

Alan Keown

# Constructive Interference

for solo multipercussion



**Constructive Interference** by Alan Keown  
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# Program Notes

In physics, interference is a phenomenon in which two waves superpose to form a resultant wave of greater or lower amplitude. Interference usually refers to the interaction of waves that are correlated or coherent with each other, either because they come from the same source or because they have the same or nearly the same frequency. Interference effects can be observed with all types of waves, for example, light, radio, acoustic and surface water waves.

If a crest of one wave meets a crest of another wave of the same frequency at the same point, then the magnitude of the resulting wave is larger – this is constructive interference. If a crest of one wave meets a trough of another wave, then the two waves cancel each other out and the resulting wave is a straight line – this is known as destructive interference.

This piece is not a literal representation of this principle but takes its inspiration from the concept. The slow, opening movement should be played as lyrically as possible, legato and following the phrase markings. The movement begins and ends with a “heartbeat” motive that is consistent throughout the piece. This movement was written on a plane after hearing an amazingly lyrical marimba performance by Pius Cheung at a PASIC concert.

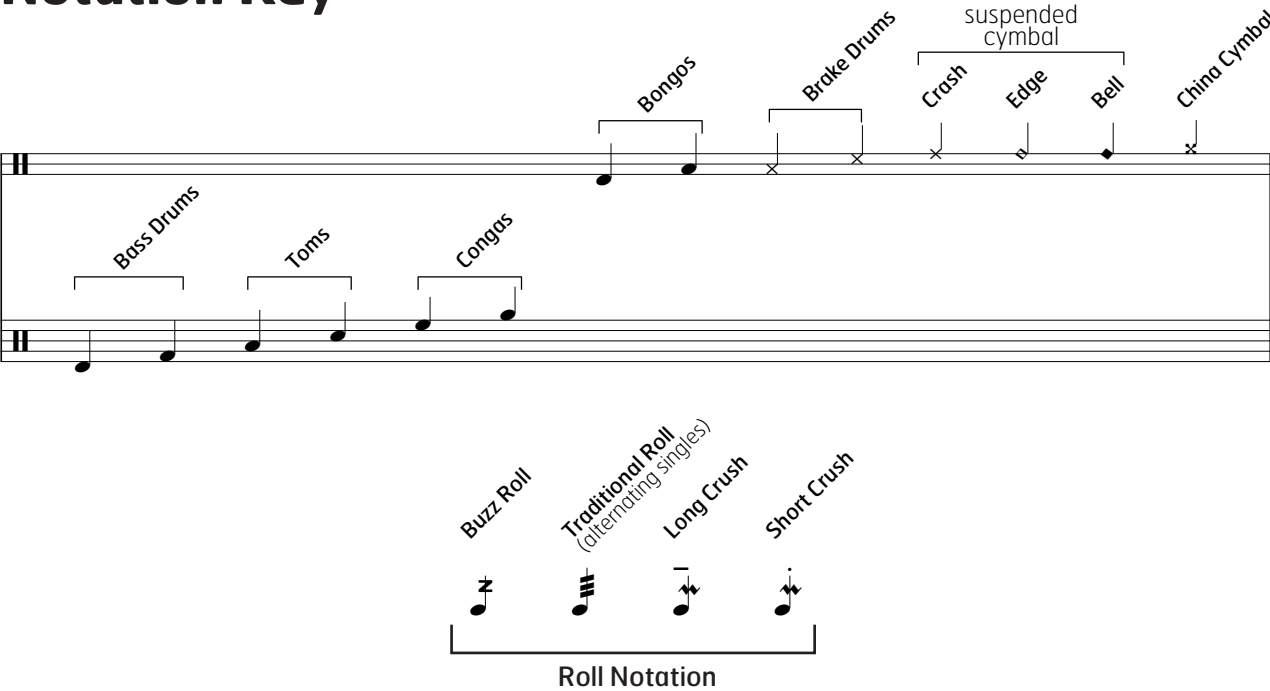
The second, fast movement builds upon a driving sixteenth-note motive that is interrupted by the “heartbeat” motive that was presented in the first movement.

## Instrumentation

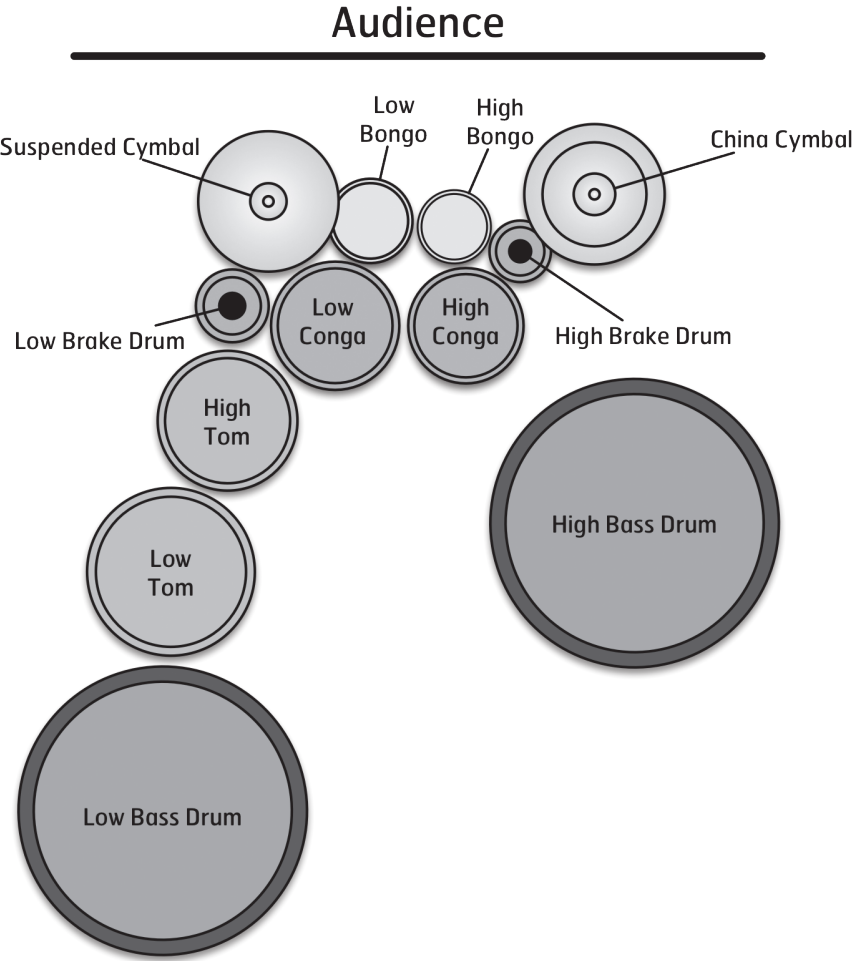
*Constructive Interference* requires **1 player** with the following instrumentation:

- **1 china cymbal** (16")
- **1 suspended cymbal** (18")
- **2 brake drums** (1 high, 1 low)
- **1 set of bongos**
- **1 set of congas** (1 high, 1 low)
- **2 concert toms** (1 high, 1 low)
- **2 bass drums** (1 high, 1 low)

# Notation Key



# Suggested Setup



# Constructive Interference

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**MOVEMENT I**

$\text{♩} = 68$   
hard felt mallets

*ff* *mf* *p*

4

*p*

9

*p*

wood sticks

14

3

l.v.

19

6

*mf*

hard felt

**Sample Image**

22

wood sticks

*f*

27

hard felt

*ppp*

*mp*

31

wood sticks

*mp*

*f*

42

*p*

*pp*

46

*niente*

Sample  
Image

## MOVEMENT II

$\text{♩} = 160$

wood sticks

*f* *mp* *f*

5 *f* *mp* *mp*

9 *mp* *sf* *mp*

13 *mp* *f*

16 *mp* *f*

20 *mp* *mp*

Sample Image

25

28

31

*f*

*ff*

*mp* *mf* *mp* *mf* *mp* *mf*

*f*

38

45

52

6

3

L L L L R R R R

R R L L

# Sample Image

45 *ff* *l.v.* *l.v.*

48 *mp* *f* *mp*

52 *f* *p* *l.v.* *l.v.*

57 *p*

61 *p*

66 *12/8* *R R R R R* *RH remains at mp*

69 *sim.*

Sample Image



72

Measures 72-74 of the musical score. The music is written for two staves. Measures 72 and 74 feature a piano (mp) to forte (f) crescendo, while measure 73 is a whole rest.

75

Measures 75-77 of the musical score. The music is written for two staves. Measures 75 and 77 feature a piano (mp) to forte (f) crescendo, while measure 76 is a whole rest.

78

Measures 78-80 of the musical score. The music is written for two staves. Measures 78 and 80 feature a piano (mp) to forte (f) crescendo, while measure 79 is a whole rest.

Measures 81-83 of the musical score. The music is written for two staves. Measure 81 features a piano (mp) to forte (f) crescendo. Measures 82 and 83 feature a piano (mp) to forte (f) crescendo. The music is written for two staves.

Measures 84-86 of the musical score. The music is written for two staves. Measures 84 and 86 feature a piano (mp) to forte (f) crescendo, while measure 85 is a whole rest.

Measures 87-89 of the musical score. The music is written for two staves. Measures 87 and 89 feature a piano (mp) to forte (f) crescendo, while measure 88 is a whole rest.

Measures 90-92 of the musical score. The music is written for two staves. Measures 90 and 92 feature a piano (mp) to forte (f) crescendo, while measure 91 is a whole rest.

Sample  
Image

93

Measures 93-96 of the musical score. Measure 93 starts with a piano (p) dynamic and a forte (ff) dynamic. Measure 94 has a piano (pp) dynamic. Measure 95 has a piano (pp) dynamic. Measure 96 has a forte (ff) dynamic. The score includes triplets and various rhythmic patterns.

*ff* *pp* *ff*

97

Measures 97-100 of the musical score. Measure 97 has a piano (p) dynamic. Measure 98 has a piano (p) dynamic. Measure 99 has a piano (p) dynamic. Measure 100 has a piano (p) dynamic. The score includes triplets and various rhythmic patterns.

101

Measures 101-104 of the musical score. Measure 101 has a piano (p) dynamic. Measure 102 has a piano (p) dynamic. Measure 103 has a piano (p) dynamic. Measure 104 has a piano (p) dynamic. The score includes triplets and various rhythmic patterns.

105

Measures 105-108 of the musical score. Measure 105 has a piano (p) dynamic. Measure 106 has a piano (p) dynamic. Measure 107 has a piano (p) dynamic. Measure 108 has a forte (ff) dynamic. The score includes triplets and various rhythmic patterns.

*p* *ff*

109

Measures 109-111 of the musical score. Measure 109 has a piano (p) dynamic. Measure 110 has a piano (p) dynamic. Measure 111 has a piano (p) dynamic. The score includes triplets and various rhythmic patterns.

*p*

112

Measures 112-115 of the musical score. Measure 112 has a piano (p) dynamic. Measure 113 has a piano (p) dynamic. Measure 114 has a piano (p) dynamic. Measure 115 has a piano (p) dynamic. The score includes triplets and various rhythmic patterns.

*p*

Sample  
Image

115

117

*pp* *cresc. poco a poco to end*

120

123

*fff* *l.v.*

The musical score consists of four systems of staves. The first system (measures 115-116) includes a piano introduction with a sequence of notes and rests, marked with accents and a '9'. The second system (measures 117-119) features a crescendo marked 'pp' and 'cresc. poco a poco to end'. The third system (measures 120-122) shows a change in tempo or dynamics. The fourth system (measures 123-125) includes a forte dynamic 'fff' and a 'l.v.' marking. A large, light gray silhouette of a person is overlaid on the lower half of the page.

Sample  
Image

