

# Heptaktys

For flute, bass clarinet, trumpet, electric guitar, piano, percussion, violin, violoncello and contrabass

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Written for and dedicated to *Modelo62*



# Performance Notes

The first section of the piece is notated as available pitches to be played according to text instructions, entrance cues indicated by the conductor with the use of chronometer (which can also be of use to individual performers). The entrances should be flexible and do not have to be made exactly at the moment of the cues. Some indications require each player having an independent tempo from the others, some require measuring the lengths of sounds and silences in seconds.

The parts for this section are divided into two sub-ensembles (strings and the rest) and are to be printed on large format (A3 or double letter) paper. Sections **B** and **D** are similar to the beginning section but for a smaller number of players (B. Cl, Trp, Pno and Perc). The players play their parts from the score, which is also to be printed in large format (for readability). The score for these parts is written in C except for the bass clarinet, which is written transposed (a major 9th above sounding pitch).

Conventional notation is used for sections **A**, **C**, **E** and **F**. In these sections the bass clarinet is written in sounding pitch. Normal size paper (A4 or letter) is used for the parts of these sections. The page numbers for each part can be used as a guide for interspersing the large and normal size papers.

The accidentals used in the piece are based on the Helmholtz-Ellis notation ([adagio.calarts.edu/~msabat/ms/pdfs/notation.pdf](http://adagio.calarts.edu/~msabat/ms/pdfs/notation.pdf)) with symbols for syntonic commas (small arrows indicating the difference between 3- and 5-based intervals) and septimal commas (for 7-based intervals, the symbol similar to a 7 and an inverted 7). Above or below each note is a small number in bold indicating the cent deviation from the closest equal tempered note (as indicated by common accidentals). Conventional quarter tone accidentals are also used.

Different kinds of pitch intervals are required:

Proportions obtained through scordatura and nodes: Strings, E. Guitar.

Proportions obtained through fingering: Flute. The table with suggested fingerings — obtained from The Virtual Flute <http://www.phys.unsw.edu.au/music/flute/virtual/main.html> — should be seen as a point of departure for the eventual fingerings, as they are calculated from a physical model and will vary depending on the flute and model. It is recommended to arrive at the fingerings with the aid of an electronic tuner.

Quarter tones: Bass Clarinet, Trumpet in sections **B** and **D**. Obtained through more or less conventional fingerings and embouchure.

Equal Temperament: Bass Clarinet, Trumpet, Piano.

## Percussion

Instruments:

- A medium to large tam tam hanging from a base
- 8 small instruments to be chosen by the percussionist, placed in a table with a cloth.
- Two each of 4 kinds: skin, wood, muted and resonant metal.

They are to be played with different kinds of mallets and sound producing means (rattles, chains, and other ways of producing continuous textures). Notes without noteheads will refer to unspecified instruments, chosen by the player, perhaps with some extra textual indication as to what kind of timbre or instruments is sought.

## Electric Guitar

Should use an amplifier with clean sound and not too much amplification so as to balance with the rest of the instruments. May need a sustain pedal to hold long notes.

## Strings

### Guide to the string position and scordatura charts below.

On the left of each double staff is the string number and its scordatura. One of each of the instruments' strings is detuned to some harmonic or subharmonic of **A 440**, the fundamental of the whole piece. All strings except the ones in **A** need scordatura, even though for some of them this difference is very small (+4¢ for **G**, -2¢ for **D**, +2¢ for **E**). Even though this deviation might not be noticeable in itself, it adds up when reaching higher proportions upon each string and in relation to **A**, so it is recommended to tune them exactly with an electronic tuner. The strings to be detuned by more than 4¢ are shown with a box around their label. The double bass' 4th string (**E**) is tuned up 114 cents to **F** +14¢, the fifth subharmonic of **A**; the cello's fourth is moved down 112¢ to **B** +31¢, the seventh subharmonic; the violin's third string is moved down 114¢ to **C** -14¢, the fifth harmonic.

Each double staff corresponds to a string and its natural harmonics, grouped according to their overtone number (2=octaves, 3=fifths, 5=major thirds, 7=natural sevenths). The lower staff shows how the notes are to be played, either lightly touched — producing natural harmonics — or fully stopped — producing precise harmonic ratios in relation to the string's fundamental. These ways of playing are labelled as 'touched' and 'stopped' node, respectively. In the latter case, the node and overtone number are also relevant, as each of the possible nodes produces a different pitch, in contrast to the touched versions, which are equivalent in pitch although each might sing a bit differently. In this table node numbers are indicated next to the diamond noteheads, while in the score stopped nodes are shown as two numbers that indicate the overtone and (in parenthesis) the node number, i.e., 5(3) means the third node of the fifth harmonic. Together with the fact that most of these strings are themselves harmonic ratios of **A 440**, it allows the playing of rather far-away ratios accurately with relatively low difficulty in finding their positions on the fingerboard.

Each staff has an upper *ossia* that shows the resulting sound as well as the harmonic proportion in relation to **A 440**.

This table was used for composing the piece as well as for rehearsing how to play these notes. Not all of the possibilities will be used, but most of them will. In two cases (the Vlc and CB 4th string), overtones go up to the 9th.

# String position and scordatura charts

Cent deviations and ratios are related to the A4, 440 Hz



# Guitar Scordatura

## Tuning

⑥

⑤

④

③

②

①

string + detuning = ratio (octave reduced ratio) = resultant note + deviation from ET

E2 +2¢ = 3/16 (3/2) = E2 + 2 ¢

A2 +112¢ = 4/15 (16/15) = B $\flat$ 2 +12¢

D3 -114¢ = 5/16 (5/4) = C $\sharp$ 3 -14¢

G3 +18¢ = 9/20 (9/5) = G3 +18¢

B3 -18¢ = 5/9 (10/9) = B3 -18¢

E4 +2¢ = 3/4 (3/2) = E4 +2¢

Use an electronic tuner to retune the strings.

Ratios are relative to A 440

### Written

+12

+18

-18

-14

### Sounding

+18

+12

-18

-14

Intervallic possibilities (octave reduced, i.e., disregarding register) correspond to fret positions of octaves, fifths-fourths, seconds-sevenths, and rarely to minor thirds-major sixths, in addition to their harmonics:

	II XIV	VII XIX	0 XII	V XVII	X XXII	III XV	VIII XX	frets
⑥	27/16	9/8	3/2	1/1	4/3	16/9	32/27	
⑤	6/5	8/5	16/15	64/45	128/135	256/405		
④	45/32	15/8	5/4	5/3	10/9	40/27	160/81	
③	81/80	27/20	9/5	6/5	8/5	16/15	64/45	
②	5/4	5/3	10/9	40/27	160/81	320/243		
①	27/16	9/8	3/2	1/1	4/3	16/9	32/27	

string

Ratios in gray are not used in the piece.

# Flute fingerings

Ratios are relative to A 440 = A4 = A above middle C

## Fingering

Th 1

3

G $\sharp$

|

1

2

3

C

Th

2

|

1

tr1

tr2

C $\sharp$

Th

2

3

|

1

2

Th

2

|

1

2

3

C (split E)

Th 1

2

3

|

1

2

3

C

1

2

3

|

1

3

Th 1

2

3

|

tr1

D $\sharp$

Th

2

3

|

1

C $\sharp$

Th 1

2

3

|

1

tr1

C

Th 1

3

|

1

3

C $\sharp$

Th 1

2

3

|

2

Th 1

|

2

3

C

B (split E)

Th

2

3

|

2

tr2

C

Th

3

|

2

3

C

B

Th 1

2

3

G $\sharp$

|

1

2

3

C

B

3

|

2

3

Th 1

2

3

G $\sharp$

|

2

D $\sharp$

Th 1

G $\sharp$

|

1

3

Th

2

3

|

1

2

3

D $\sharp$

Th 1

2

3

G $\sharp$

|

1

3

D $\sharp$

Th 1

2

|

1

2

3

(split E)

Th 1

3

|

1

2

3

C

Th 1

3

G $\sharp$

|

1

3

C

B

Th 1

2

3

|

1

3

C $\sharp$

Th 1

2

3

|

1

2

C $\sharp$

G $\sharp$

|

D $\sharp$

Th 1

3

G $\sharp$

|

2

tr1

Th 1

2

3

G $\sharp$

|

1

2

3

D $\sharp$

Th

2

3

|

1

2

tr2

D $\sharp$

16/15

16/15

10/9

10/9

6/5

6/5

5/4

5/4

8/5

8/5

5/3

5/3

9/5

9/5

## Note

B $\flat$ 5 plus 10 cents

B $\flat$ 6 plus 10 cents

B4 minus 20 cents

B5 minus 20 cents

C5 plus 15 cents

C6 plus 15 cents

C $\sharp$ 5 minus 15 cents

C $\sharp$ 6 minus 15 cents

F5 plus 15 cents

F6 plus 15 cents

F $\sharp$ 5 minus 15 cents

F $\sharp$ 6 minus 15 cents

G5 plus 15 cents

G6 plus 20 cents

G $\sharp$ 5 minus 15 cents

G $\sharp$ 6 minus 15 cents

G $\sharp$ 4 minus 10 cents

A $\sharp$ 5 plus 15 cents (30/14)

A $\sharp$ 4 plus 15 cents

G $\sharp$ 4 minus 20 cents

A5 plus 30 cents (128/63)

A4 plus 20 cents

A $\sharp$ 4 minus 15 cents

F5 minus 30 cents

F6 minus 25 cents

C $\sharp$ 5 plus 25 cents

C $\sharp$ 6 plus 25 cents

G5 plus 35 cents

E5 plus 30 cents

First section. Score.

Heptaktys  
Juan S. Lach

Flute

Bass Clarinet in Bb

Trumpet

Electric Guitar

Percussion

Piano

resultant

Violin

resultant

Violoncello

resultant

Contrabass

1/1

Choose from available notes.  
Play long notes, non vibrato.  
Duration: **8-15"** or as long as a single breath  
Pause: **3-10"**  
**pp** - **p** (can vary within a single note)

9/8 32/27 4/3 3/2 27/16

Choose note from the available pitches marking the beginning of the piano aggregates.  
Duration: **3-5"**  
Pauses between notes: **12-18"** (**Pno** follows you)  
**mf** - **f**  
Articulation: slightly accented note, with optional acciaccatura using a different note from the set.  
Middle register (as written).

16/15 5/4 8/5 15/8

+12 -14 -12

$n$

Choose from available notes at any octave;  $n$ -tuplets  
( $2 < n < 6$ ) at  $\text{♩} = 40-66$   
Group begins with the guitar chords.  
Duration of groups: **2-10"**  
Pause between events: **16-24"** (follow **Gtr**)  
**mp** - **mf**; a slight accent on the first note of each group

Long note preceded with variable number of acciaccaturas at a different registers ( $3 < n < 8$ ).  
**mp** - **mf**

16/15 5/4 8/5 15/8

+12 -14 -12

Choose from available notes.  
Sustained, long chord, containing as many possible octave transpositions of these notes, *l.v.*  
Duration between attacks: **16-24"** (**F** follows you)  
**mp** - **mf**

**Tam-tam:** attack together with the string chords; varied timbre, play at different parts of the tam with a single big, soft mallet  
**pppp** - **pp**

9/8 32/27 4/3 3/2 27/16

Short, fast groups of notes chosen from the list and played in any order.  
 $n$ -tuplets:  $3 < n < 15$ , repetition of pitches at will.  
Each group in a different tempo,  $\text{♩} = 72-102$   
Pauses between groups: **12-18"** (follow **Trp**)  
**mf** - **f** (each group at the same dynamic, no accents)  
Articulation: portato to slight staccato  
Central register (as written).

Widen the register of the aggregates adding the octaves directly above and below the central register.  
**mp** - **mf**

0" 1 2 3 1'30" 4 5 1 2'26" 3'

34" 1'07" 2'04" 2'15"

7/2 7/4 7/8

-31 -31 -31

7/3 7/6

-33

7/8 7/16 7/32

-11 -31 -31

7/6 7/12 7/24

-33

15<sup>th</sup>

21/2 21/8 28/9 14/9 7/9

-29 -29 -35 -35 -35

8<sup>th</sup>

I 2 3 4 5 6

touched node pressed node

14/9 7/9 7/18 9/7 9/14 9/28

-35 -35 -35 +35 +35 +35

III 2 3 4 5 6

touched node pressed node touched node pressed node

14/9 7/9 7/18

-35 -35 -35

I 2 3 4 5 6

touched node pressed node

Choose from available notes to form chords with the other strings.  
Chords must enter either together or almost together.  
One player gives the cues for the beginning and ending of the chords.  
Duration of chords: **10-18"**  
Duration of pauses: **3-7"**  
Dynamics of chords: **ppp** - **pp**, fixed for the whole duration; each string chooses its own dynamic.  
Articulation: Sostenuto. Changes of bow direction can be audible.  
*non vibrato*

Add these to the available notes.  
Chords: **8-16"**  
Pauses: **3-5"**  
**pp** - **p**

Add the new pitches to the the previous ones.  
Each 'chord' now becomes a 'group' containing from 1 to 4 notes. Change notes at will within each group, keeping in sync with whoever gives the cues for the whole group.  
Changes of pitch within a group should be played without silence and ad lib articulation.  
Groups: **9-15"**  
Pauses: **2-4"**  
**p** - **mp**



♩ = 108 as even as possible

A

Fl.

B. Cl.

C Tpt.

E. Gtr.

Perc.

Pno.

Th 1 | 2 3 C B (split E) 10/3 9/3 8/3

Th 1 | 2 3 C B (split E) 10/3 9/3 8/3

*p sempre*

*p sempre*

9/5 ③ V ⑤ VII 8/5 +18 +14

A

♩ = 108 as even as possible

Vln.

Vc.

Cb.

5/8 1/1 5/4 5/3 5/2 5/1 8<sup>90</sup> 5/8 7/3 2/1 1/1 5/4 5/3 5/2 5/1 8<sup>90</sup> 2/1 7/5

III III II III II III II III II III II III II

*p sempre*

stopped node 3(3)

stopped node 7(3)

stopped node 5(3)

stopped node 7(5)

3/14 1/2 3/10 1/3 3/8 3/5 3/4 1/4 3/10 1/3 3/8 5/6 3/5 3/4 5/6 2/3 1/3

IV III I II IV III I IV II

*p sempre*

stopped node 3(2)

stopped node 5(3)

stopped node 5(3)

*p sempre*



Fl.

B. Cl.

C Tpt.

E. Gtr.

Perc.

Pno.

Vln.

Vc.

Cb.

10/3

Th 1 2 3 | 2

5/3

10/3

6/5

③ XVII

4/5

⑤ VII

9/5

③ V

8/5

⑤ VII

6/5

③ XVII

4/5

⑤ VII

3/5

③ V

3/5

*p sempre*

7/3

2/1

2/1

7/5

1/1

7/3

5/9

5/8

5/4

5/3

5/2

5/1

7/3

stopped node 7(3)

stopped node 7(5)

stopped node 7(3)

stopped node 4(4)

stopped node 5(3)

stopped node 7(3)

5/3

4/3

1/1

2/3

1/3

6/7

5/7

9/7

8/7

6/7

5/7

4/7

3/7

2/7

1/7

5/7

6/7

5/7

9/7

8/7

6/7

5/7

4/7

II

IV

IV

IV

IV

IV

3/5

2/5

1/5

3/5

2/5

1/5

1/2

5/6

1/1

IV

IV

III

II

The musical score for "The Great Wall" by John Williams is presented in a multi-staff format. The instruments included are Flute (Fl.), Bass Clarinet (B. Cl.), Cornet (C Tpt.), Electric Guitar (E. Gtr.), Percussion (Perc.), Piano (Pno.), Violin (Vln.), Viola (Vc.), Cello (Cb.), and Double Bass (Cb.). The score is written in 2/4 time and features a variety of musical notations, including accidentals, dynamics, and performance instructions. The score is divided into two main sections, with the first section ending with the instruction "l.v. into next section". The score includes a variety of musical notations, including accidentals, dynamics, and performance instructions. The score is divided into two main sections, with the first section ending with the instruction "l.v. into next section".

$\text{♩} = 72-102$ 

Play in loop, inserting silences between any notes. Loop back to any point within the phrase.  
Articulation: varied, from staccato to legato, with accents, glissandi and portamenti between any notes.

B. Cl.

C Tpt.

Perc.

Pno.

$\text{♩} = 68-124$

Play in freely chosen loops; insert silences between repetitions; change tempo freely.  
Any instrument, varied modes of production and resonant sounds for some long notes.  
Accents *ad lib.*

2-5 note scale fragments with long glissando between two of those notes; any register  
Duration: 3-12"; Pauses: 2-6"

Four note open, sustained chords from available notes.  
Any register, no duplicates;  
Varied durations, mix long and short notes;  
Ad lib pauses and articulation.

*p - f*

*mp - mf*

*mp - f*

*mp - f*

*p - mf*

0"

All entrances are approximate

11"

22"

33"

45'

45"

56"

1'07"

1'18"

1'30"

B. Cl.

C Tpt.

Perc.

Pno.

*mf - ff*

*mf - f*

*pp - mp*

*pp - mp*

*p*

*p*

*p*

*l.v.*

Play only once.

Overlap with next section.

*mf - ff*

*pp - mp*

*p*

More pauses between chords.

Long chords, no pauses

Sustained chord; *l.v.*, overlap with the next section

Slow glissandi between any two notes.  
Pauses *ad lib*

Reach the end of a glissando and hold the note until 1'28"

C

♩ = 72

15/14  
Th 1 G# | 1 3  
+19

21/20  
Th 1 3 G# | 1 3 C B  
-16

64/63  
Th 1 3 | 1 2 3 C  
+27

21/20  
Th 1 3 G# | 1 3 C B  
-16

64/63  
Th 1 3 | 1 2 3 C  
+27

Flute

3/4  
pp

4/3

1/1  
pp

3/2

9/8

9/8  
pp

3/2  
mp

Electric Guitar

⑤ V +12 16/15  
p with sustain pedal

② V 10/9  
-18

③ XVII 6/5  
-18

3  
pp

l.v.

⑤ V +12 16/15  
p

4 different kinds of soft mallets  
mostly resonant materials

ppp-pp sempre

Piano

28/27  
-38

28/27  
-38

25/24  
-29

25/24  
-29

25/24  
-29

28/27  
-38

Violin

IV  
p  
stopped node 7(3)

III  
stopped node 5(3)

5/4  
-14

I  
p  
stopped node 5(2)

10/9  
-18

I  
p

Violoncello

5/4  
-14

5/4  
mp  
stopped node 5(2)

Contrabass

14

Fl.

Th 1 3 G# | 1 3 C B

21/20

15/14

Th 1 G# | 1 3

21/20

5/4

21/20

15/14

Th 1 G# | 1 3

Th 1 2 3 | 1 2 3 C

B. Cl.

1/1

p

4/3

9/8

p

4/3

1/2

p

C Tpt.

9/8

p

3/2

pp

1/1

pp

3/2

mp

4/3

pp

3/2

pp

E. Gtr.

+16

6/5

10/9

③V

②V

-18

16/15

⑤V

+12

mp

p

16/15

pp

5/4

④V

-14

mp

②V

10/9

-18

16/15

+12

mp

Perc.

5

5

3

5

Pno.

Vln.

28/27

-38

mp

10/9

-18

25/24

-29

IV

III

IV

28/27

-38

28/27

-38

10/9

-18

IV

stopped node 5(2)

stopped node 5(3)

stopped node 7(3)

stopped node 5(2)

Vc.

7/6

-33

7/6

-33

4/7

+31

IV

IV

4/7

+31

5/4

-14

7/8

-31

I

mp

stopped node 5(2)

I

mp

Cb.

7/6

-33

3/5

+16

7/6

-33

3/5

+16

7/6

-33

2/3

p

IV

II

IV

II

I

mp

mf

mp

mp

p



37 64/63 Th 1 3 | 1 2 3 C +27

Fl. *mp*

14/15 Th 1 2 3 G# | 1 3 D#

B. Cl. *p*

64/63 Th 1 3 | 1 2 3 C +27

C Tpt. *p*

15/14 +19

E. Gtr. *mf*

5 4/5 +18

16/15 +12

5 4/5 +18

2 V 10/9 16/15 +12

6/5 +16

5 16/15 15/16 +12

4 VII 15/16 +12

Perc.

Pno.

7/6 -33

28/27 -38

7/6 -33

28/27 -38

28/27 -38

Vln. *mf* stopped node 7(6)

IV *mp* stopped node 7(3)

7/6 -33

28/27 -38

7/6 -33

28/27 -38

28/27 -38

Vc. *mf* stopped node 7(6)

IV *mp* stopped node 7(3)

6/7 +35

10/9 -15

4/7 +31

7/8 -31

Cb. *mp*

5/6 -16

1/2

10/9 -15

*mp*

50

Fl.

15/16  
Th 1 2 3 G# | 2 D#

14/15  
Th 1 2 3 G# | 1 3 D#

15/14  
Th 1 G# | 1 3

15/14  
Th 1 3 | 1 2 3 C

• 64/63  
+27

B. Cl.

3/4

2/3

1/2

4/3

2/3

C Tpt.

3/4

4/3

3/2

1/1

2/3

2/1

3/4

E. Gtr.

⑤ 16/15  
+12

④ VII 15/16  
-12

16/15

Perc.

5

5

3

3

3

6

Pno.

Vln.

25/24  
-29

25/24  
-29

28/27  
-38

7/6  
-31

III  
stopped node 5(3)  
mf

III  
stopped node 5(3)  
mp

III  
stopped node 5(3)  
mp

IV  
stopped node 7(3)  
mf

IV  
stopped node 7(3)  
mp

IV  
stopped node 7(3)  
mf

I  
stopped node 7(4)  
mp

Vc.

6/7  
+35

6/7  
+35

7/8  
-31

IV

I

Cb.

8/9

7/6  
-33

1/8

7/8  
-31

9/10  
+18

I

II

III

IV

mf

mf

p

mf



59 21/20 21/20 14/15 Th 1 2 3 G# | 1 3 D# 21/20 64/63 Th 1 3 | 1 2 3 C 14/15 Th 1 2 3 G# | 1 3 D#

Fl. *mf* *mp* *mf*

B. Cl. *mp* *mf* *mp*

C Tpt. *mp* *p* *p*

E. Gtr. *mf* *mf* *mf* *l.v.* *mf*

Perc.

Pno.

Vln. *mf* *p* *mp* *mf*

Vc. *mf* *mp* *mf* *mp* *mf*

Cb. *mp* *mf* *mp* *mf*

1/2 2/3 8/9 8/9 4/3 3/2 5/4 *l.v.* 3/5 *l.v.* 20/9 16/3 *l.v.*

28/27 25/24 25/24 4/7 3/2 4/7 6/7 5/4 4/7 10/9 5/6 10/9

IV stopped node 7(3) II *p* III stopped node 5(3) III stopped node 5(3) IV I stopped node 5(2) IV I

3/2 4/7 3/2 4/7 3/2 4/7 10/9 5/6 10/9

III *mp* III *mf* IV *mf* I *mf* II *mf* I *mf*

D

$\text{♩} = 88-112$

Play once entirely and then in freely chosen loops. Legato, with some accents and staccati *ad lib.*

$\text{♩} = 60-72$

Loop freely, adding silencies between notes *ad lib.* Legato.

$\text{♩} = 72-96$

Play continuously in freely chosen loops and slight variations of these figures. Instrument, playing technique and accents *ad lib.*

Pointillistic, dense, textures with available notes. Register: high ( $\geq A5$ ) Articulation: mostly staccati, some long notes.

$\text{♩} = 88-116$

add more staccati & accents

$\text{♩} = 54-69$

add staccati & accents *ad lib.*

$\text{♩} = 66-88$

Insert silence in between phrases, freely. Contrasting timbre and articulation. Normal noteheads = resonant metals

Less pointillistic: short melodic fragments can form. New pitches (independent hands). Mid to high register ( $\geq A3$ ). Varied density. Tenuto and legato with some accents and staccati.

Play only once.

Overlap with next section.

Play only once.

On cue, begin the next section

Stop suddenly & together

0" 7" 15" 22" 30"

30" 37" 45" 52" 1'

B. Cl.

C Tpt.

Perc.

Pno.

L.H.

R.H.

[illegible]

♩ = 56-66

13 15/14 +19

Fl. *mf*

3/2 16/15 +12

B. Cl. *pp* *mf*

21/20 Th 1 3 G# | 1 3 C B -16 *mp*

1/2 *p*

4/3 *p*

C Tpt. *pp* *ppp*

1/1

② VII 5/3 -16 *p*

③ 6/5 XVII 9/5 *p* *mp*

E. Gtr. *p* *mp*

③ 6/5 XVII

Perc. *pp* *pp* *p*

Pno.

III 35/24 +31

14/9 -35

28/27 -38

14/9 -35

Vln. *p* stopped node *p* stopped node 7(2) *mf* stopped node 7(3) *f* *mf* stopped node 7(2) *mf* stopped node

5/7 +17

5/3 -16

6/7 +33

7/6 -33

Vc. *mf* *p* *mf* *mf* stopped node

9/8

7/8 -31

Cb. *mp* *mf*

♩ = 72-96

25 8/5 +14

Fl. *mp*

21/20 Th: 1 3 G# | 1 3 C B

-16 *f*

B. Cl. 1/1 *mf* 9/8 *pp* 1/1 *p*

C Tpt. *mf* *p* 32/27

4/3

E. Gtr. ① IV 3/2 *pp* ⑤ XIV 8/5 *f* ⑤ V 16/15 +12 *mf* ⑥ VIII 3/2 ④ IV 5/3 -16 *p* 3

Perc. *pp* *mp* *p*

Pno.

Vln. 35/24 +33 *mf* 3/2 *pp* 21/8 *mf* stopped node 7(4) 35/32 *f* 28/27 *f* stopped node 7(3)

Vc. 7/6 -33 I or II *mf* 14/9 -35 III *mf* 7/10 7/8 3/5 +16 7/8 -31

Cb. 7/10 -17 IV *mp* 7/8 -31 III *mf* 7/10 -17 IV *f* IV *f* III

♩ = 42-56

♩ = 75 as even as possible

17

37

Fl.  $\frac{21}{20}$  Th 1 3 G# | 1 3 C B  $\frac{64}{63}$  Th 1 3 | 123C  $\frac{21}{20}$  Th 1 3 G# | 1 3 C B  $\frac{14}{15}$  Th 1 2 3 G# | 1 3 D# **F**  $\frac{5}{4}$

B. Cl.  $\frac{3}{2}$   $\frac{32}{27}$   $\frac{4}{3}$  *mf* *mp* *mf* *mf cresc poco a poco* (f) *sfz* *f dim*

C Tpt.  $\frac{16}{9}$  *mp* *mf* *mp* *p* *ff* *mp* *mp* *pp*

E. Gtr.  $\frac{3}{5}$  XVII<sup>5</sup>  $\frac{5}{10}$  XIV<sup>8/5</sup>  $\frac{10}{9}$   $\frac{64}{45}$   $\frac{3}{5}$  XVII  $\frac{5}{3}$   $\frac{4}{10}$  IV  $\frac{4}{3}$   $\frac{10}{9}$   $\frac{3}{2}$   $\frac{1}{1}$   $\frac{16}{15}$   $\frac{4}{5}$   $\frac{3}{5}$  XVII  $\frac{5}{9/5}$  *mf* *-18 mp* *mf* *-16 mp* *-18 mp* *f* *mp* *pp* *mp*

Perc. vary timbre with each attack *mp* *mf*  $\frac{5}{4}$  *pp* Resonant metal; very light bow; produce more noise than pitch

Pno. *mf cresc poco a poco* *sfz* *f dim* *pedal ad lib* *half pedal*

Vln.  $\frac{14}{9}$   $\frac{7}{5}$   $\frac{21}{8}$   $\frac{35}{24}$  **F**  $\frac{7}{11}$   $\frac{7}{2}$   $\frac{7}{4}$   $\frac{7}{5}$   $\frac{7}{5}$   $\frac{7}{3}$   $\frac{1}{1}$  *stopped node 7(2)* *mp* *stopped node 7(4)* *p* *stopped node 7(3)* *ff* *mp* *mp sempre* *stopped node 7(3)* *stopped node 7(4)* *stopped node 7(5)* *stopped node 7(3)*

Vc.  $\frac{7}{6}$   $\frac{7}{4}$   $\frac{14}{45}$   $\frac{7}{50}$   $\frac{1}{5}$   $\frac{2}{5}$   $\frac{3}{5}$   $\frac{3}{5}$  *I or II* *stopped node 7(3) - I* *stopped node 7(2) - II* *mp* *stopped node 7(2)* *p* *stopped node III* *ff* *mp* *mp sempre* *stopped node 7(3)* *stopped node 7(3)*

Cb.  $\frac{10}{9}$   $\frac{5}{6}$   $\frac{5}{8}$   $\frac{7}{50}$   $\frac{1}{5}$   $\frac{2}{5}$   $\frac{3}{5}$   $\frac{3}{5}$  *I* *II* *III* *IV* *stopped node* *mp* *ff* *mp* *mp sempre*



This musical score is for the piece "The Great Wall" by David Lang. It is a full orchestral score with the following instruments and parts:

- Fl. (Flute):** Part 1, starting at measure 68.
- B. Cl. (Bass Clarinet):** Part 1, starting at measure 68.
- C Tpt. (C Trumpet):** Part 1, starting at measure 68.
- E. Gtr. (Electric Guitar):** Part 1, starting at measure 68.
- Perc. (Percussion):** Part 1, starting at measure 68.
- Pno. (Piano):** Part 1, starting at measure 68.
- Vln. (Violin):** Part 1, starting at measure 68.
- Vc. (Viola):** Part 1, starting at measure 68.
- Cb. (Cello/Double Bass):** Part 1, starting at measure 68.

The score is written in 2/4 time and features a variety of musical notations, including notes, rests, and dynamic markings. The key signature is one flat (B-flat major or D minor). The score is divided into measures, with some measures containing multiple staves for different instruments. The score is written in a standard musical notation style, with notes, rests, and dynamic markings. The score is divided into measures, with some measures containing multiple staves for different instruments. The score is written in a standard musical notation style, with notes, rests, and dynamic markings.



The musical score for "The Great Wall" by David Lang is a complex orchestral work. It features a variety of instruments, each with its own part. The score is written in a system with multiple staves, each representing a different instrument. The notation includes standard musical symbols such as notes, rests, and clefs, as well as more complex elements like microtonal adjustments (indicated by numbers like 8/3, 9/3, 10/3, etc.) and fingerings. Performance instructions are provided for several instruments, such as "resonant metal, soft mallets, dark, varied timbre" for the Percussion and "mode of production ad lib, different timbre each time ->" for the Electric Guitar. The score is divided into measures, with some measures containing multiple staves for different instruments. The overall structure is highly detailed and requires a deep understanding of musical notation and performance techniques.