

# Through Time & Space

FOR THE 2019 ALPBACH TECHNOLOGY SYMPOSIUM



Aiva Technologies

## Instrumentation

PICCOLO  
FLUTES 1, 2, 3  
OBOES 1, 2  
ENGLISH HORN  
B♭ CLARINETS 1, 2  
B♭ BASS CLARINET  
BASSOONS 1, 2  
CONTRABASSOON

F HORN 1, 2  
F HORN 3, 4  
B♭ TRUMPET 1, 2, 3  
TROMBONE 1, 2, 3  
BASS TROMBONE  
TUBA

TIMPANI  
MALLET PERCUSSION  
(Xylophone, Glockenspiel)  
TRIANGLE, MARK TREE  
CYMBALS, TAM-TAM  
BRAKE DRUM  
SNARE DRUM  
BASS DRUM

HARP  
PIANO/CELESTE

VIOLIN I  
VIOLIN II  
VIOLA  
CELLO  
BASS

Performance Time: 2:36

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# THROUGH TIME & SPACE

*For the 2019 Alpbach Technology Symposium*

Composed by AIVA  
Orchestrated by Brad Frey

**Maestoso (♩ = 105)**

*poco rit.*

The musical score consists of four systems of staves, each representing a different section of the orchestra. The instruments listed on the left are Flutes 1, 2, 3; Piccolo; Oboes 1, 2; English Horn; Bass Clarinet in B♭; Bassoons 1, 2; Contrabassoon; Horn 1, 2; Horn 3, 4; B♭ Trumpet 1, 2, 3; Trombone 1, 2, 3; Bass Trombone; Tuba; Timpani; Mallets; Triangle; Cymbals; Tam-tam; Snare Drum; Bass Drum; Harp; and Piano/Celeste. The score is divided into four measures, indicated by large circled numbers 1, 2, 3, and 4 at the beginning of each system. Measure 1 starts with a dynamic of **ff**. Measures 2 and 3 show sustained notes with dynamics of **ff**. Measure 4 begins with a dynamic of **ff**, followed by a transition to *poco rit.* The score concludes with a final dynamic of **ff**.

**Maestoso (♩ = 105)**

*poco rit.*

**(♩ = 105)**

Fl. 1/3  
Pic.  
Ob. 1/2  
Eng. Hn.  
Cl. 1/2  
B. Cl.  
Bsn. 1/2  
Cbsn.

Hn. 1/2  
Hn. 3/4  
Tpt. 1/3  
Tbn. 1/3  
B. Tbn.  
Tba.

Timp.  
Xyl.  
Tri.  
Cym.  
T.t.  
S. D.  
B. D.

Hp.  
Pno.

Vln. 1/2  
Vln. 2  
Vla.  
Vc.  
Cb.

**5**      **6**      **7**      **8**

*rit.*

12 (♩ = 105)

9      10      11      12

Fl. 1  
Fl. 2  
Picc.  
Ob. 1  
Eng. Hn.  
Cl. 1  
B. Cl.  
Bsn. 1  
Cbsn.

Hn. 1  
Hn. 2  
Hn. 3  
Tpt. 1  
Tpt. 2  
Tbn. 1  
Tbn. 2  
B. Tbn.  
Tba.

Tim. 1  
Tim. 2  
Xyl.  
Tri.  
Cym.  
Br.D.  
S. D.  
B. D.

Hp.  
Pno.

Vln. 1  
Vln. 2  
Vla.  
Vc.  
Cb.

17                    18                    19                    20

This page contains four systems of a full score, each consisting of two staves. The instruments are listed on the left side of each system.

**System 1 (Measures 1-4):**

- Fl. 1, 3
- Picc.
- Ob. 1, 2
- Eng. Hn.
- Cl. 1, 2
- B. Cl.
- Bsn. 1, 2
- Cbsn.

**System 2 (Measures 5-8):**

- Hn. 1, 2
- Hn. 3, 4
- Tpt. 1, 2, 3
- Tbn. 1, 2, 3
- B. Tbn.
- Tba.

**System 3 (Measures 9-12):**

- Timp.
- Xyl.
- Tri.
- Cym.
- Br.D.
- S. D.
- B. D.

**System 4 (Measures 13-16):**

- Hp.
- Pno.
- Vln. 1
- Vln. 2
- Vla.
- Vc.
- Cb.

**Musical Elements:**

- Measure 17:** Bsn. 1 and Cbsn. play eighth-note patterns.
- Measure 18:** Bsn. 1 and Cbsn. play eighth-note patterns.
- Measure 19:** Bsn. 1 and Cbsn. play eighth-note patterns.
- Measure 20:** Bsn. 1 and Cbsn. play eighth-note patterns. The dynamic is *mf*. The bassoon parts have grace notes above them.

Fl. 1  
3

Picc.

Ob. 1  
2

Eng. Hn.

Cl. 1  
2

B. Cl.

Bsn. 1  
2

Cbsn.

Hn. 1  
2

Hn. 3  
4

Tpt. 1  
2  
3

Tbn. 1  
2  
3

B. Tbn.

Tba.

Tim. ♯

Xyl.

Tri.

Cym.

Br.D.

S. D.

B. D.

Hp.

Pno.

Vln. 1

Vln. 2

Vla.

Vc.

Cb.

28

This page contains five systems of a full score, each with multiple staves. The instruments listed on the left side of the page are: Fl. 1, 2, 3; Picc.; Ob. 1, 2; Eng. Hn.; Cl. 1, 2; B. Cl.; Bsn. 1, 2; Cbsn.; Hn. 1, 2; Hn. 3, 4; Tpt. 1, 2, 3; Tbn. 1, 2, 3; B. Tbn.; Tba.; Timp.; Xyl.; Tri.; Cym.; Br.D.; S. D.; B. D.; Hp.; Pno.; Vln. 1; Vln. 2; Vla.; Vc.; Cb.

The score includes measures 25 through 28. Measures 25 and 26 show mostly rests. Measure 27 begins with a dynamic of *mf*. Measure 28 features prominent eighth-note patterns in the Bassoon (Bsn.) and Bassoon/Cb. (Cbsn.) staves, along with eighth-note patterns in the Trombones (Tbn.) and Trombone/Bass Trombone (B. Tbn.) staves. The strings (Vln., Vla., Vc., Cb.) provide harmonic support with sustained notes and eighth-note patterns.

The score consists of six systems of music, each with multiple staves for various instruments. The instruments listed on the left are:

- Fl. 1, 3
- Picc.
- Ob. 1, 2
- Eng. Hn.
- Cl. 1, 2
- B. Cl.
- Bsn. 1, 2
- Cbsn.
- Hn. 1, 2
- Hn. 3, 4
- Tpt. 1, 2, 3
- Tbn. 1, 2, 3
- B. Tbn.
- Tba.
- Timp.
- Xyl.
- Tri.
- Cym.
- Br.D.
- S. D.
- B. D.
- Hp.
- Pno.
- Vln. 1
- Vln. 2
- Vla.
- Vc.
- Cb.

Each system contains four measures of music, with the first measure of each system starting on a different staff. The instruments are grouped into three main sections: woodwinds (top), brass (middle), and strings (bottom).

**36 A Little Faster**

Fl. 1  
Fl. 3  
Picc.  
Ob. 1  
Eng. Hn.  
Cl. 1  
Cl. 2  
B. Cl.  
Bsn. 1  
Bsn. 2  
Cbsn.  
  
Hn. 1  
Hn. 2  
Hn. 3  
Hn. 4  
Tpt. 1  
Tpt. 2  
Tbn. 1  
Tbn. 2  
B. Tbn.  
Tba.  
  
Timp.  
Xyl.  
Tri.  
Cym.  
Br.D.  
S. D.  
B. D.  
  
Hp.  
Pno.  
  
Vln. 1  
Vln. 2  
Vla.  
Vc.  
Cb.

**A Little Faster**

The full score consists of four systems of musical staves. The first system includes Flute 1, Piccolo, Oboe 1, English Horn, Clarinet 1, Bassoon 1, Bassoon 2, Cello, Trombone 1, Trombone 2, Bass Trombone, Tuba, Timpani, Xylophone, Triangle, Cymbals, Bass Drum, Snare Drum, Bass Drum, Harp, Piano, Violin 1, Violin 2, Viola, Cello, and Double Bass. The second system includes Hn. 1, Hn. 3, Tpt. 1, Tbn. 1, B. Tbn., and Tba. The third system includes Timp., Xyl., Tri., Cym., Br.D., S. D., and B. D. The fourth system includes Hp., Pno., Vln. 1, Vln. 2, Vla., Vc., and Cb. Various dynamics and performance instructions are indicated throughout the score.

**41**

Fl. 1  
3

Picc.

Ob. 1  
2

Eng. Hn.

Cl. 1  
2

B. Cl.

Bsn. 1  
2

Cbsn.

Hn. 1  
2

Hn. 3  
4

Tpt. 1  
3

Tbn. 1  
3

B. Tbn.

Tba.

Timp.

Xyl.

Tri.

Cym.

Br.D.

S. D.

B. D.

Hp.

Pno.

Vln. 1

Vln. 2

Vla.

Vc.

Cb.

**42**

**43**

**44**

The full score consists of four systems of musical notation, each containing multiple staves for different instruments. The instruments listed on the left side of the score include:

- Fl. 1**, **Fl. 2**
- Picc.**
- Ob. 1**, **Ob. 2**
- Eng. Hn.**
- Cl. 1**, **Cl. 2**
- B. Cl.**
- Bsn. 1**, **Bsn. 2**
- Cbsn.**
- Hn. 1**, **Hn. 2**
- Hn. 3**, **Hn. 4**
- Tpt. 1**, **Tpt. 2**
- Tbn. 1**, **Tbn. 2**
- B. Tbn.**
- Tba.**
- Timp.**
- Xyl.**
- Tri.**
- Cym.**
- Br.D.**
- S. D.**
- B. D.**
- Hp.**
- Pno.**
- Vln. 1**
- Vln. 2**
- Vla.**
- Vc.**
- Cb.**

Each system is divided into measures by vertical bar lines. The notation includes various musical symbols such as stems, heads, and rests. Some staves feature grace notes or slurs above the main notes. Measure numbers 45, 46, 47, and 48 are indicated at the bottom of the page.

**52**

This page contains six systems of musical notation. The first system includes parts for Flute 1 (2nd and 3rd staves), Piccolo, Oboe 1 (2nd and 3rd staves), English Horn, Clarinet 1 (2nd and 3rd staves), Bassoon 1 (2nd and 3rd staves), Bassoon 2, Cello, Trombone 1, Trombone 2, Bass Trombone, Tuba, Timpani, Xylophone, Triangle, Cymbals, Bass Drum, Snare Drum, Bass Drum, Harp, Piano, Violin 1, Violin 2, Viola, Cello, and Double Bass. Measure numbers 52 are present at the top right of each system.

The full score consists of four systems of musical notation, each containing multiple staves for different instruments. The instruments listed on the left side of the score include: Fl. 1, 2, 3; Picc.; Ob. 1, 2; Eng. Hn.; Cl. 1, 2; B. Cl.; Bsn. 1, 2; Cbsn.; Hn. 1, 2; Hn. 3, 4; Tpt. 1, 2, 3; Tbn. 1, 2, 3; B. Tbn.; Tba.; Timp.; Xyl.; Tri.; Cym.; Br.D.; S. D.; B. D.; Hp.; Pno.; Vln. 1; Vln. 2; Vla.; Vc.; and Cb.

System 1 (Measures 53-54): The woodwind section (Flutes, Piccolo, Oboe, English Horn, Clarinet, Bassoon, Bassoon/Cello) remains silent. The brass section (Trumpet, Trombone, Bass Trombone, Tuba) plays eighth-note patterns. The timpani and xylophone play eighth-note patterns. The strings (Violin, Viola, Cello, Double Bass) play eighth-note patterns.

System 2 (Measures 55-56): The woodwind section (Flutes, Piccolo, Oboe, English Horn, Clarinet, Bassoon, Bassoon/Cello) remains silent. The brass section (Trumpet, Trombone, Bass Trombone, Tuba) continues eighth-note patterns. The timpani and xylophone play eighth-note patterns. The strings (Violin, Viola, Cello, Double Bass) continue eighth-note patterns.

60

Hn. 1  
Hn. 3  
Tpt.  
Tbn.  
B. Tbn.  
Tba.

Timp.

Xyl.

Tri.

Cym.

Br.D.

S. D.

B. D.

Hp.

Pno.

Vln. 1

Vln. 2

Vla.

Vc.

Cb.

Fl. 1  
3  
Picc.  
Ob. 1  
2  
Eng. Hn.  
Cl. 1  
2  
B. Cl.  
Bsn. 1  
2  
Cbsn.

Hn. 1  
2  
Hn. 3  
4  
Tpt. 1  
3  
Tbn. 1  
3  
B. Tbn.  
Tba.

Timp.

Xyl.

Tri.

Cym.

Br.D.

S. D.

B. D.

Hp.

Pno.

Vln. 1  
Vln. 2  
Vla.  
Vc.  
Cb.

**68**

Fl. 1  
3  
Picc.  
Ob. 1  
2  
Eng. Hn.  
Cl. 1  
2  
B. Cl.  
Bsn. 1  
2  
Cbsn.

Hn. 1  
2  
Hn. 3  
4  
Tpt. 1  
3  
Tbn. 1  
3  
B. Tbn.  
Tba.

Timp.  
Xyl.  
Tri.  
Cym.  
Br.D.  
S. D.  
B. D.

Hp.  
Pno.

Vln. 1  
Vln. 2  
Vla.  
Vc.  
Cb.

**65**

**66**

**67**

**68**

Fl. 1  
Fl. 3  
Picc.  
Ob. 1  
Ob. 2  
Eng. Hn.  
Cl. 1  
Cl. 2  
B. Cl.  
Bsn. 1  
Bsn. 2  
Cbsn.

Hn. 1  
Hn. 2  
Hn. 3  
Hn. 4  
Tpt. 1  
Tpt. 3  
Tbn. 1  
Tbn. 3  
B. Tbn.  
Tba.

Timpani  
Xyl.  
Tri.  
Cym.  
T-t.  
S. D.  
B. D.

Hp.  
Pno.

Vln. 1  
Vln. 2  
Vla.  
Vc.  
Cb.

*poco rit.*

76 (♩ = 116)

Fl. 1  
Picc.  
Ob. 1  
Eng. Hn.  
Cl. 1  
B. Cl.  
Bsn. 1  
Cbsn.

Hn. 1  
Hn. 3  
Tpt. 1  
Tbn. 1  
B. Tbn.  
Tba.

Timp.  
Xyl.  
Tri.  
Cym.  
Br.D.  
S. D.  
B. D.

Hp.  
Pno.

Vln. 1  
Vln. 2  
Vla.  
Vc.  
Cb.

76 (♩ = 116)

To T.t.  
To Cel.

Tam-tam

(♩ = 116)

*rit.*

Fl. 1  
3  
Picc.  
Ob. 1  
2  
Eng. Hn.  
Cl. 1  
2  
B. Cl.  
Bsn. 1  
2  
Cbsn.

Hn. 1  
2  
Hn. 3  
4  
Tpt. 1  
3  
Tbn. 1  
3  
B. Tbn.  
Tba.

Timp.  
Xyl.  
Tri.  
Cym.  
T.-t.  
S. D.  
B. D.

Hp.  
Pno.

Vln. 1  
Vln. 2  
Vla.  
Vc.  
Cb.

77      78      79      80

(♩ = 93)

Fl. 1  
Fl. 3  
Picc.  
Ob. 1  
Ob. 2  
Eng. Hn.  
Cl. 1  
Cl. 2  
B. Cl.  
Bsn. 1  
Bsn. 2  
Cbsn.

Hn. 1  
Hn. 2  
Hn. 3  
Hn. 4  
Tpt. 1  
Tpt. 2  
Tbn. 1  
Tbn. 2  
B. Tbn.  
Tba.

Timp.  
Xyl.  
Tri.  
Cym.  
T-t.  
S. D.  
B. D.

Hp.  
Pno.

Vln. 1  
Vln. 2  
Vla.  
Vc.  
Cb.

*rit.*

(♩. = 103)

87

Fl. 1  
3  
Picc.  
Ob. 1  
2  
Eng. Hn.  
Cl. 1  
2  
B. Cl.  
Bsn. 1  
2  
Cbsn.

Hn. 1  
2  
Hn. 3  
4  
Tpt. 1  
3  
Tbn. 1  
3  
B. Tbn.  
Tba.

Timp.  
Xyl.  
Tri.  
Cym.  
Br.D.  
S. D.  
B. D.

Hp.  
Pno.

Vln. 1  
Vln. 2  
Vla.  
Vc.  
Cb.

rit.

(♩. = 103)

87

**Lightly**

Fl. 1  
3  
Picc.  
Ob. 1  
2  
Eng. Hn.  
Cl. 1  
2  
B. Cl.  
Bsn. 1  
2  
Cbsn.

This section shows the first two staves of a musical score. The top staff includes Flute 1 (3rd line), Piccolo, Oboe 1 (2nd line), English Horn, Clarinet 1 (2nd line), Bassoon 1 (2nd line), and Cello. The bottom staff includes Horn 1 (2nd line), Horn 3 (4th line), Trumpet 2 (3rd line), Trombone 2 (3rd line), Bass Trombone, and Double Bass. All parts are mostly silent except for a few isolated notes.

Hn. 1  
2  
Hn. 3  
4  
Tpt. 1  
2  
Tbn. 1  
2  
B. Tbn.  
Tba.

This section shows the next two staves. It includes Horn 1 (2nd line), Horn 3 (4th line), Trumpet 1 (2nd line), Trombone 1 (2nd line), Bass Trombone, and Double Bass. The Double Bass part begins with a sustained note followed by eighth-note patterns. Dynamics include *mf*.

Timp.  
Xyl.  
Tri.  
Cym.  
mf  
Br.D.  
S. D.  
B. D.

This section shows the timpani, xylophone, triangle, cymbals, and bass drum. The cymbals play eighth-note patterns with *mf* dynamics. The bass drum provides rhythmic support throughout the section.

Hp.  
Pno.

This section shows the harp and piano. The harp has sustained notes, and the piano provides harmonic support with sustained notes.

**Lightly**

Vln. 1  
Vln. 2  
Vla.  
Vc.  
Cb.

This section shows the first four staves of the string section: Violin 1, Violin 2, Viola, and Cello. They play eighth-note patterns with dynamics *pizz*, *mp*, and *pizz*. The Double Bass continues its eighth-note pattern from the previous section.

Fl. 1  
3  
*mf*

Picc.

Ob. 1  
2

Eng. Hn.

Cl. 1  
2

B. Cl.

Bsn. 1  
2

Cbsn.

Hn. 1  
2

Hn. 3  
4

Tpt. 1  
2  
3

Tbn. 1  
2  
3

B. Tbn.

Tba.

Timp.

*p*

Xyl. **Glockenspiel**  
*mp*

Tri.

Cym.

T.-t.

S. D.

B. D.

Hp.

Pno. **Celeste**  
*mp*

Vln. 1

Vln. 2

Vla.

Vc.

Cb.

*pizz*  
*mp*

The full score consists of four systems of musical notation. System 1 (measures 97-98) shows parts for Flute 1, Piccolo, Oboe 1, English Horn, Clarinet 1, Bassoon 1, Bassoon 2, Horn 1, Horn 3, Trumpet 1, Trombone 1, Bass Trombone, Tuba, Timpani, Glockenspiel, Triangle, Cymbals, Tambourine, Snare Drum, Bass Drum, Harp, Celeste, Violin 1, Violin 2, Viola, Cello, and Double Bass. Measure 97 features sustained notes and rests. Measure 98 shows more dynamic activity, particularly in the brass and woodwind sections. System 2 (measures 99-100) continues with similar instrumentation, with measure 99 featuring a dynamic marking *mf* and measure 100 concluding the section.

*rit.*

Fl. 1  
3  
Picc.  
Ob. 1  
2  
Eng. Hn.  
Cl. 1  
2  
B. Cl.  
Bsn. 1  
2  
Cbsn.

Hn. 1  
2  
mf  
Hn. 3  
4  
mf  
Tpt. 1  
3  
Tbn. 1  
3  
B. Tbn.  
Tba.

Timp.  
Glock.  
Tri.  
Cym.  
T.-t.  
S. D.  
B. D.  
*mp*

Xylophone

pp  
mp  
mp

Hp.

Cel.

Vln. 1  
Vln. 2  
Vla.  
Vc.  
Cb.

*rit.*

**106 Sonore (♩ = 93)      *molto rit.***

Mark tree

**Sonore (♩ = 93)      *molto rit.***

**105**      **106**      **107**      **108**

(♩ = 66)

rit.

Fl. 1/3  
Picc.  
Ob. 1/2  
Eng. Hn.  
Cl. 1/2  
B. Cl.  
Bsn. 1/2  
Cbsn.

Hn. 1/2  
Hn. 3/4  
Tpt. 1/3  
Tbn. 1/3  
B. Tbn.  
Tba.

Timp.

Xyl.  
M.tree  
Cym.  
T.t.  
S. D.  
B. D.

Hp.  
Cel.

Vln. 1  
Vln. 2  
Vla.  
Vc.  
Cb.

**114** ( $\text{♩} = 63$ )      *rit.*      ( $\text{♩} = 50$ )

Fl. 1  
3  
Picc.  
Ob. 1  
2  
Eng. Hn.  
Cl. 1  
2  
B. Cl.  
Bsn. 1  
2  
Cbsn.

Hn. 1  
2  
Hn. 3  
4  
Tpt. 1  
3  
Tbn. 1  
3  
B. Tbn.  
Tba.

Timp.

Xyl.

M.tree

Cym.

T.-t.

S. D.

B. D.

Hp.

Cel.

Vln. 1  
Vln. 2  
Vla.  
Vc.  
Cb.

**113**      **114**      **115**      **116**      **117**      **118**      **119**      **120**      **121**