Tomek Arnold

Some Fat Beats For Alvin

Performance notes:

Instrumentation:

- Flute (alto, piccolo)
- Bass Clarinet
- Percussion - Large floor tom (or Surdo), Low, Medium, High Tom- Toms, Snare Drum, High Woodblock, "Trash Tom", China Cymbal, Chinese Cymbal, Vibraphone, Concert Bass Drum.
- Violin
- Cello
- Computer

Electronic equipment:

- A set of cardioid microphones for woodwinds and percussion (preferably 1 for flute, 2 for bass clarinet and 1-2 for percussion).
- 2 DPA microphones for violin and cello.
- Stereo PA with a sub + a couple of monitors if needed.
- Mixer (min. 8 ins and 2 outs).
- Interface (min. 2 ins and 2 outs).
- MIDI controller (optional).
- Video projector or a TV screen.
- Computer with MAX/MSP running.

Set up:

- The cardioid microphones used for winds and percussion amplification should go directly into the mixer and out to the main PA.

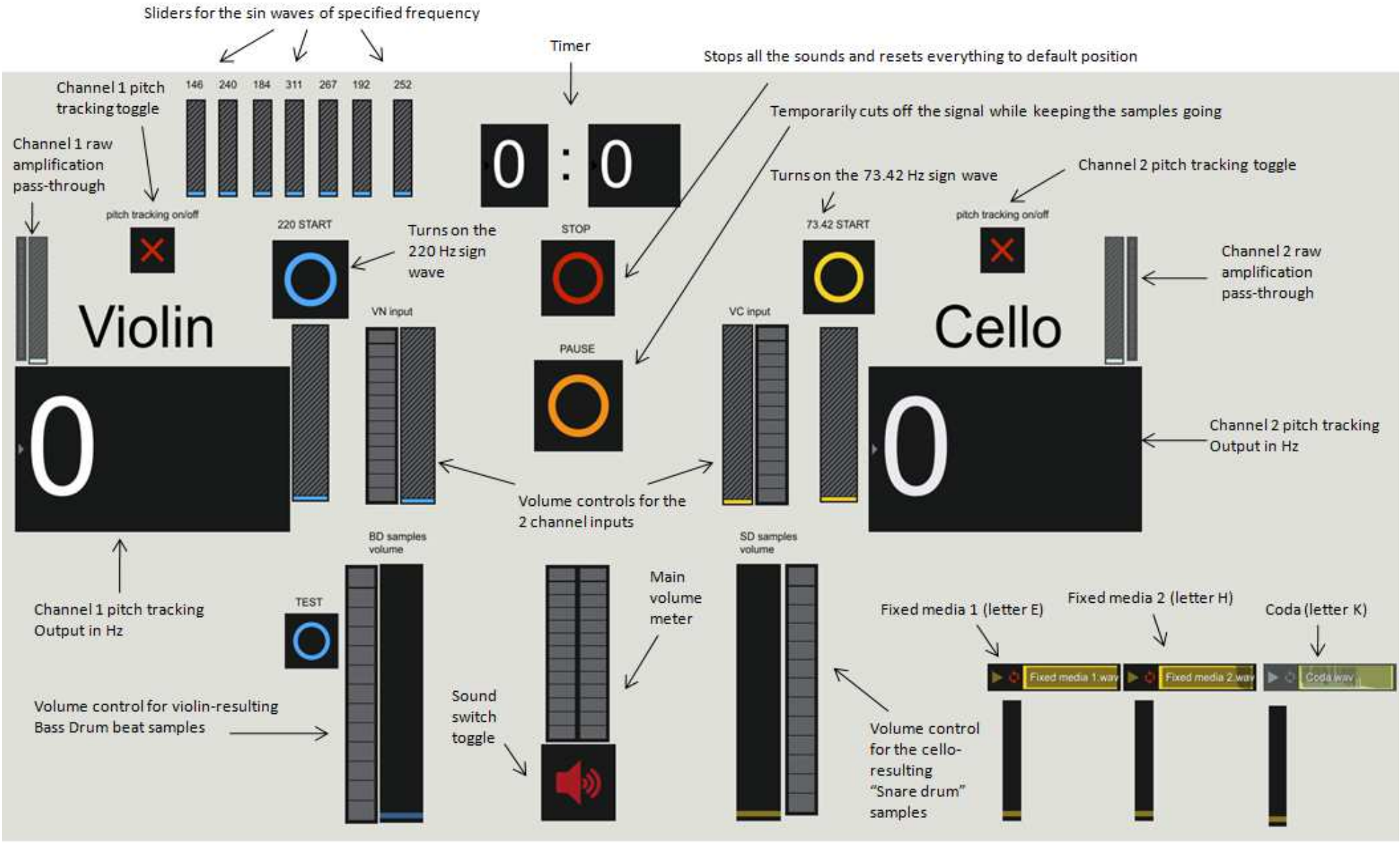
- The DPA mics signal for the strings should be split between the processing and raw amplification. XLR cable splitter can be used for that with one end going into the interface for processing (channel 1 - violin and channel 2 - cello) and the other end going into the mixer for amplification. The patch also allows to split the signal with the raw amplification going out the 3rd and 4h channel, which could be used if your interface allows more than 2 outs.

- The signal from the 1st and 2nd out on the interface should go directly to the mixer and out to the main PA.

- The TV or the projection screen should be placed somewhere visible for the violin and cello players so they can follow the pitch tracker outputing their current frequencies in the boxes marked "violin" and "cello".

- The volume of the sub should be raised enough to provide a club-like sound of electronic dance music.

MAX patch:



The input from the violin and cello goes through the pitch tracking device and picks up their current frequency. This frequency of the violin is then compared to the 220 Hz sine wave and the frequency of the cello with the 73.42 Hz. Then if the pitch tracking toggle is switched on, the samples are triggered at the rate of the difference tone between the sign waves and the pitch of the strings (220 Hz to violin, 73.42 Hz to cello). The violin triggers the Bass Drum beat samples and the cello triggers the off-beat snare drum-like samples.

Sliders and buttons can be moved either with the mouse or with a MIDI controller. Contact the composer for the version of the patch that will fit the channel set-up of your MIDI controller device.

***1 Percussion notation:**

: Large floor tom or Surdo with a thin towel spread throughout the top head. The sound produced should be a muffled thump with drum's reverb. It should be rather articulate (even though the attack is partially reduced by the towel in the hitting area). If the drum produces too much reverb to sound articulate, it can be adjusted by putting some tape on the bottom drum-head. The general goal for the sound is an imitation of an electronic EDM-like bass drum.

: Highest possible woodblock.

: "Trash tom" - small to medium floor tom with a cymbal taped to the rim. A part of the cymbal's edge should touch to the drum head about two inches from the rim. Playing spot is at the tangent of cymbal's edge and the drum head. The sound is of a kind of "trashy" quality and a combination of the cymbal touching the rim with a little bit of the floor tom head and the drum resonance.

: Large, medium, high tom-toms, Snare Drum (keep the snares off when not used to avoid buzzing.

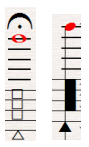
: China Cymbal.

***2 Violin micro glissandos:**

The frequency content will appear on the screen. Follow the numbers in the violin box for the reference. The aim is to be able to move between these micro distances as accurately as possible and as gradually as possible in the given time frames. The pitch content of the violin and cello parts gets analyzed by the pitch-tracking device that then calculates the difference in Hz of the violin (or cello) pitch to the sign wave sounding from the computer. The software then triggers samples at the speed of the beating frequency that results from this difference. I recognize that in some cases it might be close to impossible to realize the glissando accurately (especially when the part asks for an extremely long glissando within just 1 Hz of distance). However, an important part of these passages is a kind of a game between what's possible and what's not. The player might realize that they skip 1 Hz too quickly (before the gliss line ends) and should then skip back to the beginning frequency. The instability in the triggered samples that results from this game is an essential part of the piece's soundworld.

***3 Clarinet Multiphonics:**

There are two kinds of multiphonics in the piece:

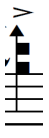
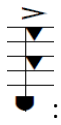

and

The ones with triangular fundamental note and specified top voice note are to be produced by a combination of fingering and freely chosen fundamental note. The goal of this kind of multiphonic is to produce a clear sounding pitch in the top voice indicated by the top note in its correct register. The pitch content of the middle voices does not matter but the sound should be as rich as possible timbrally. Please note that different fingerings might be needed for these multiphonics in the section from measure 51 where all of them are very loud and on strong overblow.

The multiphonics with the specified fundamental note and non-specified top voice are to be produced with just embrouchure on the given fundamental note. The higher the harmonics, the more the lower jaw should move towards the base of the reed. The tibral quality of the sound should once again aim for as much complexity as possible. The dynamics in the loud sections using these multiphonics should be as loud as possible while still producing the clearly audible pitch of the fundamental note. In some instances there is a line after the note to indicate the pitch trajectory of the high partials.

***4 Strings Overpressure:**

Overpressure is generally indicated with the square shaped note-head. The sound should be pure noise with indistinguishable pitch content and realized always **sul pont.** However, there are three kinds of overpressure in the piece, and above is the example of a gradual transition through them. The regular-shaped note-head appearing above the staff line indicates regular bowing and the arrow towards the square-shaped note is the gradual transition from regular bowing through half-overpressure with still audible pitch to full overpressure indicated by the square-shaped note. Further from the square-shaped note to the "squiggly line" is the transition from full to extreme overpressure by increasing the pressure and slowing down bow movement. The sound produced by extreme overpressure consists of scattered noise bits with frequent rests in between each sound event. The bow movement to produce this effect will necessary be on the slow side but should also be varied slightly to achieve as much rhythmical variety as possible. Aim to be able to proceed through different stages of overpressure as gradually as possible.


: Half-overpressure on the highest possible notes on the indicated strings (also sul pont.). 
: Half-overpressure behind the bridge (sul pont. as well)

Some Fat Beats for Alvin

For Ensemble and Live Electronics

TRANSPOSING SCORE

Tomek Arnold

A

♩=60 — ca. 22" — ca. 10" — ca. 15" — ca. 5" — ♩=120

Alto Flute: Slap tongue — mp — Sim. — mf — pp < mp

Bass Clarinet in B♭

Percussion: Vib. — p — With bass bow — mp

Violin: 220 Hz — Follow the pitch tracking object for the frequency reference. — mf — 220 Hz — mp

Violoncello: p < mp

Pitch tracking OFF

Computer: 220 Hz — mf — 220 Hz — mf — 220 Hz — mf

12

A. Fl. — Air in — Tongue ram — f — ca. 5"

B. Cl.: Slap tongue — mp — Sim. — mf

Perc.: BD *1 — mp — mp

Vln.: p

Vc.: p — mp — p — mp

Cpu.: mp

18 ♩=60

A. Fl.: Tongue ram — mf — Piccolo — ca. 10"

B. Cl.

Perc.: mp — Vib. with bow — mp

Vln.: 220 Hz — ppp — (match the sign wave) — 220 Hz — *2 — gliss. — mf

Vc.: l.v. — p < mf

Cpu.: 220 Hz — mf — Violin pitch tracking ON

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B

24 ♩=120

Picc.
B. Cl.
Perc.
Vln.
Vc.
Cpu.

x 3 ca. 10"

Picc.: *p* < *mf* > *p* | *p* < *mf* > *p*

B. Cl.: *f*

Perc.: BD *mf*

Vln.: → 221 Hz

Vc.: *l.v.* *p* < *f* | *sim.* *p* < *f*

Cpu.: etc.

Samples triggered at beating frequency resulting between Vn. and Cpu.

C

30 ca. 5"

Picc.: Flutter tongue | Sim. | *f* | *mp* < *f* > *mp* *f* | *mp* < *f* > *mp* | *mp* < *f*

B. Cl.: *mf* | *ff*

Perc.: WB BD *f*

Vln.: 220 Hz → 221 Hz (ca. 2") → 222 Hz (ca. 2") → 223 Hz → sim. → 224 Hz → Approximate notation → 225 Hz → 226 Hz | *gliss.* | *gliss.*

Vc.

Cpu.: 220 Hz *f* | 3 | 3 | 5 | 6

36

Picc.: *f* | *mp* < *f* > *mp* *f* | *mp* < *f* > *mp* | *mp* < *f*

B. Cl.

Perc.: WB BD

Vln.: 225 Hz → 224 Hz → 223 Hz → 222 Hz → 221 Hz → 222 Hz sim. | *gliss.* | *gliss.*

Vc.

Cpu.: 6 | 5 | etc.

x 3 ca. 5"

D

42

♩=60

ca. 5"

ca. 10"

♩=120

Picc.

B. Cl.

Perc.

Vln.

Vc.

Cpu.

p

p

p

WB

Trsh. Tom

f sempre (Be very present but do not overpower the ensemble.)

Follow the pitch tracking object for the frequency reference.

146 Hz

gliss.

mf

Violin pitch tracking OFF, Cello pitch tracking ON

f

mf

Off-beat "snare drum" samples - slowly raise the vol. from 0. Sign waves stay unchanged.

cresc. poco a poco

73.42 Hz

220 Hz

ff *mf*

52

ff

Multiphonics in this section are always with the rich, noisy and "nasty" sound quality.

ffp *xp* * as soft as possible in the given register.

mp < *f* > *mp*

(Do not decrescendo at the end of the long notes. They should begin and end abruptly in ff dynamic.)

BD

gliss.

gliss.

(approximate visualisation of the sample density)

ppp *cresc. poco a poco (SD samples)*

60

ff

ff

xp *ff*

220 Hz

gliss.

gliss.

pp *cresc. poco a poco*

67

Picc.

B. Cl.

Perc.

Vln.

Vc.

Cpu.

ffp

mp < *f* > *mp*

ffp

ppp

pp

p

gliss.

gliss.

p *cresc. poco a poco*

75

Picc.

B. Cl.

Perc.

Vln.

Vc.

Cpu.

xp *ff*

ff

xp *ff*

ff

220 Hz

mp

mf

gliss.

gliss.

gliss.

mp *cresc. poco a poco*

83

Picc.

B. Cl.

Perc.

Vln.

Vc.

Cpu.

ff *xp* *ff*

mp < *f* > *mp*

ff

gliss.

gliss.

gliss.

Violin pitch tracking ON

E

90

Picc.

B. Cl.

Perc.

Vln.

Vc.

Cpu.

ff *ffp* *xp* *pff* *mp* *f* *mp* *ffp*

221 Hz

gliss.

gliss.

sim.

BD samples ***mf***

95

xp *ff* *ff* *ffp* *ff* *ff* *xp* *ff* *mp* *f* *mp*

gliss.

gliss.

5 6

mf *cresc. poco a poco (SD and BD samples)*

99

ff *xp* *ff* *ffp* *mp* *f* *mp* *ffp* *xp* *ff*

222 Hz

gliss. *gliss.* *gliss.* *gliss.*

3 3

sim.

104

Picc.
B. Cl.
Perc.
Vln.
Vc.
Cpu.

ff ffp ff ff xp ff mf ff mf ff ffp

Trsh. Tom

5

gliss. gliss. gliss.

108

Picc.
B. Cl.
Perc.
Vln.
Vc.
Cpu.

xp ff mp f mp ffp xp ff

3

223 Hz

76 Hz

gliss. gliss.

f SD and BD samples

111

Picc.
B. Cl.
Perc.
Vln.
Vc.
Cpu.

ff ffp ff ff xp ff mp f mp ff ffp

5

*4 *4

etc.

Fixed media 1 on.

115

F

Picc.

B. Cl.

Perc.

Vln.

Vc.

Cpu.

Sul. G, D

Sul. D, A

PAUSE!

119

Picc.

B. Cl.

Perc.

Vln.

Vc.

Cpu.

Sul. D, A

Sul. D, A

PAUSE!

123

G

Picc.

B. Cl.

Perc.

Vln.

Vc.

Cpu.

Sul. G, D

Sul. G, D

Sul. A, E

Sul. C, G

Sul. C, G

Sul. D, A

gliss.

gliss.

gliss.

gliss.

PAUSE!

PAUSE!

129

Picc.
B. Cl.
Perc.
Vln.
Vc.
Cpu.

133

Picc.
B. Cl.
Perc.
Vln.
Sul. D, A
Vc.
Cpu.
PAUSE!

137

Picc.
B. Cl.
Perc.
China on bell.
Vln.
Col legno
sul A
Ord.
Release the finger at the moment you hit the note to let the string ring.
Vc.
Cpu.

142

Picc.
B. Cl.
Perc.
Vln.
Vc.
Cpu.

sub *f* *p* *mf* *p* *mf* *f* *mf*

sul D *f* *ff* sul D *mf* *f* *ff*

Col legno sul A **Ord.** *f* *ff*

Simile All of the succeeding natural and artificial harmonics col legno and let ring. *mf* *f* *ff*

147

accel.

Picc. *mp* *mf* *p*

B. Cl. *mp* *mf* *f* *ff* *p*

Perc. *p* *f* *mf* *p* *mf* *p* *mf*

Vln. sul D *f* *ff* sul D *f* *ff* *f* *ff*

Simile (sul D and always let ring.)

Vc. *f* *ff* *f* *ff* *f* *ff*

Cpu.

153

Picc. *mp*

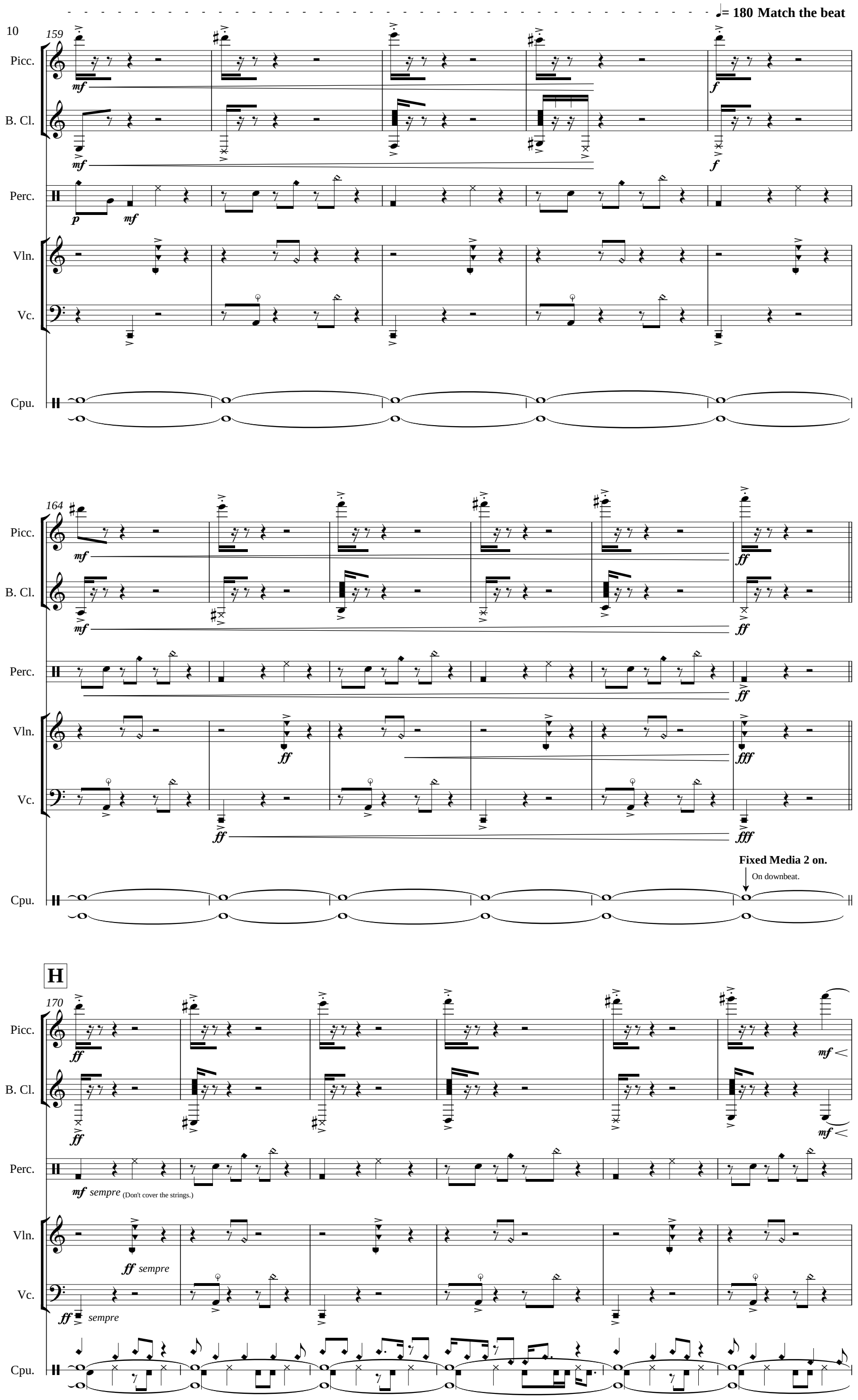
B. Cl. *mp*

Perc. *p* *mf* *p* *mf* *p* *mf*

Vln. *f* *ff* *f* *ff* *f* *ff*

Vc. *f* *ff* *f* *ff* *f* *ff*

Cpu.


♩= 180 Match the beat
10
159
Picc.
B. Cl.
Perc.
Vln.
Vc.
Cpu.
mf
p
mf
f
164
ff
fff
Fixed Media 2 on.
On downbeat.
H
170
mf sempre (Don't cover the strings.)
ff sempre

176

Picc.

B. Cl.

Perc.

Vln.

Vc.

Cpu.

ff f ff mf

ff f ff mf

Fixed media etc.

3

182

Picc.

B. Cl.

Perc.

Vln.

Vc.

Cpu.

ff f ff mf ff mf ff mp

ff f ff mf ff mf ff mp

pizz. arco.

146 Hz

189

Picc.

B. Cl.

Perc.

Vln.

Vc.

Cpu.

ff mp ff f

ff mp ff f

pizz. arco. pizz. arco. pizz. arco.

match the volume of
the other sign waves.

240 Hz

195

Picc.

B. Cl.

Perc.

Vln.

Vc.

Cpu.

pizz.

arco.

201

match

184 Hz

207

match

311 Hz

214

Picc.
B. Cl.
Perc.
Vln.
Vc.
Cpu.

ff mp ff mp ff p ff mp ff mp

arco. pizz. arco. pizz. arco.

match 267 Hz

221

Picc.
B. Cl.
Perc.
Vln.
Vc.
Cpu.

ff p ff mp ff p ff mf < ff mp

pizz. arco. pizz. pizz.

match 192 Hz

228

Picc.
B. Cl.
Perc.
Vln.
Vc.
Cpu.

ff p ff mf < ff

pizz. pizz. pizz. pizz.

sub mf

sub mf

match 252 Hz

235

Picc.

B. Cl.

Perc.

Vln.

Vc.

Cpu.

Fixed media 2

239

match

I **Conductor** cues the instruments (but not CPU). For reference, everyone can use the timer that appears at the TV screen at this moment.

Senza misura

ca. 1'

Timer at: **[1:00]**

Fade the signwaves in and out ad lib. but keep the 73.42 going at all times. No more than 5-6 sign waves going on at once and no less than 2. The fade-ins and outs should be gradual and smooth but should also vary in speed. Find as many beating patterns as possible. Keep it calm and ambient. Dynamically rich but not too loud.

Timer ON.

J

ca. 10" **ca. 1'** **ca. 10"**

[1:00] **[2:20]**

Choose freely from the pitches inside the box. Play only the amount of notes indicated in the score following the conductor's cues. **Use mouth vibrato for every note** and continue with it until the note disappears completely. The speed of the mouth vibrato should be as consistent as possible but **always different for every different note**.

China with bow

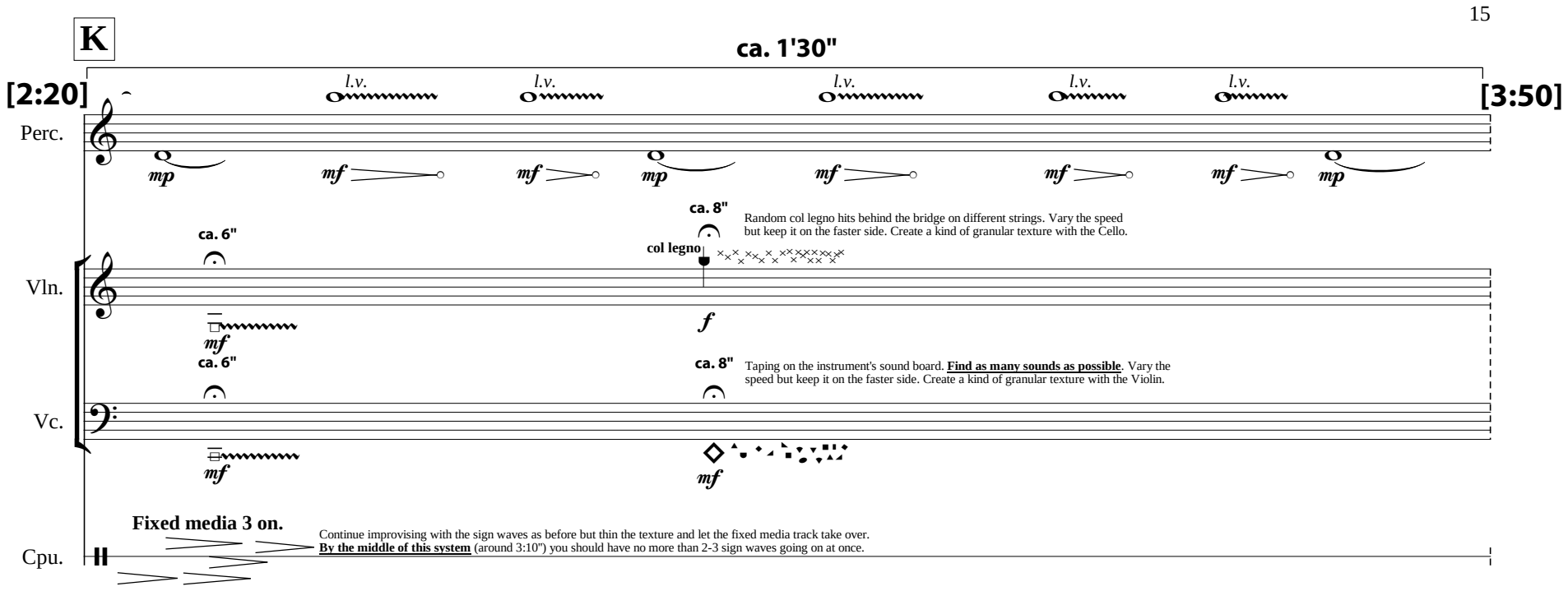
vib. (with medium-hard mallet)

Concert BD. Medium-soft mallet.

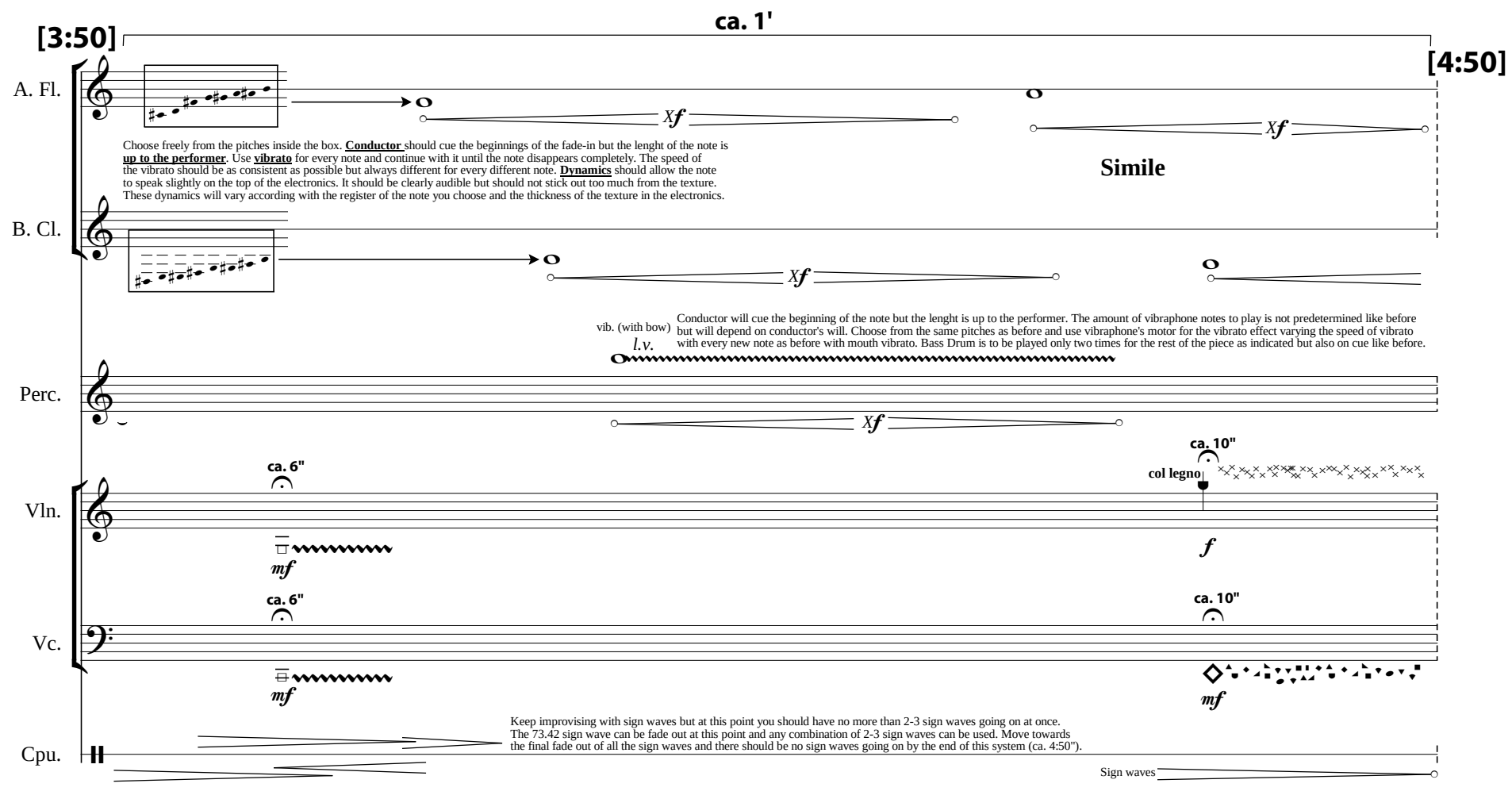
ca. 6" On cue.

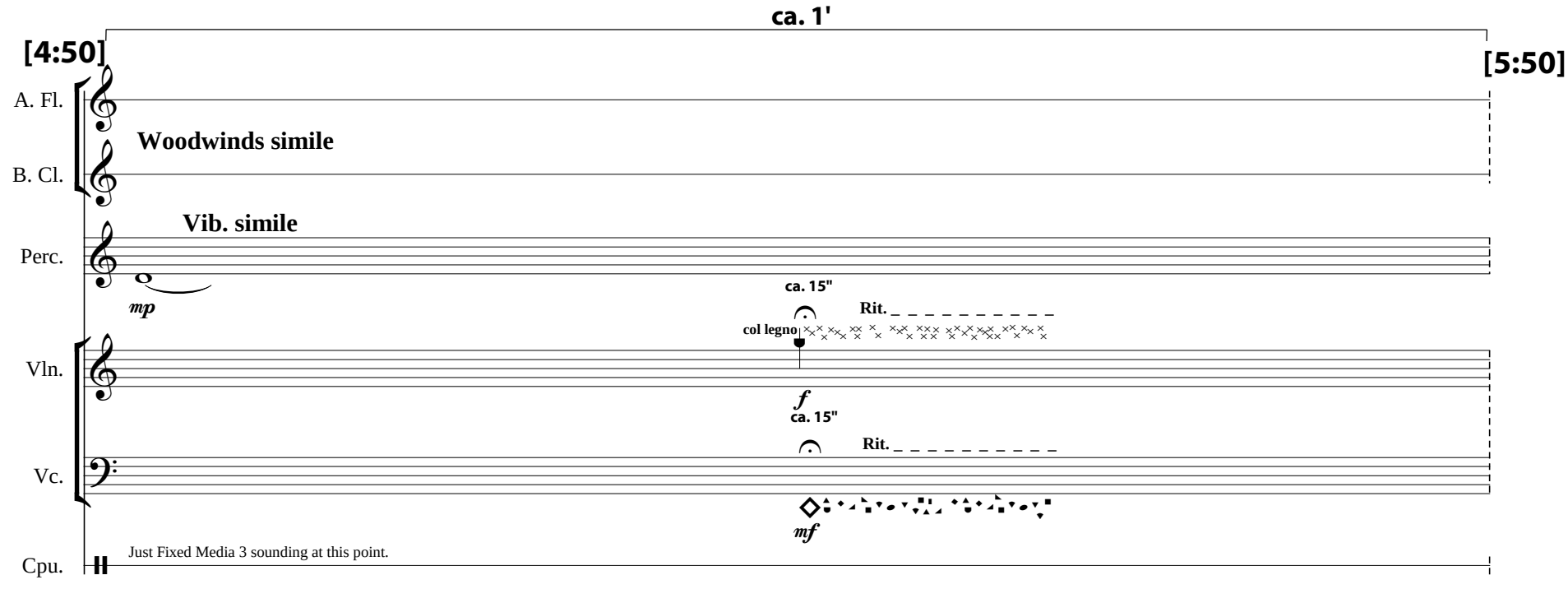
ca. 6" On cue.

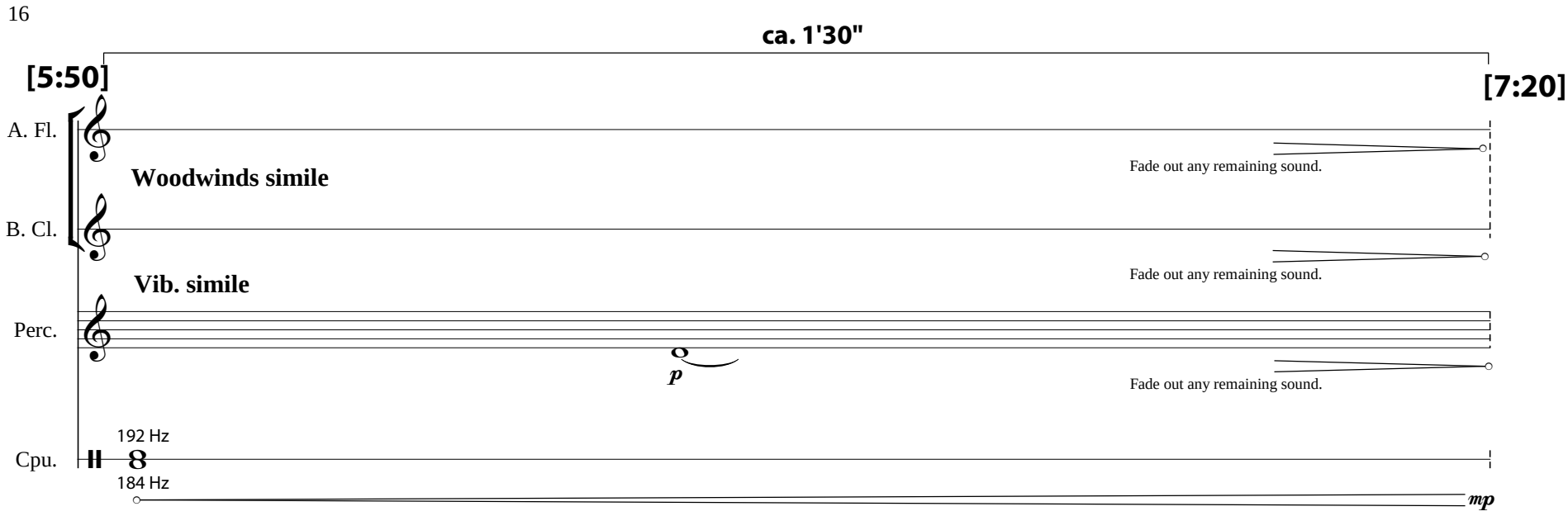
Continue as before ad lib.

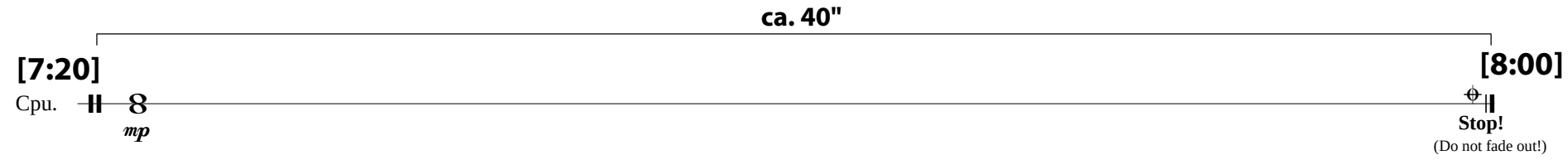


Conductor cues the beginning of each long note in the woodwinds and percussion but the lenght of these notes should be left up to the performers. The long notes should overlap and come in and out of each other. They can start very close to each other but should never start appearing at exactly the same moment. Periods of rest can happen in between the events where no note is sounding in any of the instruments but they should be no longer than 10" in duration and should appear no more than 2 - 3 times until the end of the piece. Strings on cue as previously, no cues for CPU.






ca. 1'30"
[5:50]
[7:20]
A. Fl.
Woodwinds simile
Fade out any remaining sound.
B. Cl.
Vib. simile
Fade out any remaining sound.
Perc.
p
Fade out any remaining sound.
192 Hz
Cpu.
8
184 Hz
mp


ca. 40"
[7:20]
[8:00]
Cpu.
8
mp
Stop!
(Do not fade out!)