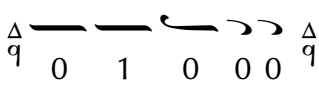
001000 

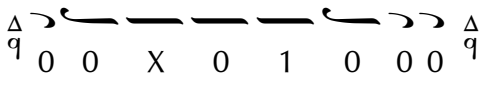
001010 

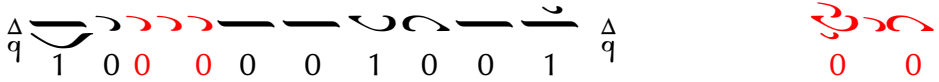
0101001 

From Di

1001 

01000 

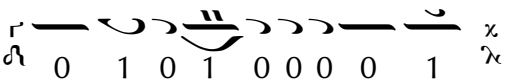
00X01000 


1000001001 

E) Medial Cadences on Ke

Accented on last syllable:

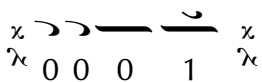
From Ga

010100001 

00010100001 

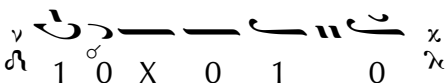
From Ke

00 

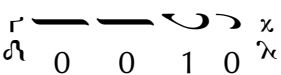
0001 

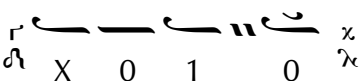
Accented on second to last syllable:

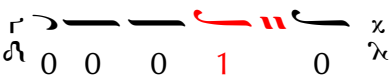
From Nee

10X010 

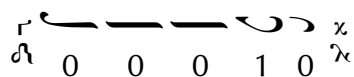
From Ga

0010 

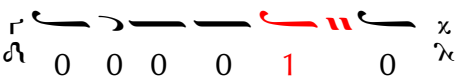

X010 

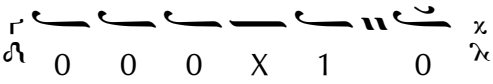
00010 

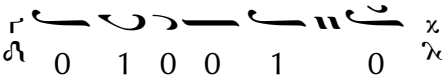

1




Plagal Fourth Mode - Heirmologic (Triphonos) - Canons

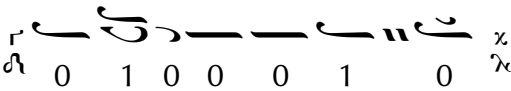
000010  

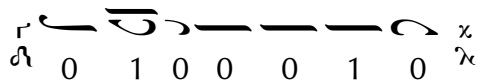
000X10 

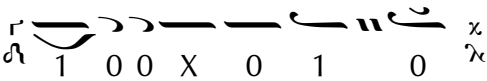
010010 

100010 

0010010 

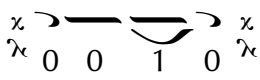
0100010 

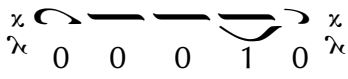



100X010 

From Ke

010 

0010 

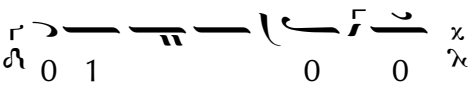
00010 

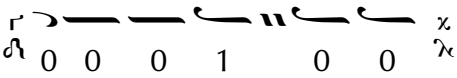
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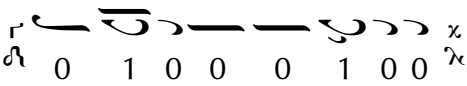
Accented on third to last syllable:

From Ga

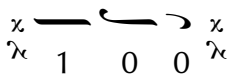
Plagal Fourth Mode - Heirmologic (Triphonos) - Canons

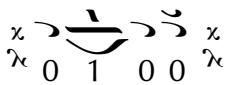
0100 

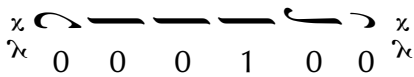
000100 

01000100 

From Ke

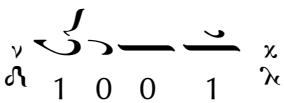
100 

0100 

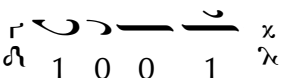
000100 

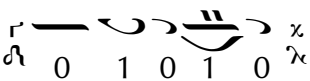
Accented on fourth to last syllable:

From Nee


1001 

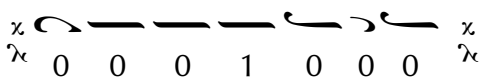
From Ga

1001 

01010 

From Ke

01010 

0001000 

Plagal Fourth Mode - Heirmologic (Triphonos) - Canons

F) Other Formulae

0001001 $\overset{\curvearrowright}{\delta} \quad \overset{\curvearrowright}{0} \quad \overset{\curvearrowright}{0} \quad \overset{\curvearrowright}{0} \quad \overset{\curvearrowright}{1} \quad \overset{\curvearrowright}{0} \quad \overset{\curvearrowright}{0} \quad \overset{\curvearrowright}{1} \quad \overset{\curvearrowright}{\delta}$



Γιὰ ὅσους ἀγνοοῦν τὴν ὀρολογία στὰ ἀγγλικά πὺ χρησιμοποιοεῖται σὲ αὐτὴν τὴν συλλογή, παραθέτομε τὸ ἐξῆς ἀπλὸ γλωσσάρι πὺ περιέχει τὶς σημαντικότερες λέξεις.

accented	τονισμένος
apolytikia	ἀπολυτικά
bridge	γέφυρα
cadence	κατάληξις
canon	κανών
contents	περιεχόμενα
diatonic	διατονικός
ending	καταληκτικός
enharmonic	ἐναρμόνιος
fifth to last syllable	πέμπτη συλλαβὴ ἀπὸ τὸ τέλος
final	ἐντελής
first	πρῶτος
following	ἐπόμενος
formula, formulae	θέσις, θέσεις
fourth to last syllable	τέταρτη συλλαβὴ ἀπὸ τὸ τέλος
fourth	τέταρτος
from	ἀπὸ
fthora	φθορά
grave	βαρὺς

Glossary

hard chromatic	σκληρός χρωματικός
heirmologic	είρμολογικός
high Nee	ἐπάνω Νη
initial	ἀρχικός
last syllable	λήγουσα
low Di	κάτω Δι
medial	ἀτελής
melody, melodies	μέλος, μέλη
mode	ἦχος
old sticheraric	παλαιὸς στιχηραρικός
phrase	φράσις
plagal	πλάγιος
previous	προηγούμενος
protovarys	πρωτόβαρυς
second to last syllable	παραλήγουσα
second	δεύτερος
section	τμήμα
semi-final	ἡμιτελής
sixth to last syllable	ἕκτη συλλαβὴ ἀπὸ τὸ τέλος
soft chromatic	μαλακὸς χρωματικός
special	ἰδιαίτερος
sticheraric	στιχηραρικός
syllable	συλλαβή
theotokia	θεοτοκία
third to last syllable	προπαραλήγουσα
third	τρίτος
unaccented syllable	ἄτονη συλλαβή
verses	στίχοι

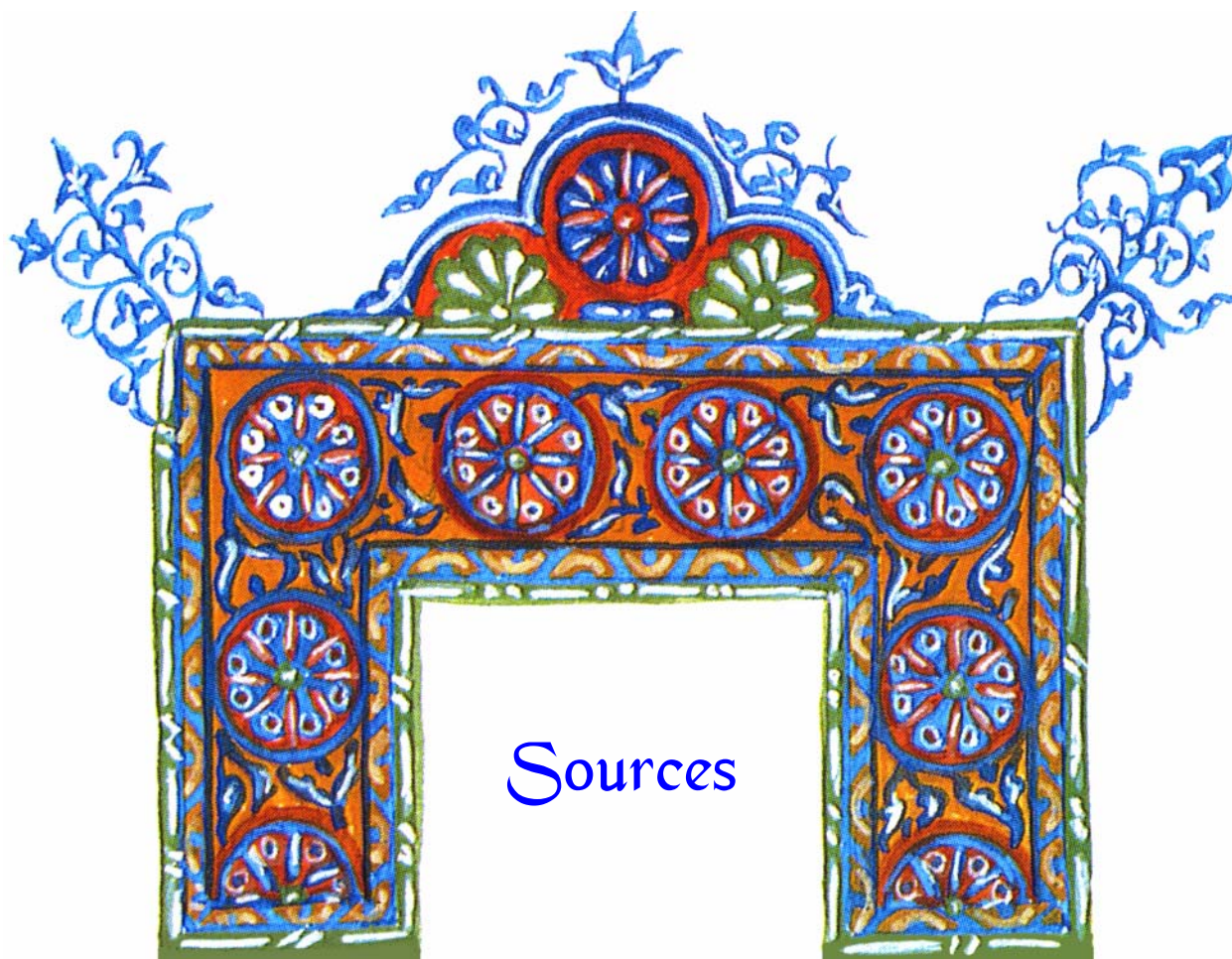
Κλειδί:

1 = τονισμένη συλλαβή

0 = ἄτονη συλλαβή

X = συλλαβὴ πού εἶναι εἴτε τονισμένη εἴτε ὄχι

Παραλλαγὲς τῆς ἴδιας θέσεως γράφονται
ἐγχρώμα



The following books were used to collect formulae for these lists:

Ἀθωνιάς, Πέτρου Φιλανθίδου, Ἐκδόσεις «Ὁ Μιχ. Ἰ. Πολυχρονάκης», Κρήτη
(ἀνατύπωσις τῆς πρώτης ἐκδόσεως ἐν Κωνσταντινουπόλει τῷ 1906).

Ἀναστασιματάριον, Ἰωάννου Πρωτοψάλτου, Ἀδελφότης Θεολόγων ἡ «Ζωή», ἰδ'
ἐκδοσις, Ἀθήναι, 2002.

Ἀναστασιματάριον Νέον, Ζαφείρου Ζαφειροπούλου, Ἀθήνησιν, 1853.

Ἀναστασιματάριον Πέτρου τοῦ Πελοποννησίου, Μουσικὴ Βιβλιοθήκη, Τόμος
Δεύτερος, Ψαλτικὰ Βλατάδων, Πατριαρχικὸν Ἰδρυμα Πατερικῶν Μελετῶν,
Θεσσαλονίκη, 1999 (ἀνατύπωσις τῆς πρώτης ἐκδόσεως τῷ 1869).

Sources

Δοξαστάριον, Κωνσταντίνου Πρωτοψάλτου, Ἐκδόσεις «Ὁ Μιχ. Ι. Πολυχρονάκης», Κρήτη (ἀνατύπωσις τῆς ἐν Κωνσταντινούπολει ἐκδόσεως τῷ 1844).

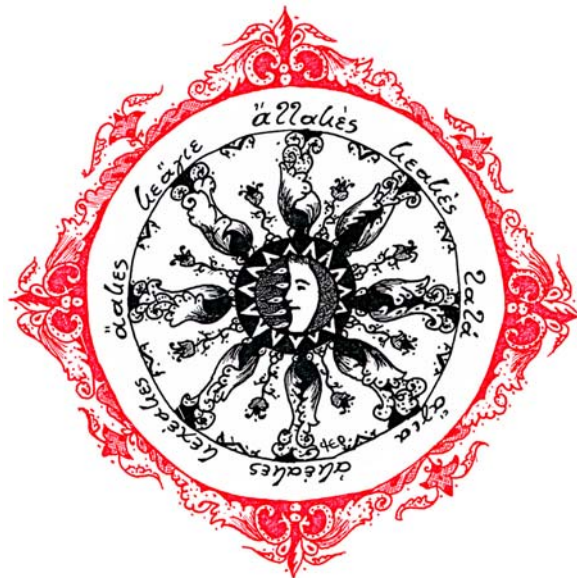
Εἰρολόγιον Καταβασιῶν, Ἰωάννου Πρωτοψάλτου, Ἐκδοτικὸς Οἶκος Βασ. Ρηγοπούλου, Θεσσαλονίκη, 1998 (ἀνατύπωσις τῆς ἐν Κωνσταντινούπολει ἐκδόσεως τῷ 1903).

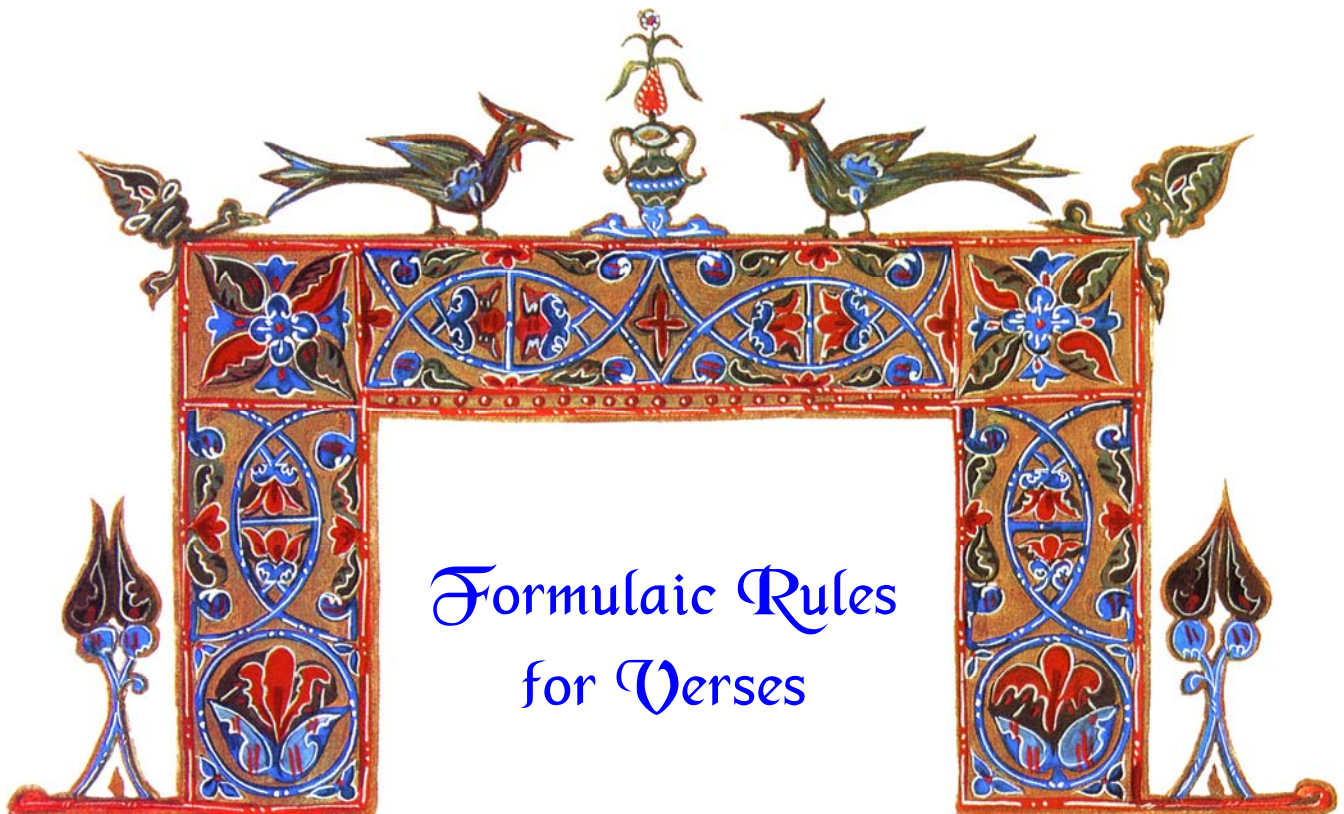
Μουσικὴ Κύψελη, Τόμος Α', Β' καὶ Γ', Στεφάνου Λαμπαδαρίου, Ἐκδόσεις «Ὁ Μιχ. Ι. Πολυχρονάκης», Κρήτη (ἀνατύπωσις τῆς ἐν Κωνσταντινούπολει ἐκδόσεως τῷ 1883).

Μουσικὸν Ἐγκόλπιον Παρακλητικῆς, Τόμος Α' καὶ Β', Ἱερομονάχου Ἱεροθέου, Ἐκδόσεις Ἰ.Μ. Φιλοθέου, Ἄγιον Ὄρος, 2003.

Νέον Ἀναστασιματάριον, Πέτρου Ἐφεσίου, Ἐκδόσεις Κουλτούρα, 1999 (ἀνατύπωσις τῆς πρώτης ἐκδόσεως ἐν Βουκορεστίῳ τῷ 1820).

Πατριαρχικὴ Μουσικὴ Κιβωτός - Ἐσπερινός, Ἱερομονάχου Ἱεροθέου, Ἐκδόσεις Ἰ.Μ. Φιλοθέου, Ἄγιον Ὄρος, 2002.





Formulaic Rules for Verses

ALTHOUGH the melodies for the verses preceding troparia do more or less follow the standard formulaic rules for troparia, their structure has several nuances that make setting them to music a non-trivial challenge. One such nuance is how verses usually begin quickly and then slow down at a certain point. Rather than try to define all such nuances, we have merely organized the verses so that a composer can quickly find one he can refer to as an example.

The list on the following page shows where to find music for the verses. The entries have been sorted by the binary code of the ending of each verse into four sections:

- 1) Accented on the last syllable
- 2) Accented on the second-to-last syllable
- 3) Accented on the third-to-last syllable
- 4) Accented on the fourth-to-last syllable

Organizing verses in this manner is very helpful to composers because it allows them simply to copy the music for a verse from a traditional, reputable source rather than try to "reinvent the wheel."

Formulaic Rules for Verses

For example, if a composer would like to set to music the verse "To do among them the judgment that is written. This glory shall be to all His saints," he would examine the final words of this phrase and observe that the accentuation pattern is: 010000101. In the chart on the following page, there is an entry with essentially the same binary code: "Ενεκεν τοῦ ὀνόματός σου 1000010000100 (The fact that this Greek verse ends with a 1 instead of a 0 is insignificant for most formulae accented on the third-to-last syllable.) Now, all he needs to do is to find a Byzantine music book in Greek that has the music for this verse. Since the color code is red, one will find this verse in the Stichera of Vespers. The chart on page 978 (which follows the same color code as the lists on page 977) indicates which books have music for the verses of the Stichera of Vespers. The composer then simply finds that verse in one of those books, replaces the Greek words in it with the words of the verse he is trying to set to music, and invents a trivial melody for the verse's initial words. If he were to use the *Anastasimatarion* of Petros Ephesios as a model, the melody he composes might look something like this for sticheraric first mode:

χ π To do a - mong them the judg - ment that is writ - ten. π χ This
 glo - ry shall be to all His saints. π χ

Binary Codes for the End of Verses

Syllable Accented:	Sticheraric Only		Sticheraric and Heirmologic	Syllable Accented:
Last Syllable Λήγουσα	Αἰνεῖτε τὸν Κύριον πάντα τὰ ἔθνη	001000110001	Αἰνεῖτε τὸν Κύριον πάντα τὰ ἔθνη	001000110001
	Αἰνεῖτε τὸν Θεὸν ἐν τοῖς Ἁγίοις	1000010001	Καθεῖλε δυνάστας ἀπὸ θρόνων	00100010001
	Τῷ οἴκῳ σου πρέπει ἁγίασμα	100001	Αἰνεῖτε τὸν Θεὸν ἐν τοῖς Ἁγίοις	1000010001
Second to Last Παραλήγουσα	Αἰνεῖτε αὐτὸν ἐν τυμπάνῳ	10010010	Τῷ οἴκῳ σου πρέπει ἁγίασμα	100001
	Ἀνάστηθι Κύριε ὁ Θεός μου	0100010	ἽΟτι ἐπέβλεψεν ἐπὶ τὴν ταπείνωσιν	000100100001
	Ἐμὲ ὑπομενοῦσι δίκαιοι	10100010	Αἰνεῖτε αὐτὸν ἐν τυμπάνῳ	10010010
	Ἐκ βαθέων ἐκέκραξά σοι	01000010	Ἄντελάβετο Ἰσραὴλ παιδὸς αὐτοῦ	1001000110010
	ἽΟτι ἐκραταιώθη τὸ ἔλεος	1000010	Ἀνάστηθι Κύριε ὁ Θεός μου	0100010
Third to Last Προπαραλήγουσα	Δόξα Πατρὶ καὶ Υἱῷ	10010010010100	Ἐμὲ ὑπομενοῦσι δίκαιοι	10100010
	Καὶ γὰρ ἐστερέωσε	10100100	Ἐκ βαθέων ἐκέκραξά σοι	01000010
	Αἰνεῖτε αὐτὸν ἐν κυμβάλοις	100100100	ἽΟτι ἐκραταιώθη τὸ ἔλεος	1000010
	Ἐὰν ἀνομίας παρατηρήσης	10001000101	Ἐλέησον ἡμᾶς, Κύριε, ἐλέησον ἡμᾶς	00100000010
	Ἄπὸ φυλακῆς πρωΐας	0010001000100	Καὶ ἔστω ἡ λαμπρότης Κυρίου	0010001010100
	ἽΕνεκεν τοῦ ὀνόματός σου	1000010000100	Μεγαλύνει ἡ ψυχὴ μου τὸν Κύριον	00100100
	ἽΟτι παρὰ τῷ Κυρίῳ τὸ ἔλεος	0010000101	Καὶ γὰρ ἐστερέωσε	10100100
Fourth to Last Προπροπαραλήγουσα	Ὁ Κύριος ἐβασίλευσεν	1000000100	Αἰνεῖτε αὐτὸν ἐν κυμβάλοις	100100100
	Τοῦ ποιῆσαι ἐν αὐτοῖς κρίμα	10001001	Ἐὰν ἀνομίας παρατηρήσης	10001000101
	Αἰνεῖτε αὐτὸν ἐπὶ ταῖς δυναστείαις	1000001001	Ἄπὸ φυλακῆς πρωΐας	0010001000100
	Καὶ νῦν καὶ αἰεὶ	000010001001	ἽΕνεπλήσθημεν τῷ πρωὶ τοῦ ἐλέους	0010000101
	Αἰνεῖτε αὐτὸν ἐν ἤχῳ σάλπιγγος	0101010	ἽΕνεκεν τοῦ ὀνόματός σου	1000010000100
	Ἐξομολογήσομαί σοι Κύριε	10001010	ἽΟτι παρὰ τῷ Κυρίῳ τὸ ἔλεος	0010000101
	Γενηθήτω τὰ ὠτά σου προσέχοντα	0001001010	Ὁ Κύριος ἐβασίλευσεν	1000000100
	Ἐξάγαγε ἐκ φυλακῆς	100001010	Πρὸς σὲ ἦρα τοὺς ὀφθαλμούς μου	101001001
			Ἐποίησε κράτος ἐν βραχίονι αὐτοῦ	10001001001
			Τοῦ ποιῆσαι ἐν αὐτοῖς κρίμα	10001001
		ἽΟτι ἐποίησέ μοι μεγαλεῖα	100010001001	
		Αἰνεῖτε αὐτὸν ἐπὶ ταῖς δυναστείαις	1000001001	
		Αἰνεῖτε αὐτὸν ἐν ἤχῳ σάλπιγγος	0101010	
		Ἐξομολογήσομαί σοι Κύριε	10001010	
		Γενηθήτω τὰ ὠτά σου προσέχοντα	0001001010	
		Ἐξάγαγε ἐκ φυλακῆς	100001010	

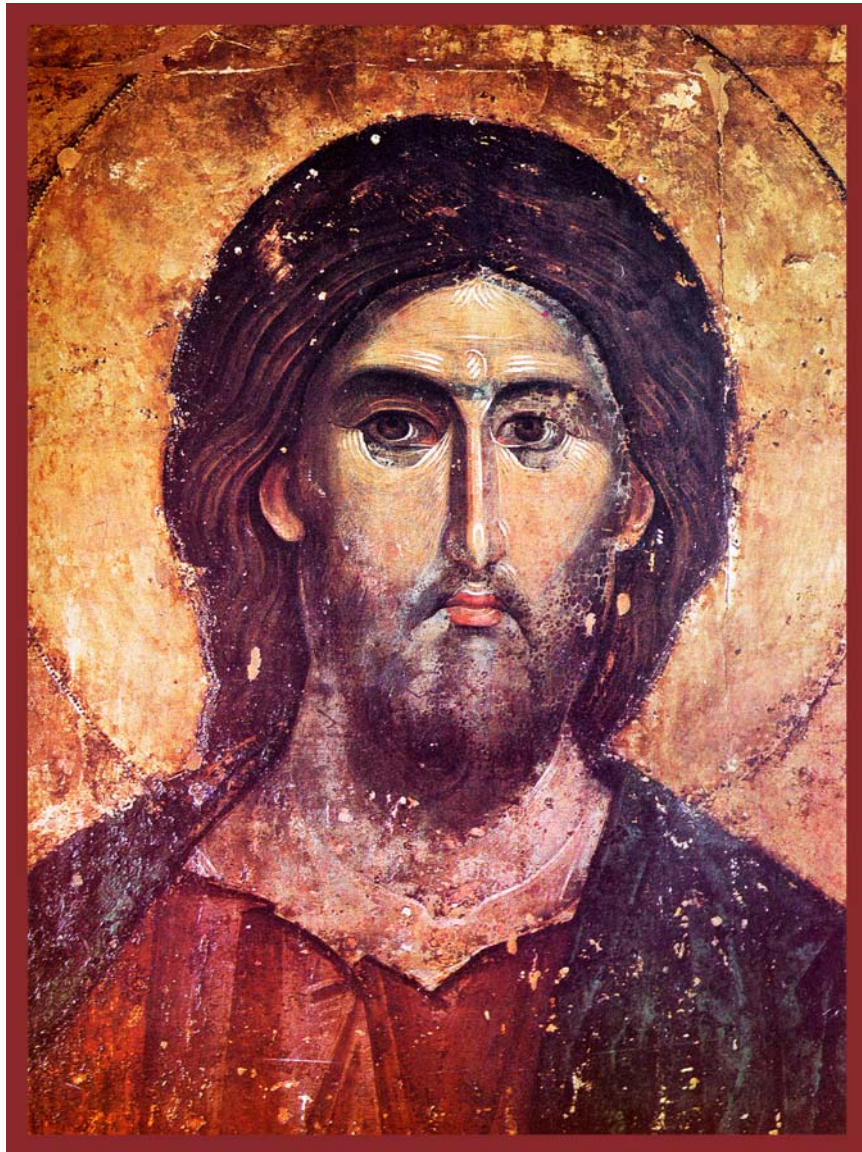
Color Code:

Αἴνους ἽΟρθρου	Praises of Orthros
Ἄποστιχα ἽΕσπερινοῦ	Aposticha of Vespers
Στιχηρὰ ἽΕσπερινοῦ	Stichera of Vespers
Ἄποστιχα Καθημερινῷ ἽΕσπερινοῦ	Aposticha of Weekday Vespers
Ἄποστιχα Καθημερινῷ ἽΟρθρου	Aposticha of Weekday Orthros
Μεγαλυνάρια τῆς θ' Ὁδῆς	Megalynaria of the 9th Ode

<p>Color Shading Code:</p> <p>the book has verses in all eight modes τὸ βιβλίο ἔχει στίχους καὶ στοὺς 8 ἤχους</p> <p>the book has verses in only some modes τὸ βιβλίο ἔχει στίχους μόνο σὲ μερικοὺς ἤχους</p> <p>The tiny numbers shaded yellow indicate which modes a particular book has. 1 = first mode, 2 = second mode, 3 = third mode, 4 = fourth mode, 5 = plagal first mode, etc.</p>	Ἀναστασιματάριον Πέτρου Ἐφεσίου	Ἀναστασιματάριον Νέων Ζαφειρίου Ζαφειροπούλου	Ἀναστασιματάριον Κωνσταντίνου Πρωτοψάλτου	Ἀναστασιματάριον Πέτρου (Μουσική Βιβλιοθήκη)	Ἀναστασιματάριον Ἰωάννου Πρωτοψάλτου (ἐκδόσεις «Ζωής»)	Ἀναστασιματάριον Πέτρου: Ἑσπερινός (Παναγιώτου Πάππα)	Ἀναστασιματάριον Πέτρου: Ὁρθρος (Παναγιώτου Πάππα)	Εἰρηολόγιον Ἰωάννου Τόμος Α΄ (Κωνσταντίνου Μάρκου)	Πατριαρχική Μουσική Κιβωτός Ἑσπερινός (Ιερομ. Τεροθέου)	Μουσικὸν Ἐγκόλπιον Παρακλητικῆς (Ιερομ. Τεροθέου)	Μουσική Παρακλητική π. Κωνσταντίνου Παπαγιάννη	Νέον Ἀναστασιματάριον Ἠλιοπούλου, Παυλάκη	
	1820	1853	1865	1869	1933–2002	1998	1998	2002	2002	2003	2004	2006	
	Εἰρημολογικά												
	Στιχηρά Ἑσπερινοῦ (Ἐκ βαθέων...)		**										
	Ἀπόστιχα Καθημερινοῦ Ἑσπερινοῦ (Πρὸς σέ ἦρα...)												
	Ἀπόστιχα Ἑσπερινοῦ Σαββάτου (Ὁ Κύριος ἐβασίλευσεν...)	345678	**	3567	345678								
	Αἶνους τοῦ Ὁρθρου (Τοῦ ποιῆσαι ἐν αὐτοῖς...)	3478	**		378								
	Ἀπόστιχα τοῦ Ὁρθρου (Ἐνεπλήσθημεν τῷ πρωΐ...)												
	Μεγαλυνάρια θ΄ ὥδης (Μεγαλύνει ἡ ψυχὴ μου...)			*				1					*
	Στιχηραρικά												
	Στιχηρά Ἑσπερινοῦ (Ἐκ βαθέων...)												
	Ἀπόστιχα Ἑσπερινοῦ Σαββάτου (Ὁ Κύριος ἐβασίλευσεν...)	12		1248	12								
	Αἶνους τοῦ Ὁρθρου (Τοῦ ποιῆσαι ἐν αὐτοῖς...)	1256			12456								
Μεγαλυνάρια θ΄ ὥδης (Μεγαλύνει ἡ ψυχὴ μου...)			*										

* Has only the first verse of the 9th Ode
* Ἐχει μόνο τὸν πρῶτο στίχο τῆς θ΄ ὥδης

** Has verses only in "Protovarys" (Pentaphonos Grave Mode)
** Ἐχει στίχους μόνο γιὰ «πρωτόβαρυς» (ἤχος βαρὺς πεντάφωνος)



Glory be to God
for all things