

Journey to the Heart of Music

Philip Perry

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Example T2 *J.S.Bach – Chorale* *Ach Gott und Herr*

MUTABLE NUMBER ANALYSIS

The ‘new style’ MOS analysis presented below was produced with a recent version of the *txt2mos* script, the use of which is described in Appendix F; however, the analysis doesn’t contain the middle level nested series ‘hyphen markers’ as this feature was added later. (Hyphen markers do appear in the analysis Example S2.) Although a resolution of an eighthnote (48 ticks) was employed, because all of the non-harmonic passing notes had been removed from the MIDI data before processing, some of these notes (underlined elements in harmonic series lists) are not included in the analysis. Also, the demonstration editing of measure 2, discussed in Appendix F, has not been used in favor of the original un-mediated output of *txt2mos*. Essentially, this version of the *Ach Gott und Herr* MOS analysis presents the raw output from *txt2mos*.

Following in this vein, the natural period of the chorale, negative MIDI note number –19 F (the highest common denominator between all notes) has been taken as a guide to the absolute fundamental tone, which has been set to F-H1 = 1.333...Hz (MM80). As a consequence, the mutable numbers attached immediately below the score (e.g. first chord 576:G) are not equal to the frequency in hertz of their conjunction harmonic shown in their corresponding harmonic series lists (e.g. first chord 768.0:G).

At measure 7.000, and elsewhere in the score, a flexing of the pitch coordinates is evident where the fundamental tone departs from unity. The absolute fundamental tone of the chord at m7.000 is shown as 1.038 and 1.025! In a strict MOS interpretation this accommodation would not be made and the frequency of the system would shift by small degrees in line with the precise whole number exchanges. However, a knock-on effect of such a strict interpretation is that it would make the analysis less clear and rather hard to read.

Symbol Guide

Objective frequency in hertz (E.g. middle C = 252.8Hz)	Logical frequency (hn)
Conjunction from preceding chord/series	
Objective harmonics/ Combination tones	
Objective Notes (the music, underlined)	
Aggregated groupings (top level of nesting carrying the harmonic gist of chord)	
Degrees of incoming Nested series exchange (hyphen)	
Fundamental tone of middle level Nested series	
Measure:005.000	A-minor (b)
Chord, root/inversion	
Root of chord 'R' (i.e. fundamental group in aggregated series)	
Fundamental series harmonic 'Hn'	
Degrees of outgoing Nested Series exchange (hyphens)	
Outgoing Aggregated series (asterisks)	
Conjunction with succeeding chord/series	
Harmonics of the middle level Nested series	

T2.3 - CHORALE, J. S. BACH

K

Value: 576:G (decimal) → 576:G 432:D → 432:D → 432:D 288:G → 288:G 384:C →

Mutable	*	8	6	4	6	4	3	4
Number	12	2	2	4	2	2	2	2
Digit	48	36	36	26	36	36	48	48
Sequences	1	1	1	1.038	1	1	1	1

Natural Period F-12Hz

768.0:G-(h12)*----->	* 768.0:G-(h16)			
704.0:F#(h11)*	720.0:F#(h15)			
640.0:E-(h10)*	* 672.0:F-(h14)			
576.0:D-(h09)*	624.0:E-(h13)			
512.0:C-(h08)*	* 576.0:D-(h12)*----->	* 576.0:D-(h16)*----->	* 576.0:D-(h12)	
448.0:A#(h07)*	528.0:C#(h11)	540.0:C#(h15)	528.0:C#(h11)	
384.0:G-(h06)*	* 480.0:B-(h10)*	504.0:C-(h14)	* 480.0:B-(h10)	512.0:C-(h08)*----->
320.0:E-(h05)*	432.0:A-(h09)	468.0:B-(h13)	432.0:A-(h09)	448.0:A#(h07)
256.0:C-(h04)*	* 384.0:G-(h08)*	* 432.0:A-(h12)*	* 384.0:G-(h08)*----->	* 384.0:G-(h06)*
192.0:G-(h03)*	336.0:F-(h07)	396.0:G#(h11)	336.0:F-(h07)	320.0:E-(h05)
128.0:C-(h02)*	* 288.0:D-(h06)*	360.0:F#(h10)	* 288.0:D-(h06)*	* 256.0:C-(h04)*
64.0:C-(h01/H48)R	240.0:B-(h05)	324.0:E-(h09)	240.0:B-(h05)	192.0:G-(h03)
Measure:000.750	* 192.0:G-(h04)*	* 288.0:D-(h08)*	* 192.0:G-(h04)*	R 128.0:C-(h02)R
	144.0:D-(h03)	252.0:C-(h07)	144.0:D-(h03)	64.0:C-(h01/H48)
	R 96.0:G-(h02)R	216.0:A-(h06)	R 96.0:G-(h02)R	Measure:001.750
	48.0:G-(h01/H36)	180.0:F#(h05)	48.0:G-(h01/H36)	
	Measure:001.000	R 144.0:D-(h04)R	Measure:001.500	
		108.0:A-(h03)		
		72.0:D-(h02)		
		36.0:D-(h01/H26)		
		Measure:001.250		

Aggregated

Series (12 grps of 1)--2:3-->(8 grps of 2)

(6 grps of 2)--4:3-->(4 grps of 4)

(4 grps of 4)---3:4--->(6 grps of 2)

(4 grps of 2)---3:4---->(3 grps of 2)

(4 grps of 2)---3:2--->

Nested

Series (4xthree)-----4:3----->(4xfour)

(4xthree)-----2:3----->(4xtwo)

(4xtwo)-----3:2----->(4xthree)

(2xfour)-----3:4----->(2xthree)

(4xtwo)-----3:2----->

Fundamental Series: F-H1 = 1.333...Hz to F-Hn,

(not shown except for joining harmonic, e.g. H48 in first chord).

→ 384:C → 384:C 432:D → 432:D → 432:D 576:G → 576:G 432:D →

6	8	9	12	9	12	8	6
2	2	2	2	2	2	4	4
32	24	24	18	24	24	18	18
1	1	1	1	1	1	1	1

	576.0:D-(h18)*----->	* 576.0:D-(h24)*----->
	544.0:C#(h17)	552.0:--(h23)
* 512.0:C-(h12)*--->	* 512.0:C-(h16)*	* 528.0:C#(h22)*
469.3:B-(h11)	480.0:B-(h15)	504.0:C-(h21)
* 426.7:A-(h10)*	* 448.0:A#(h14)*	* 480.0:B-(h20)*
384.0:G-(h09)	416.0:A-(h13)	456.0:A#(h19)
* 341.3:F-(h08)*	* 384.0:G-(h12)*	* 432.0:A-(h18)*
298.7:D#(h07)	352.0:F#(h11)	408.0:G#(h17)
* 256.0:C-(h06)*	* 320.0:E-(h10)*	* 384.0:G-(h16)*
213.3:A-(h05)	288.0:D-(h09)	360.0:F#(h15)
* 170.7:F-(h04)*	* 256.0:C-(h08)*	* 336.0:F-(h14)*
128.0:C-(h03)	224.0:A#(h07)	312.0:E-(h13)
R 85.3:F-(h02)R	* 192.0:G-(h06)*	* 288.0:D-(h12)*
42.7:F-(h01/H32)	160.0:E-(h05)	264.0:C#(h11)
Measure:002.000	* 128.0:C-(h04)*	* 240.0:B-(h10)*
	96.0:G-(h03)	216.0:A-(h09)
	R 64.0:C-(h02)R	* 192.0:G-(h08)*
	32.0:C-(h01/H24)	168.0:F-(h07)
	Measure:002.125	* 144.0:D-(h06)*
		120.0:B-(h05)
		* 96.0:G-(h04)*
		72.0:D-(h03)
		R 48.0:G-(h02)R
		24.0:G-(h01/H18)
		Measure:002.250

```

-3:2->(6 grps of 2)
  (6 grps of 2)-4:3->(8 grps of 2)
    (9 grps of 2)---4:3--->(12 grps of 2)
      (12 grps of 2)----3:4----->(9 grps of 2)
        (12 grps of 2)----2:3----->(8 grps of 4)
          (6 grps of 4)----->

-3:2->(4xthree)
  (4xthree)----4:3---->(4xfour)
    (6xthree)----4:3---->(6xfour)
      (6xfour)-----3:4----->(6xthree)
        (8xthree)-----4:3----->(8xfour)
          (8xthree)----->

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T2.5 - CHORALE, J. S. BACH

→ 432:D → 432:D → 432:D → 432:D 576:G →

8 12 8 6 8
2 2 2 2 2
26 18 26 36 36
1.038 1 1.038 1 1

768.0:G-(h16)*----->
720.0:F#(h15)
672.0:F-(h14)*
624.0:E-(h13)

* 576.0:D-(h16)*-----> * 576.0:D-(h24)*-----> * 576.0:D-(h16)*-----> * 576.0:D-(h12)*
540.0:C#(h15) 552.0:--(h23) 540.0:C#(h15) 528.0:C#(h22)* 540.0:C-(h14)* 528.0:C#(h11)
* 504.0:C-(h14)* * 504.0:C-(h21) * 504.0:C-(h14)* * 480.0:B-(h10)*
468.0:B-(h13) 504.0:C-(h21) 468.0:B-(h13) 432.0:A-(h09)
* 432.0:A-(h12)* * 480.0:B-(h20)* * 432.0:A-(h12)* * 384.0:G-(h08)*
396.0:G#(h11) 456.0:A#(h19) 396.0:G#(h11) 336.0:F-(h07)
* 360.0:F#(h10)* * 432.0:A-(h18)* * 360.0:F#(h10)* * 288.0:D-(h06)*
324.0:E-(h09) 408.0:G#(h17) 324.0:E-(h09) 240.0:B-(h05)
* 288.0:D-(h08)* * 384.0:G-(h16)* * 288.0:D-(h08)* * 192.0:G-(h04)*
252.0:C-(h07) 360.0:F#(h15) 252.0:C-(h07) 144.0:D-(h03)
* 216.0:A-(h06)* * 336.0:F-(h14)* * 216.0:A-(h06)* R 96.0:G-(h02)R
180.0:F#(h05) 312.0:E-(h13) 180.0:F#(h05) 48.0:G-(h01/H36)
* 144.0:D-(h04)* * 288.0:D-(h12)* * 144.0:D-(h04)* Measure:003.750
108.0:A-(h03) 264.0:C#(h11) 108.0:A-(h03)
R 72.0:D-(h02)R * 240.0:B-(h10)* R 72.0:D-(h02)R
36.0:D-(h01/H26) 216.0:A-(h09) 36.0:D-(h01/H26)
Measure:003.000 * 192.0:G-(h08)* Measure:003.500
168.0:F-(h07)
* 144.0:D-(h06)*
120.0:B-(h05)
* 96.0:G-(h04)*
72.0:D-(h03)
R 48.0:G-(h02)R
24.0:G-(h01/H18)
Measure:003.250

-4:3->(8 grps of 2)
(8 grps of 2)-----3:2----->(12 grps of 2)
(12 grps of 2)-----2:3----->(8 grps of 2)
(8 grps of 2)-----3:4----->(6 grps of 2)
(8 grps of 2)-----3:2-->

-2:3->(8xtwo)
(8xtwo)-----3:2----->(8xthree)
(8xthree)-----2:3----->(8xtwo)
(4xfour)-----3:4----->(4xthree)
(8xtwo)-----3:2-->

T2.6 - CHORALE, J. S. BACH

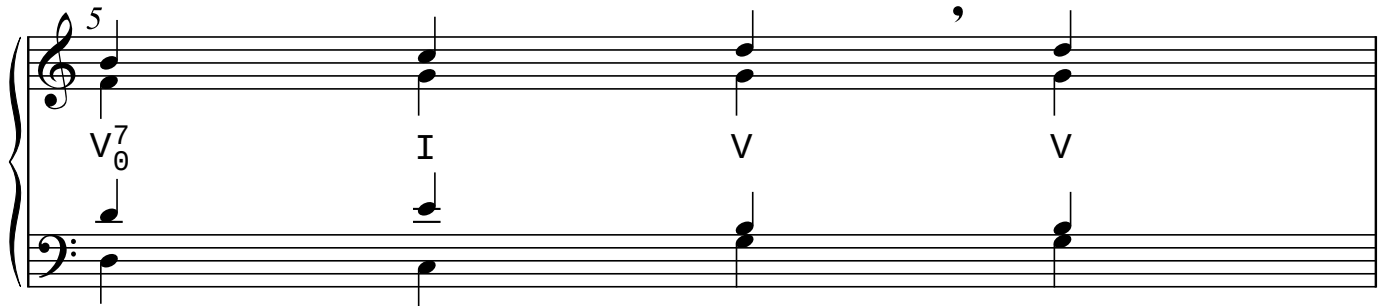
→ 576:G	864:D	→ 864:D	432:D	→ 432:D	576:G	→ 576:G	→
12	18	16	8	6	8	12	
2	2	2	2	2	2	2	
24	24	26	26	36	36	24	
1	1	1.038	1.038	1	1	1	

1152.0:D-(h36)*----->	*1152.0:D-(h32)		
1120.0:D-(h35)	1116.0:--(h31)		
1088.0:C#(h34)*	*1080.0:C#(h30)		
1056.0:--(h33)	1044.0:--(h29)		
1024.0:C-(h32)*	*1008.0:C-(h28)		
992.0:--(h31)	972.0:B-(h27)		
960.0:B-(h30)*	*936.0:B-(h26)		
928.0:--(h29)	900.0:A#(h25)		
896.0:A#(h28)*	*864.0:A-(h24)		
864.0:A-(h27)	828.0:--(h23)		
832.0:A-(h26)*	*792.0:G#(h22)		
800.0:G#(h25)	756.0:G-(h21)		
768.0:G-(h24)	*720.0:F#(h20)	768.0:G-(h16)*----->	*768.0:G-(h24)*----->
736.0:--(h23)	684.0:F-(h19)	720.0:F#(h15)	736.0:--(h23)
704.0:F#(h22)	*648.0:E-(h18)	672.0:F-(h14)*	*704.0:F#(h22)*
672.0:F-(h21)	612.0:D#(h17)	624.0:E-(h13)	672.0:F-(h21)
640.0:E-(h20)	*576.0:D-(h16)*----->	*576.0:D-(h12)*	*640.0:E-(h20)*
608.0:D#(h19)	540.0:C#(h15)	528.0:C#(h11)	608.0:D#(h19)
576.0:D-(h18)	*504.0:C-(h14)*	*480.0:B-(h10)*	*576.0:D-(h18)*
544.0:C#(h17)	468.0:B-(h13)	432.0:A-(h09)	544.0:C#(h17)
512.0:C-(h16)	*432.0:A-(h12)*	*384.0:G-(h08)*	*512.0:C-(h16)*
480.0:B-(h15)	396.0:G#(h11)	336.0:F-(h07)	480.0:B-(h15)
448.0:A#(h14)	*360.0:F#(h10)*	*288.0:D-(h06)*	*448.0:A#(h14)*
416.0:A-(h13)	324.0:E-(h09)	240.0:B-(h05)	416.0:A-(h13)
384.0:G-(h12)	*288.0:D-(h08)*	*192.0:G-(h04)*	*384.0:G-(h12)*
352.0:F#(h11)	252.0:C-(h07)	144.0:D-(h03)	352.0:F#(h11)
320.0:E-(h10)	*216.0:A-(h06)*	R 96.0:G-(h02)R	*320.0:E-(h10)*
288.0:D-(h09)	180.0:F#(h05)	48.0:G-(h01/H36)	288.0:D-(h09)
256.0:C-(h08)	*144.0:D-(h04)*	Measure:004.500	*256.0:C-(h08)*
224.0:A#(h07)	108.0:A-(h03)		224.0:A#(h07)
192.0:G-(h06)	R 72.0:D-(h02)R		*192.0:G-(h06)*
160.0:E-(h05)	36.0:D-(h01/H26)		160.0:E-(h05)
128.0:C-(h04)	Measure:004.250		*128.0:C-(h04)*
96.0:G-(h03)			96.0:G-(h03)
R 64.0:C-(h02)R			R 64.0:C-(h02)R
32.0:C-(h01/H24)			32.0:C-(h01/H24)
Measure:004.000			Measure:004.750

-3:2->(12 grps of 2)
 (18 grps of 2)-----8:9----->(16 grps of 2)
 (8 grps of 2)-----3:4----->(6 grps of 2)
 (8 grps of 2)-----3:2----->(12 grps of 2)
 (12 grps of 2)-----2:3-->

-3:2->(8xthree)
 (4xnine)-----8:9----->(4xeight)
 (4xfour)-----3:4----->(4xthree)
 (8xtwo)-----3:2----->(8xthree)
 (8xthree)-----2:3-->

T2.7 - CHORALE, J. S. BACH

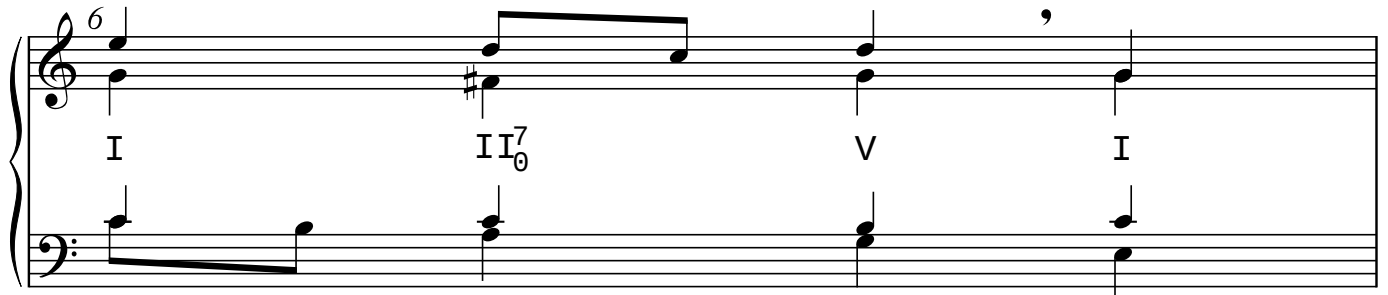


* 768.0:G-(h16)*----->	* 768.0:G-(h12)*----->	* 768.0:G-(h16)*----->
720.0:F#(h15)	704.0:F#(h11)	720.0:F#(h15)
* 672.0:F-(h14)*	* 640.0:E-(h10)*	* 672.0:F-(h14)*
624.0:E-(h13)	576.0:D-(h09)	624.0:E-(h13)
* 576.0:D-(h12)*	* 512.0:C-(h08)*	* 576.0:D-(h12)*
528.0:C#(h11)	448.0:A#(h07)	528.0:C#(h11)
* 480.0:B-(h10)*	* 384.0:G-(h06)*	* 480.0:B-(h10)*
432.0:A-(h09)	320.0:E-(h05)	432.0:A-(h09)
* 384.0:G-(h08)*	* 256.0:C-(h04)*	* 384.0:G-(h08)*
336.0:F-(h07)	192.0:G-(h03)	336.0:F-(h07)
* 288.0:D-(h06)*	R 128.0:C-(h02)R	* 288.0:D-(h06)*
240.0:B-(h05)	64.0:C-(h01/H48)	240.0:B-(h05)
* 192.0:G-(h04)*	Measure:005.250	* 192.0:G-(h04)*
144.0:D-(h03)		144.0:D-(h03)
R 96.0:G-(h02)R		R 96.0:G-(h02)R
48.0:G-(h01/H36)		48.0:G-(h01/H36)
Measure:005.000		Measure:005.500

---2:3-->(8 grps of 2)
 (8 grps of 2)-----3:4----->(6 grps of 2)
 (6 grps of 2)-----4:3----->(8 grps of 2)
 (8 grps of 2)-----3:4-->

---2:3--->(8xtwo)
 (4xfour)-----3:4----->(4xthree)
 (4xthree)-----4:3----->(4xfour)
 (8xtwo)-----3:2-->

T2.8 - CHORALE, J. S. BACH

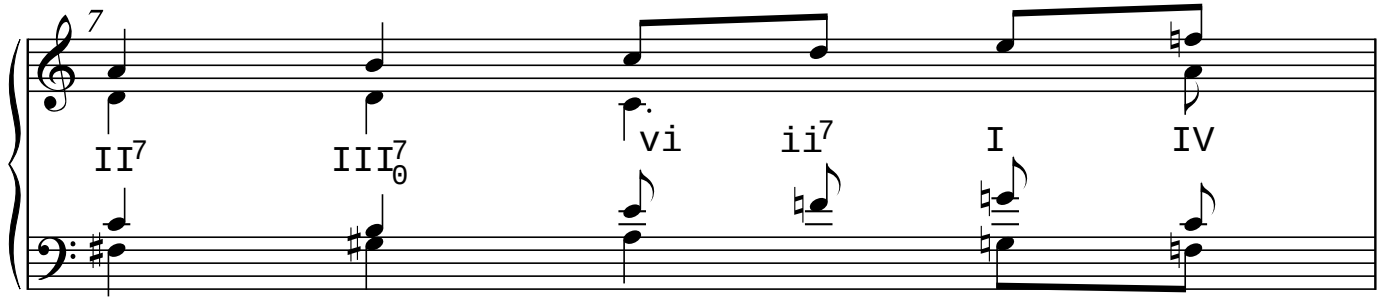


→ 576:G	864:D	→ 864:D	→ 864:D	576:G	→ 576:G	864:D	→
6	18	16	12	8	12	18	
4	2	2	4	4	4	4	
24	24	26	18	18	12	12	
1	1	1.038	1	1	1	1	

1152.0:D-(h36)*----->	*1152.0:D-(h32)*----->	*1152.0:D-(h48) [----->]	1152.0:D-(h72)*----->
1120.0:D-(h35)	1116.0:---(h31)	-----	1088.0:C#-(h68)*
1088.0:C#-(h34)*	*1080.0:C#-(h30)*	*1056.0:C#-(h44)	1024.0:C-(h64)*
1056.0:---(h33)	1044.0:---(h29)	-----	960.0:B-(h60)*
1024.0:C-(h32)*	*1008.0:C-(h28)*	* 960.0:B-(h40)	-----
992.0:---(h31)	972.0:B-(h27)	-----	896.0:A#-(h56)*
960.0:B-(h30)*	* 936.0:B-(h26)*	* 864.0:A-(h36)	880.0:---(h55)
928.0:---(h29)	900.0:A#-(h25)	840.0:A-(h35)	864.0:A-(h54)
896.0:A#-(h28)*	* 864.0:A-(h24)*	816.0:G#-(h34)	848.0:---(h53)
864.0:A-(h27)	828.0:---(h23)	792.0:---(h33)	832.0:A-(h52)*
832.0:A-(h26)*	* 792.0:G#-(h22)*	* 768.0:G-(h32)*----->	816.0:---(h51)
800.0:G#-(h25)	756.0:G-(h21)	744.0:---(h31)	800.0:G#-(h50)
* 768.0:G-(h24)*	* 720.0:F#-(h20)*	720.0:F#-(h30)	784.0:---(h49)
736.0:---(h23)	684.0:F-(h19)	696.0:---(h29)	* 768.0:G-(h48)*
704.0:F#-(h22)*	* 648.0:E-(h18)*	* 672.0:F-(h28)*	752.0:---(h47)
672.0:F-(h21)	612.0:D#-(h17)	648.0:E-(h27)	736.0:---(h46)
* 640.0:E-(h20)*	* 576.0:D-(h16)*	624.0:E-(h26)	720.0:F#-(h45)
608.0:D#-(h19)	540.0:C#-(h15)	600.0:D#-(h25)	* 704.0:F#-(h44)*
576.0:D-(h18)*	* 504.0:C-(h14)*	* 576.0:D-(h24)*	688.0:---(h43)
544.0:C#-(h17)	468.0:B-(h13)	552.0:---(h23)	672.0:F-(h42)
* 512.0:C-(h16)*	* 432.0:A-(h12)*	528.0:C#-(h22)	656.0:---(h41)
480.0:B-(h15)	396.0:G#-(h11)	504.0:C-(h21)	* 640.0:E-(h40)*
448.0:A#-(h14)*	* 360.0:F#-(h10)*	* 480.0:B-(h20)*	624.0:---(h39)
416.0:A-(h13)	324.0:E-(h09)	456.0:A#-(h19)	608.0:D#-(h38)
* 384.0:G-(h12)*	* 288.0:D-(h08)*	432.0:A-(h18)	592.0:---(h37)
352.0:F#-(h11)	252.0:C-(h07)	408.0:G#-(h17)	* 576.0:D-(h36)*
320.0:E-(h10)*	* 216.0:A-(h06)*	* 384.0:G-(h16)*	560.0:D-(h35)
288.0:D-(h09)	180.0:F#-(h05)	360.0:F#-(h15)	544.0:C#-(h34)
* 256.0:C-(h08)*	* 144.0:D-(h04)*	336.0:F-(h14)	528.0:---(h33)
224.0:A#-(h07)	108.0:A-(h03)	312.0:E-(h13)	* 512.0:C-(h32)*
192.0:G-(h06)*	R 72.0:D-(h02)R	* 288.0:D-(h12)*	496.0:---(h31)
160.0:E-(h05)	36.0:D-(h01/H26)	264.0:C#-(h11)	480.0:B-(h30)
R 128.0:C-(h04)*	Measure:006.250	240.0:B-(h10)	464.0:---(h29)
96.0:G-(h03)		216.0:A-(h09)	* 448.0:A#-(h28)*
64.0:C-(h02)R		* 192.0:G-(h08)*	432.0:A-(h27)
32.0:C-(h01/H24)		168.0:F-(h07)	416.0:A-(h26)
Measure:006.000		144.0:D-(h06)	400.0:G#-(h25)
		120.0:B-(h05)	* 384.0:G-(h24)*
		R 96.0:G-(h04)R	368.0:---(h23)
		72.0:D-(h03)	352.0:F#-(h22)
		48.0:G-(h02)	336.0:F-(h21)
		24.0:G-(h01/H18)	* 320.0:E-(h20)*
		Measure:006.500	304.0:D#-(h19)
			288.0:D-(h18)
			272.0:C#-(h17)
			* 256.0:C-(h16)*
			240.0:B-(h15)
			224.0:A#-(h14)
			208.0:A-(h13)
			* 192.0:G-(h12)*
			176.0:F#-(h11)
			160.0:E-(h10)
			144.0:D-(h09)
			* 128.0:C-(h08)*
			112.0:A#-(h07)
			96.0:G-(h06)
			80.0:E-(h05)
			R 64.0:C-(h04)R
			48.0:G-(h03)
			32.0:C-(h02)
			16.0:C-(h01/H12)
			Measure:006.750

-3:4->(6 grps of 4)
 (9 grps of 2)----- 16:9----->(16 grps of 2)
 (16 grps of 2)-----3:4----->(12 grps of 4)
 (8 grps of 4)-----3:2----->(12 grps of 4)
 (18 grps of 4)---8:9--->
 -3:2->(8xthree)
 (2xnine)-----8:9----->(2xsixteen)
 (16xtwo)-----3:2----->(16xthree)
 (16xtwo)-----3:2----->(16xthree)(8xnine)-8:9->

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1296.0:E-(h72)*----> *1296.0:E-(h64)
 1224.0:D#(h68)* *1275.8:E-(h63)
 ----- *1255.5:--(h62)
 ----- *1235.3:--(h61)
 1152.0:D-(h64) *1215.0:D#(h60)
 1134.0:D-(h63) *1194.8:--(h59)
 1116.0:--(h62) *1174.5:--(h58)
 1098.0:--(h61) *1154.3:D-(h57)
 1080.0:C#(h60) *1134.0:D-(h56)
 1062.0:--(h59) *1113.8:--(h55)
 1044.0:--(h58) *1093.5:C#(h54)
 1026.0:C-(h57) *1073.3:--(h53)
 1008.0:C-(h56) *1053.0:C#(h52)
 990.0:--(h55) *1032.8:--(h51)
 972.0:B-(h54) *1012.5:C-(h50)
 954.0:--(h53) *992.3:--(h49)
 936.0:B-(h52) *972.0:B-(h48)
 918.0:--(h51) *951.8:--(h47)
 900.0:A#(h50) *931.5:--(h46)
 882.0:--(h49) *911.3:A#(h45)
 864.0:A-(h48) *891.0:A#(h44)
 846.0:--(h47) *870.8:--(h43)
 828.0:--(h46) *850.5:A-(h42)
 810.0:G#(h45) *830.3:--(h41)
 792.0:G#(h44) *810.0:G#(h40)
 774.0:--(h43) *789.8:--(h39)
 756.0:G-(h42) *769.5:G-(h38)
 738.0:--(h41) *749.3:--(h37)
 720.0:F#(h40) *729.0:F#(h36)
 702.0:--(h39) *708.8:F#(h35)
 684.0:F-(h38) *688.5:F-(h34)
 666.0:--(h37) *668.3:--(h33)
 648.0:E-(h36) *648.0:E-(h32)*----> *648.0:E-(h30)*
 630.0:E-(h35) *627.8:--(h31)
 612.0:D#(h34) *607.5:D#(h30)
 594.0:--(h33) *587.3:--(h29)
 576.0:D-(h32) *567.0:D-(h28)*
 558.0:--(h31) *546.8:C#(h27)
 540.0:C#(h30) *526.5:C#(h26)
 522.0:--(h29) *506.3:C-(h25)
 504.0:C-(h28) *486.0:B-(h24)*
 486.0:B-(h27) *465.8:--(h23)
 468.0:B-(h26) *445.5:A#(h22)
 450.0:A#(h25) *425.3:A-(h21)
 432.0:A-(h24) *405.0:G#(h20)*
 414.0:--(h23) *384.8:G-(h19)
 396.0:G#(h22) *364.5:F#(h18)
 378.0:G-(h21) *344.3:F-(h17)
 360.0:F#(h20) *324.0:E-(h16)*
 342.0:F-(h19) *303.8:D#(h15)
 324.0:E-(h18) *283.5:D-(h14)
 306.0:D#(h17) *263.3:C#(h13)
 288.0:D-(h16) *243.0:B-(h12)*
 270.0:C#(h15) *222.8:A#(h11)
 252.0:C-(h14) *202.5:G#(h10)
 234.0:B-(h13) *182.3:F#(h09)
 216.0:A-(h12) *162.0:E-(h08)*
 198.0:G#(h11) *141.8:D-(h07)
 180.0:F#(h10) *121.5:B-(h06)
 162.0:E-(h09) *101.3:G#(h05)
 144.0:D-(h08) R 81.0:E-(h04)R
 126.0:C-(h07) 60.8:B-(h03)
 108.0:A-(h06) 40.5:E-(h02)
 90.0:F#(h05) 20.3:E-(h01/H15)
 R 72.0:D-(h04)R Measure:007.250
 54.0:A-(h03)
 36.0:D-(h02)
 18.0:D-(h01/H13)
 Measure:007.000

→ 864:D 960:E → 960:E 480:E → 480:E 640:A →

 16 18 16 8 6 8
 4 4 4 4 5 5
 13 13 15 15 16 16
 1.038 1.025 1 1 1 1

→ 640:A 576:G → 576:G 768:C → 768:C 576:G →

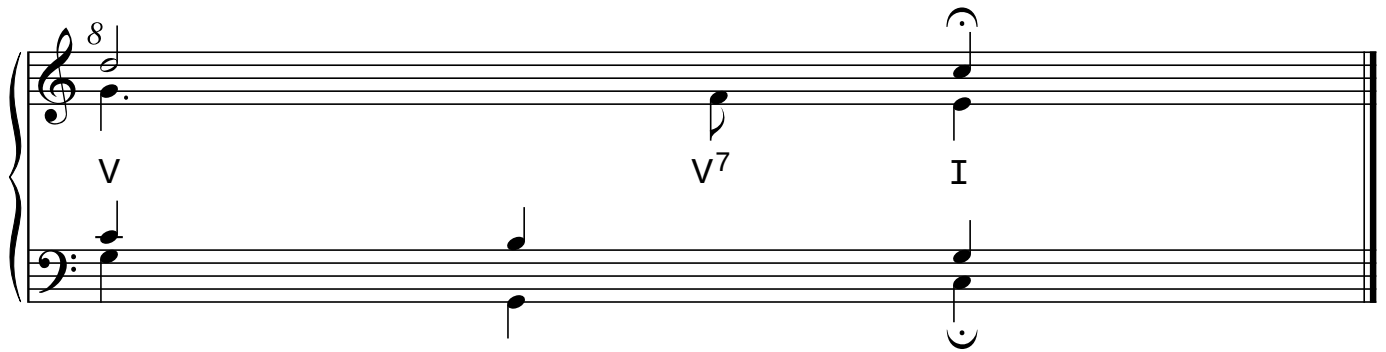
 10 9 6 8 12 9
 2 2 2 2 2 2
 32 32 48 48 32 32
 1 1 1 1 1 1

864.0:A-(h40)*----> *864.0:A-(h20)
 842.4:--(h39) 820.8:G#(h19)
 820.8:G#(h38) *777.6:G-(h18)*----> *777.6:G-(h12)*
 799.2:--(h37) *734.4:F#(h17)
 777.6:G-(h36) *691.2:F-(h16)*
 756.0:G-(h35)* *648.0:E-(h10)*
 734.4:F#(h34) *583.2:D-(h09)
 712.8:--(h33) *604.8:D#(h14)*
 691.2:F-(h32) *561.6:D-(h13)
 669.6:--(h31) *518.4:C-(h12)*
 648.0:E-(h30) *518.4:C-(h10)*
 626.4:--(h29) *475.2:B-(h11)
 604.8:D#(h28) *432.0:A-(h10)*
 583.2:D-(h27) *388.8:G-(h09)
 561.6:D-(h26) *345.6:F-(h08)*
 540.0:C#(h25) *302.4:D#(h07)
 518.4:C-(h24) *475.2:B-(h22)
 496.8:--(h23) *453.6:A#(h21)
 445.5:A#(h22) *432.0:A-(h20)*
 425.3:A-(h21) *410.4:G#(h19)
 405.0:G#(h20) *388.8:G-(h18)
 384.8:G-(h19) *367.2:F#(h17)
 364.5:F#(h18) *345.6:F-(h16)
 344.3:F-(h17) *324.0:E-(h15)*
 324.0:E-(h16) *302.4:D#(h14)
 303.8:D#(h15) *280.8:D-(h13)
 283.5:D-(h14) *259.2:C-(h12)
 263.3:C#(h13) *237.6:B-(h11)
 243.0:B-(h12) *216.0:A-(h10)*
 222.8:A#(h11) *194.4:G-(h09)
 202.5:G#(h10) *172.8:F-(h04)*
 182.3:F#(h09) *129.6:C-(h03)
 162.0:E-(h08) R 86.4:F-(h02)R
 141.8:D-(h07) 43.2:F-(h01/H32)
 121.5:B-(h06) Measure:007.625
 101.3:G#(h05) R 108.0:A-(h05)R
 R 81.0:E-(h04)R 86.4:F-(h04)
 60.8:B-(h03) 64.8:C-(h03)
 40.5:E-(h02) 43.2:F-(h02)
 20.3:E-(h01/H15) 21.6:F-(h01/H16)
 Measure:007.500

1036.8:C-(h16)*----> *1036.8:C-(h24)*
 972.0:B-(h15) *993.6:--(h23)
 907.2:A#(h14)* *950.4:B-(h22)*
 842.4:A-(h13) *907.2:A#(h21)
 864.0:A-(h20)
 820.8:G#(h19)
 777.6:G-(h18)----> *777.6:G-(h12)*
 712.8:F#(h11)
 648.0:E-(h10)
 583.2:D-(h09)
 518.4:C-(h08)
 691.2:F-(h16)
 648.0:E-(h15)
 604.8:D#(h14)
 561.6:D-(h13)
 518.4:C-(h12)
 475.2:B-(h11)
 432.0:A-(h10)
 388.8:G-(h09)
 345.6:F-(h08)*
 302.4:D#(h07)
 259.2:C-(h06)*
 216.0:A-(h05)
 172.8:F-(h04)
 129.6:C-(h03)
 R 86.4:F-(h02)R
 43.2:F-(h01/H32)
 Measure:007.750
 64.8:C-(h01/H48)
 388.8:G-(h09)
 345.6:F-(h08)*
 302.4:D#(h07)
 259.2:C-(h06)*
 216.0:A-(h05)
 172.8:F-(h04)
 129.6:C-(h03)
 R 86.4:F-(h02)R
 43.2:F-(h01/H32)
 Measure:007.875

-8:9->(16 grps of 4)
 (18 grps of 4)----8:9---->(16 grps of 4)
 (8 grps of 4)---3:4--->(6 grps of 5)
 (8 grps of 5)---5:4--->(10 grps of 2)
 (9 grps of 2)---2:3--->(6 grps of 2)
 (8 grps of 2)---3:2--->(12 grps of 2)
 (9 grps of 2)->
 ----8:9->(8xheight)
 (8xnine)----8:9----->(8xheight)
 (2xsixteen)----15:16---->(2xfifteen)
 (20xtwo)-----1:2----->(20xone)
 (6xthree)-----2:3----->(6xtwo)
 (8xtwo)--3:2->(8xthree)(2xnine)->

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→ 576:G 432:D → 432:D → 576:G → 576:G

8	6	6	8	12
2	2	2	2	1
36	36	36	36	48
1	1	1	1	1

* 777.6:G-(h16)		777.6:G-(h16)*----->	* 777.6:G-(h12)
729.0:F#(h15)		729.0:F#(h15)	* 712.8:F#(h11)
* 680.4:F-(h14)		680.4:F-(h14)*	* 648.0:E-(h10)
631.8:E-(h13)		631.8:E-(h13)	* 583.2:D-(h09)
* 583.2:D-(h12)*----->	* 583.2:D-(h12)*----->	* 583.2:D-(h12)*	* 518.4:C-(h08)
534.6:C#(h11)	534.6:C#(h11)	534.6:C#(h11)	* 453.6:A#(h07)
* 486.0:B-(h10)*	* 486.0:B-(h10)*	* 486.0:B-(h10)*	* 388.8:G-(h06)
437.4:A-(h09)	437.4:A-(h09)	437.4:A-(h09)	* 324.0:E-(h05)
* 388.8:G-(h08)*	* 388.8:G-(h08)*	* 388.8:G-(h08)*	* 259.2:C-(h04)
340.2:F-(h07)	340.2:F-(h07)	340.2:F-(h07)	* 194.4:G-(h03)
* 291.6:D-(h06)*	* 291.6:D-(h06)*	* 291.6:D-(h06)*	* 129.6:C-(h02)
243.0:B-(h05)	243.0:B-(h05)	243.0:B-(h05)	R 64.8:C-(h01/H48)
* 194.4:G-(h04)*	* 194.4:G-(h04)*	* 194.4:G-(h04)*	Measure:008.500
145.8:D-(h03)	145.8:D-(h03)	145.8:D-(h03)	
R 97.2:G-(h02)R	R 97.2:G-(h02)R	R 97.2:G-(h02)R	
48.6:G-(h01/H36)	48.6:G-(h01/H36)	48.6:G-(h01/H36)	
Measure:008.000	Measure:008.250	Measure:008.375	

-8:9->(8 grps of 2)
 (6 grps of 2)-----1:1----->(6 grps of 2)
 (6 grps of 2)----1:1---->(6 grps of 2)
 (8 grps of 2)----3:2--->(12 grps of 1)

-8:9->(2xeight)
 (12xone)-----1:1----->(12xone)
 (12xone)-----1:1----->(12xone)
 (4xfour)-----3:4----->(4xthree)