

# BYZANTINE MUSIC FORMULAE

## *Third Mode - Heirmologic*

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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

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\* 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  $\pi \overset{\Delta}{\underset{q}{\text{0}}} \overset{\Delta}{\text{di}}$

000  $\pi \overset{\Delta}{\underset{q}{\text{0}}} \overset{\Delta}{\text{0}} \overset{\Delta}{\text{0}} \overset{\Delta}{\text{di}}$

10001  $\pi \overset{\Delta}{\underset{q}{\text{1}}} \overset{\Delta}{\text{0}} \overset{\Delta}{\text{0}} \overset{\Delta}{\text{0}} \overset{\Delta}{\text{1}} \overset{\Delta}{\text{di}}$

##### From Di

00  $\overset{\Delta}{\text{di}} \overset{\Delta}{\text{0}} \overset{\Delta}{\text{0}} \overset{\Delta}{\text{di}}$

010001  $\overset{\Delta}{\text{di}} \overset{\Delta}{\text{0}} \overset{\Delta}{\text{1}} \overset{\Delta}{\text{0}} \overset{\Delta}{\text{0}} \overset{\Delta}{\text{0}} \overset{\Delta}{\text{1}} \overset{\Delta}{\text{di}}$

#### Accented on second to last syllable:

##### From Pa

10  $\pi \overset{\Delta}{\underset{q}{\text{1}}} \overset{\Delta}{\text{0}} \overset{\Delta}{\text{di}}$

010  $\pi \overset{\Delta}{\underset{q}{\text{0}}} \overset{\Delta}{\text{1}} \overset{\Delta}{\text{0}} \overset{\Delta}{\text{di}}$

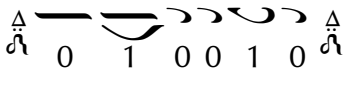

0010  $\pi \overset{\Delta}{\underset{q}{\text{0}}} \overset{\Delta}{\text{0}} \overset{\Delta}{\text{1}} \overset{\Delta}{\text{0}} \overset{\Delta}{\text{di}}$

10010  $\pi \overset{\Delta}{\underset{q}{\text{1}}} \overset{\Delta}{\text{0}} \overset{\Delta}{\text{0}} \overset{\Delta}{\text{1}} \overset{\Delta}{\text{0}} \overset{\Delta}{\text{di}}$



*Third Mode - Heirmologic*

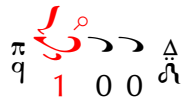
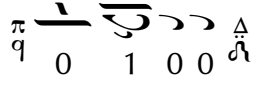

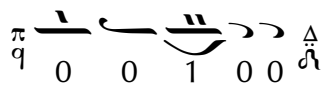
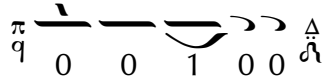
From Di

10	$\overset{\Delta}{\text{di}}$  $\overset{\Delta}{\text{di}}$
00010	$\overset{\Delta}{\text{di}}$  $\overset{\Delta}{\text{di}}$
10010	$\overset{\Delta}{\text{di}}$  $\overset{\Delta}{\text{di}}$
	$\overset{\Delta}{\text{di}}$  $\overset{\Delta}{\text{di}}$
010010	$\overset{\Delta}{\text{di}}$  $\overset{\Delta}{\text{di}}$
	$\overset{\Delta}{\text{di}}$  $\overset{\Delta}{\text{di}}$
100010	$\overset{\Delta}{\text{di}}$  $\overset{\Delta}{\text{di}}$



Accented on third to last syllable:

From Pa

100	$\overset{\pi}{\text{pa}}$  $\overset{\Delta}{\text{di}}$
0100	$\overset{\pi}{\text{pa}}$  $\overset{\Delta}{\text{di}}$
010X	$\overset{\pi}{\text{pa}}$  $\overset{\Delta}{\text{di}}$
00100	$\overset{\pi}{\text{pa}}$  $\overset{\Delta}{\text{di}}$
	$\overset{\pi}{\text{pa}}$  $\overset{\Delta}{\text{di}}$



*Third Mode - Heirmologic*

$\pi$   
q  
0 0 1 0 0  $\Delta$   
d

0010100  
 $\pi$   
q  
0 0 1 0 1 0 0  $\Delta$   
d

00X0100  
 $\pi$   
q  
0 0 X 0 1 0 0  $\Delta$   
d

1000100  
 $\pi$   
q  
1 0 0 0 1 0 0  $\Delta$   
d

$\rho$   
1 0

From Di

0100  
 $\Delta$   
d  
0 1 0 0  $\Delta$   
d

1

010100  
 $\pi$   
q  
0 1 0 1 0 0  $\Delta$   
d

100100  
 $\Delta$   
d  
1 0 0 1 0 0  $\Delta$   
d

001100  
 $\Delta$   
d  
0 0 1 1 0 0  $\Delta$   
d

0100100  
 $\Delta$   
d  
0 1 0 0 1 0 0  $\Delta$   
d

Accented on fourth to last syllable:

From Pa

01000  
 $\pi$   
q  
0 1 0 0 0  $\Delta$   
d

01010  
 $\pi$   
q  
0 1 0 0 0  $\Delta$   
d

001010  
 $\pi$   
q  
0 0 1 0 1 0  $\Delta$   
d

*Third Mode - Heirmologic*

From Di

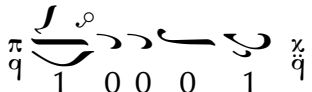
01000  $\overset{\Delta}{\underset{\delta}{\mathfrak{A}}} \overline{\quad} \overline{\quad} \overline{\quad} \overline{\quad} \overset{\Delta}{\underset{\delta}{\mathfrak{A}}}$   
          0   1   0   0 0

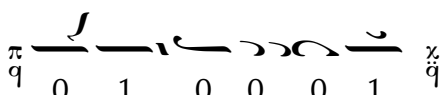
001100  $\overset{\Delta}{\underset{\delta}{\mathfrak{A}}} \overline{\quad} \overline{\quad} \overline{\quad} \overline{\quad} \overline{\quad} \overline{\quad} \overset{\Delta}{\underset{\delta}{\mathfrak{A}}}$   
          0   0   1   1   0   0

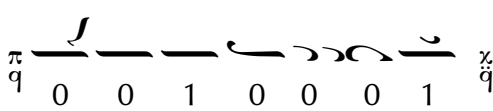
**B) Cadences on Ke**

Accented on last syllable:

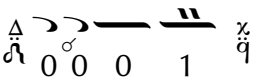
From Pa

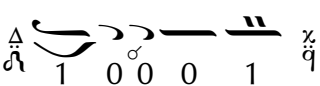
10001 

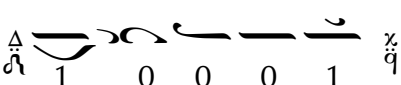
010001 

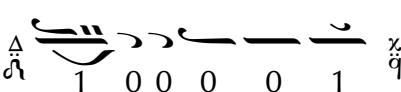
0010001 

From Di

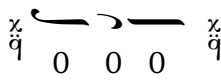
0001 

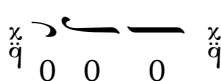
10001 

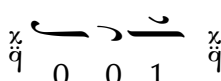


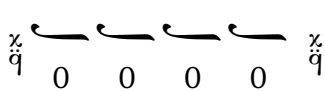
100001 

From Ke

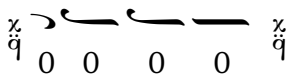
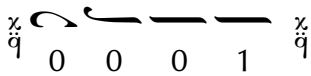
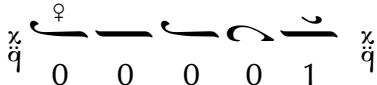
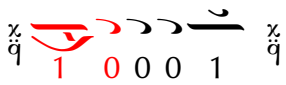
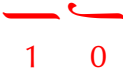
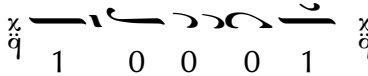
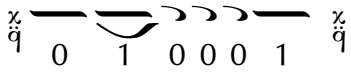
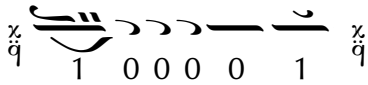
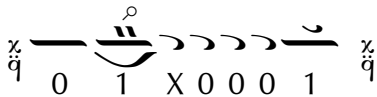
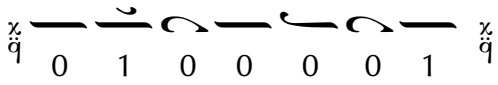

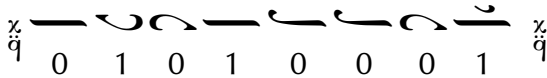
000 



001 

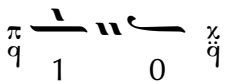
0000 

*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:

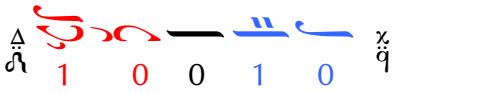

From Pa

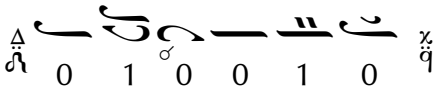
10	$\frac{\pi}{q}$ 
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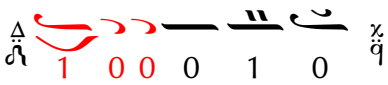



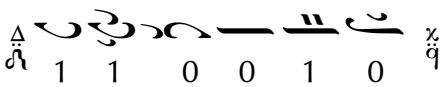


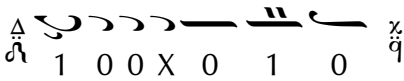
*Third Mode - Heirmologic*

10010    


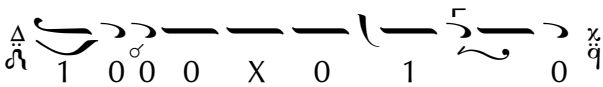
010010 

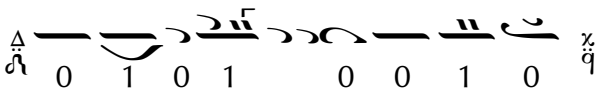
100010  

110010 

100X010 

1000X010 

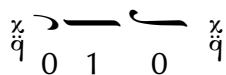
01010010 

100X0X010 

From Ke

10  

010 

*Third Mode - Heirmologic*

0010		
00010		
10010		
010010		
000010		
100010		
101010		
0100010		

*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 $\frac{\pi}{q}$	

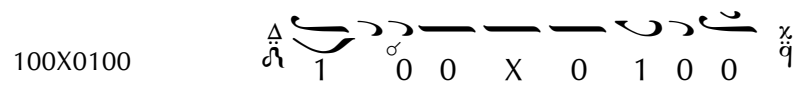
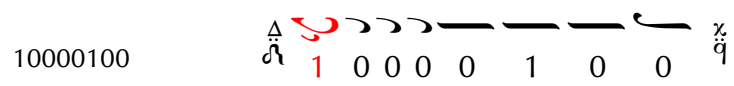
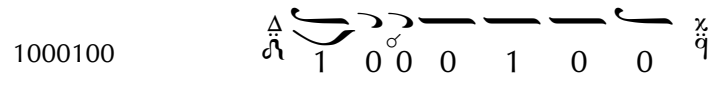
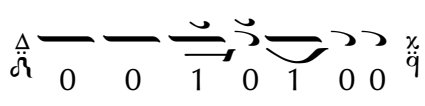
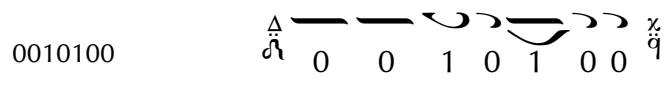
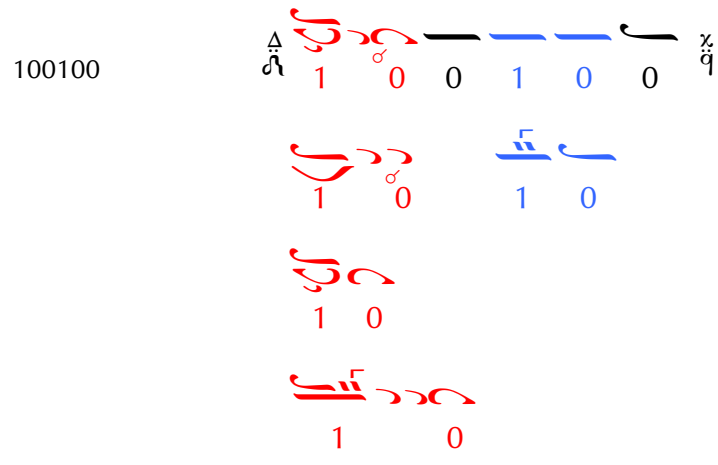
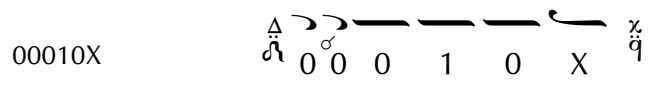
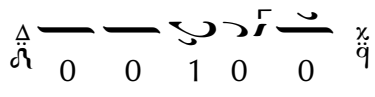
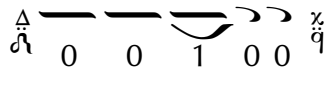
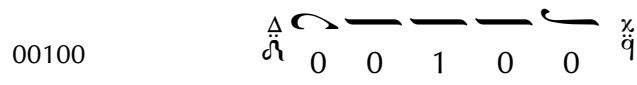
Accented on third to last syllable:

From Pa

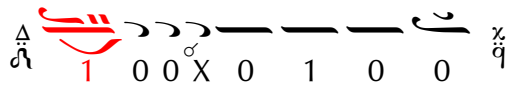
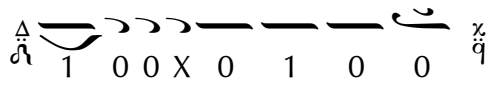
0100	 $\frac{\pi}{q}$ 0 1 0 0 $\frac{\pi}{q}$	
00100	 $\frac{\pi}{q}$ 0 0 1 0 0 $\frac{\pi}{q}$	
000100	 $\frac{\pi}{q}$ 0 0 0 1 0 0 $\frac{\pi}{q}$	
0X0100	 $\frac{\pi}{q}$ 0 X 0 1 0 0 $\frac{\pi}{q}$	
100100	 $\frac{\pi}{q}$ 1 0 0 1 0 0 $\frac{\pi}{q}$	
00X0101	 $\frac{\pi}{q}$ 0 0 X 0 1 0 1 $\frac{\pi}{q}$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

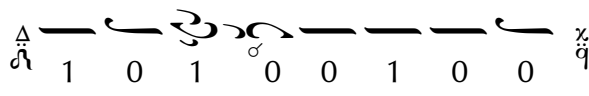
From Di



*Third Mode - Heirmologic*

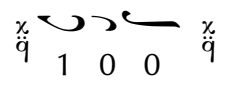
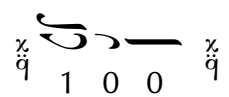
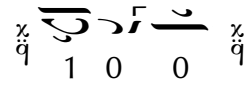


10100100

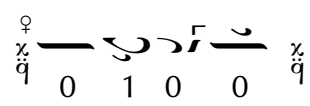


From Ke

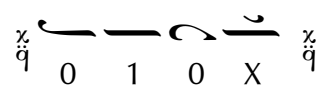
100



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

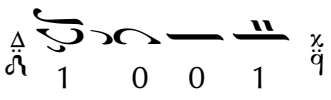
Accented on fourth to last syllable:

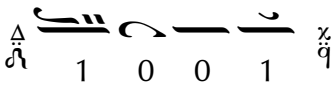
From Pa

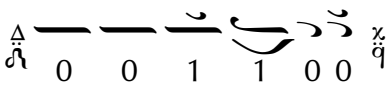
1001	$\frac{\pi}{q}$ $\frac{x}{q}$
01010	$\frac{\pi}{q}$ $\frac{x}{q}$
001001	$\frac{\pi}{q}$ $\frac{x}{q}$
101001	$\frac{\pi}{q}$ $\frac{x}{q}$
1001001	$\frac{\pi}{q}$ $\frac{x}{q}$

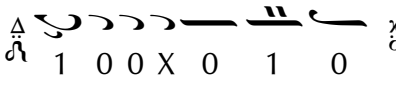
*Third Mode - Heirmologic*

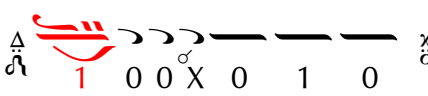
From Di

1001 

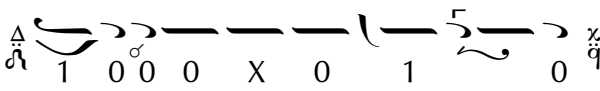


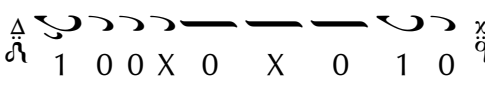
001100 

100X010 

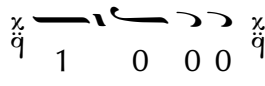




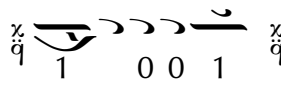
1000X010 

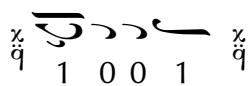
100X0X010 

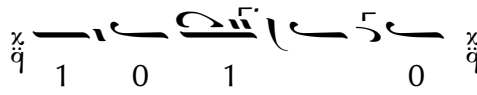
From Ke

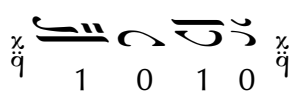
1000 



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

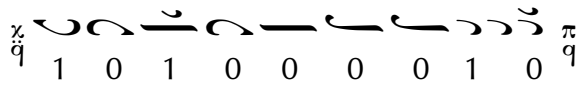
0010

10010

*Third Mode - Heirmologic*

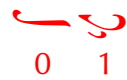
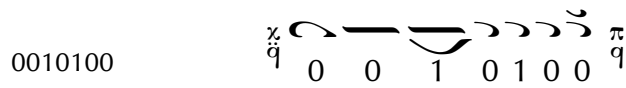
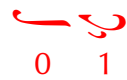
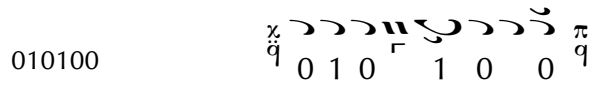
		 1	
010010	$\frac{\pi}{q}$ 0 1 0 0 1 0		$\frac{\pi}{q}$
	 1 0	 1 0	
	 1 0	 1 0	
100010	$\frac{\pi}{q}$ 1 0 0 0 1 0		$\frac{\pi}{q}$
	 1 0 0	 1 0	
		 1 0	
0X10010	$\frac{\pi}{q}$ 0 X 1 0 0 1 0		$\frac{\pi}{q}$
0100010	$\frac{\pi}{q}$ 0 1 0 0 0 1 0		$\frac{\pi}{q}$
100X010	$\frac{\pi}{q}$ 1 0 0 X 0 1 0		 1 0
1010010	$\frac{\pi}{q}$ 1 0 1 0 0 1 0		 1
0100X010	$\frac{\pi}{q}$ 0 1 0 0 X 0 1 0		 0 1
100100010	$\frac{\pi}{q}$ 1 0 0 1 0 0 0 1 0		
101000010	$\frac{\pi}{q}$ 1 0 1 0 0 0 0 0 1 0		

*Third Mode - Heirmologic*



Accented on third to last syllable:

From Ke



*Third Mode - Heirmologic*

Accented on fourth to last syllable:

From Ke

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



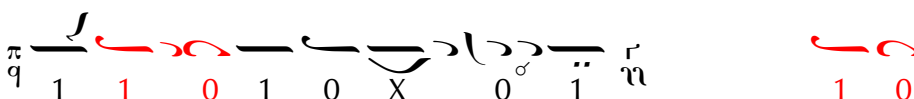
*Third Mode - Heirmologic*

F) Ending Formulae

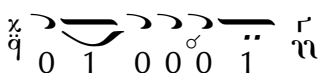
Accented on last syllable:

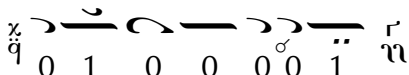
(Formulae ending in 100 or 1001 may also be used here.)

From Pa

11010X01 

From Ke

010001 

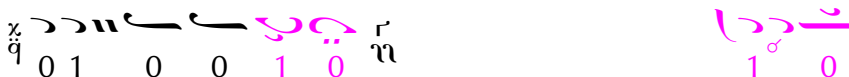
0100001 

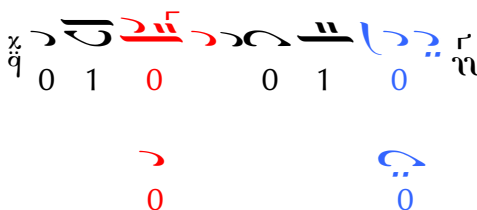
10010001 

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

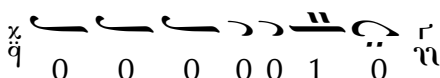
Accented on second to last syllable:

From Ke

010010 



X00010 

0000010 





*Third Mode - Heirmologic*

0000100		
010010X		
10X0100		
010X0100		
100X0100		

Accented on fourth to last syllable:

From Ke

01010		
101010		
010X010		
10X01001		

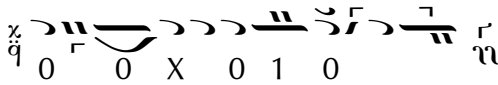
**G) Endings for Theotokia\***

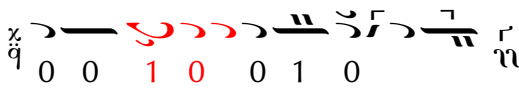
Accented on last syllable:

(Use a formula ending in 100 or 1001)

Accented on second to last syllable:

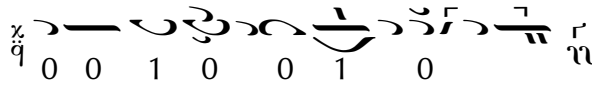
From Ke

00X010 

0010010 

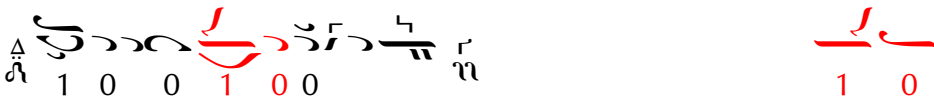




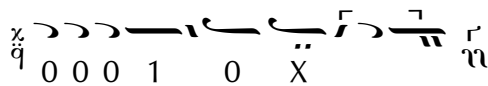


Accented on third to last syllable:

From Di

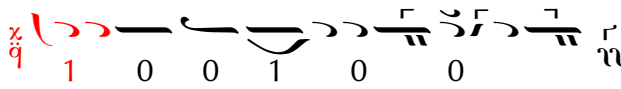

100100 

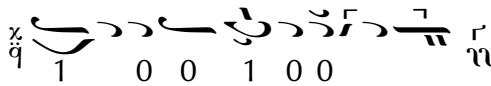
From Ke

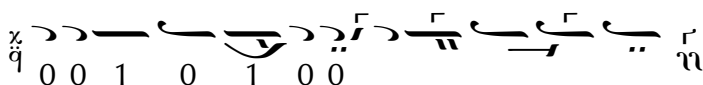
00010X 


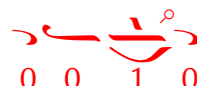
\* Some formulae in this section are taken from the Athonite oral tradition, as represented in the book *Παρακλητικῆς, Μουσικὸν Ἐγκόλπιον, Πλάγιοι Ἦχοι, Ἱεροθέου Ἱερομονάχου, ἐκδόσεις Ἱ.Μ. Φιλοθέου, Ἁγίου Ὄρους, 2004.*


*Third Mode - Heirmologic*

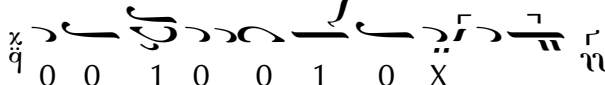
100100  

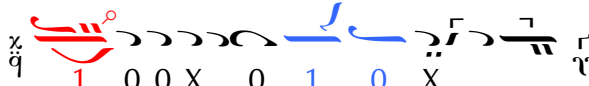


100100 

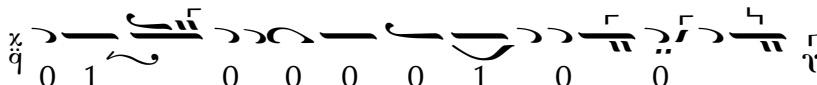
0010100 

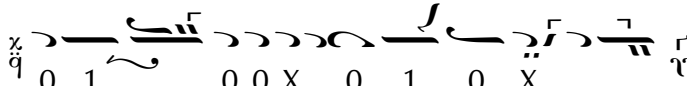
100010X  

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.