ANTI_DYNAMO

for piano duo, electronics and video projection

approx. 10'

ÖZKAN UMUTCAN BAPBACI

- 2025 -

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Performance Notes

General Abbreviations and Symbols

Unless indicated otherwise, accidentals apply throughout the measures they are used. Also, the same pitch class in different octaves are individually indicated for their accidentals.



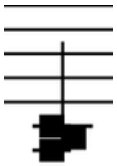
: Gradual transition from one phase towards another



: The thicker arrow indicates the given instructions should continue unless stated otherwise



: let vibrate, the sound should not be damped after the initial attack, but should be allowed to die away.

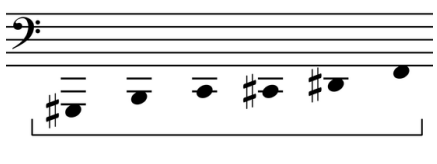


: performed by smacking the palm of the hand for a cluster on the keyboard. Pianists can use Range 1 for low register clusters and Range 6 for high register clusters (as indicated on the Legend).

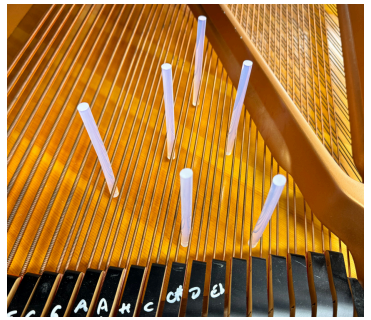
Piano Preparation

Both pianos are separated into 6 regions, 3 of them prepared and 3 of them non-prepared. The prepared ranges (2,4,5) and their properties are as follows:

Region 2 - Prepared with silicon sticks

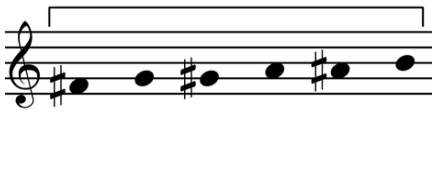


For execution:

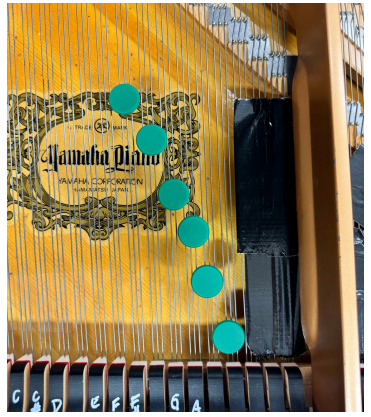


Prepared by inserting silicon sticks in between the indicated strings for a bell-like sound.

Region 4 - Prepared with magnets

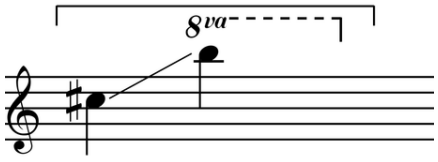


For execution:

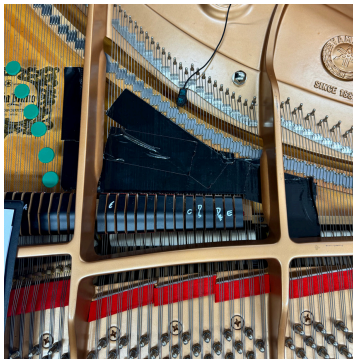


Prepared by placing small circular magnets on the indicated strings. when played ppp-p gives a bell sound, when louder, metallic, grained and percussive.

Region 5 - Prepared with duct tape



For execution:

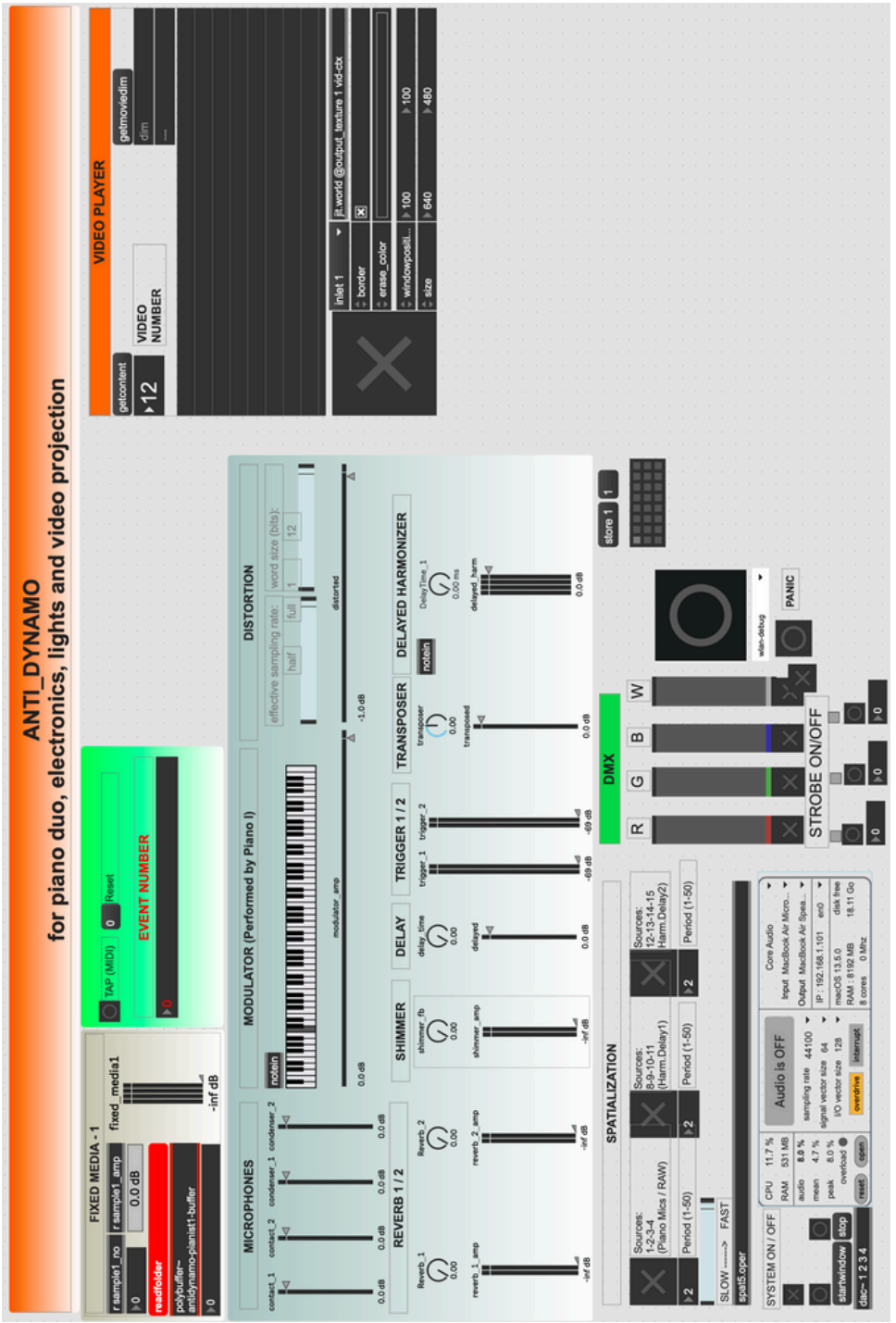


Prepared by covering the indicated range with duct tape. There are a variety of versions to obtain this effect, but the shown setup is recommended due to its characteristic reduction of the tone, yet still capturing recognizable fundamentals.

Performance Notes

Technical Rider

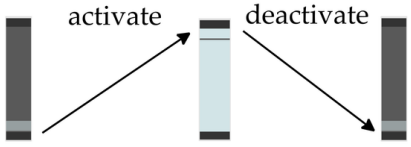
- Pianist I is doubling with an 88-key MIDI Keyboard, with sliders and knobs. The keyboard is connected to a computer with MaxMSP installed.
- Both Piano I and II are connected with condenser and contact microphones, which are then connected to a minimum 4-input/4-output audio interface, entering the laptop.
- MAX Patch has the following functions that use source material obtained live from the microphones and controlled by Pianist I through MIDI Keyboard:
    - Reverb I (for Piano I) and Reverb II (Piano II) and Delay
    - Shimmer
    - Trigger
    - Distorter
    - Modulator
    - Delayed Spectral Harmonizer
    - Transposer
    - Sampler (connected to MIDI Keyboard)
    - Audio Spatialization for Quadrophonic Setup
    - Video Player
    - LED Light Controller (DMX)

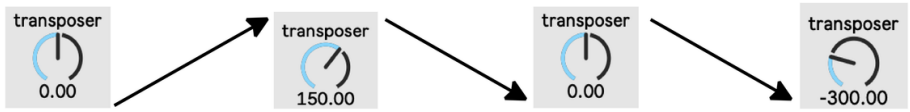


Performance Notes

Technical Rider

All units that result in sonic process (reverb, delay, shimmer, trigger, distort, modulator, harmonizer, sampler, transposer) are activated or deactivated by increasing/decreasing their amplitude value. Units with available parameters to control are connected to knobs. Both the sliders and the knobs on the Keyboard are then assigned to control these corresponding units. These are denoted on the score as such:





Reverb I (for Piano I) and Reverb II (Piano II) and Delay

Piano I and Piano II's condenser microphone inputs are sent to the reverb module. Pianist I assigns a single single knob to manipulate reverb ratio (higher the ratio, bigger the reverb space). The contact mic from Pianist II is connected to delay module, similarly, delay ratio (ms) is controlled by an assigned knob.

Shimmer

Condenser microphone inputs are connected to the shimmer module, creating an ethereal and muddy soundscape. Its parameters are fixed and will not be controlled.

Trigger

Piano I and IIs contact microphone inputs are connected to the trigger module. Depending on the dynamic of the audio signal, the trigger module sends out different samples (Bell sounds for Piano II and granular sounds for Piano I).

Distorter

Condenser mic input from Piano II is connected to distorted module, which is controlled with an assigned knob by performer. Depending on the quality of the mics or the preference of the performer, two parameters of distortion can be used to manipulate live signals.

Modulator

The condenser and contact mic input from Piano II are connected to the modulator module. Pianist I uses the range 5 of the Keyboard (as shown on the legend) to improvise on live signal of Piano I, creating modulated sonic material.

Delayed Spectral Harmonizer

Condenser and contact mic inputs from Piano I are connected to the transposer module. Pianist I uses an assigned knob on the keyboard to transposed live signal of Piano I. The transposition module can move between the (-600,600) range, in a glissando manner, meaning gliding between higher and lower frequencies is possible and can be improvised by Pianist I.

Performance Notes

Sampler

Pianist I uses ranges 2, 3, and 4 to initiate video samples, long-4-channel-electroacoustic samples, and the short samples; respectively.

Audio Spatialization for Quadrophonic Setup

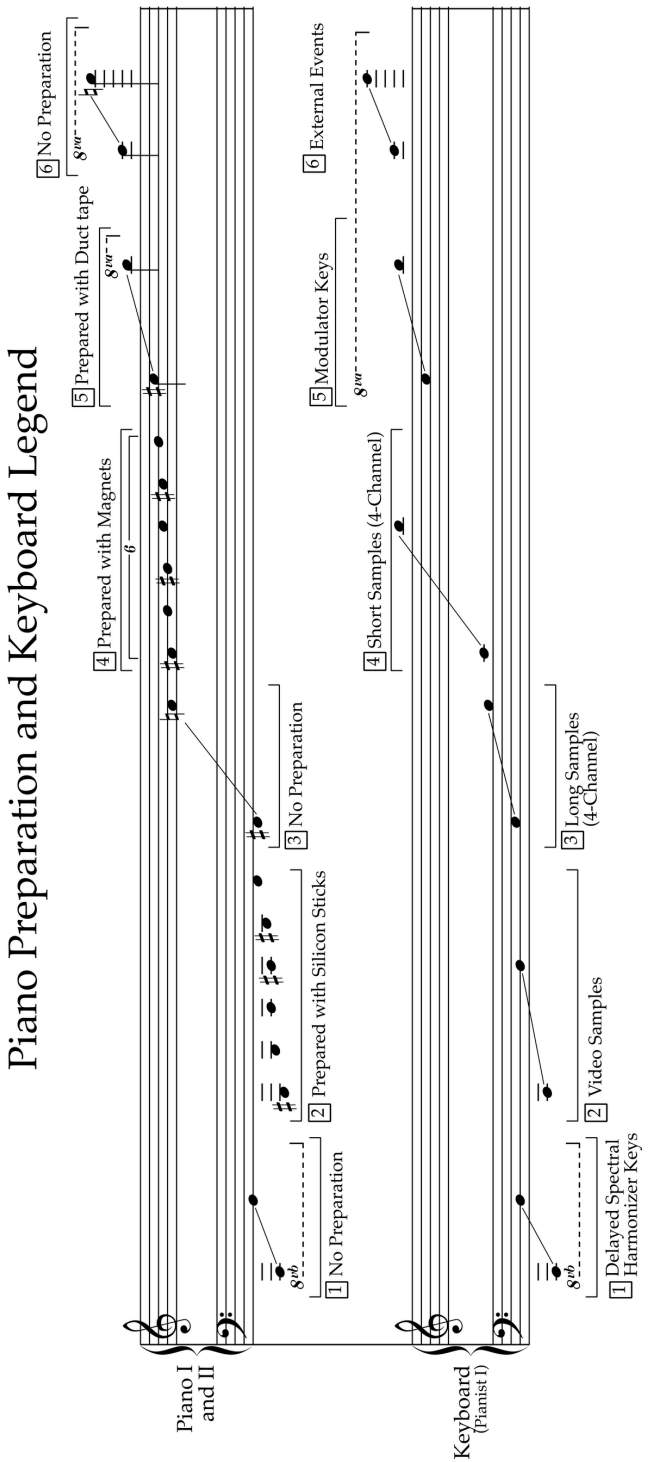
Pianist I can activate the SPAT module on Max MSP to move sound objects inside a Quadrophonic setup. Movement is fixed and circular. The pace of movement can be increased or decreased by an assigned slider on the MIDI Keyboard.

LED Light Controller (DMX)

Pianist I or an external performer can utilize the light by turning on and off the tab, which can be assigned to an external controller. For compatibility reasons, 6th range of the Keyboard (denoted as “External Events” on the Legend) can be used to control the LED lights as well.

The updated version of the max patch, sound and video samples can be found in the drive link here:

Piano Preparation and Keyboard Legend



An examplary improvisation recording with prepared piano and the trigger:

Composer's Notes

ANTI_DYNAMO

A dynamo is a process where motion (like flowing liquid metal in a planet's core) keeps a magnetic field alive. An antidynamo theorem tells us when this process won't work—if things are too symmetrical or constrained, the magnetic field will die out. Thus, the antidynamo theorems describe situations where a magnetic field fails to sustain itself due to too much symmetry or constrained motion. This means that if a system is too perfectly balanced or constrained to the limit that it does not enable any non-conforming elements within the established system, it can't sustain itself and can only fade away.

Concerning this phenomenon, the work investigates time and motion through altered, developed, dissolved, and interrupted patterns of existence. The mechanical feeling as juxtaposed to the ethereal feeling obtained by the performer/electronics interaction aims to investigate this dichotomy existing in an insincere balance and extroverted sharpness, which fades away and withers. Performers are thus welcomed and encouraged to engage with readily available processes to create personal means of expression and sound investigation while being guided by an overall arc that moves between mechanized and personalized characters.

Over the time that I was developing this piece, I witnessed the turmoil, injustice, and cruelty inflicted upon people demanding their right to individuality within a bluntly constrained authority in my country, Türkiye. This distant experience led me to draw parallels between the antidynamo phenomenon and the broader social shifts currently unfolding in my country.

The piece is written for and dedicated to the wonderful piano duo Ernst Surberg & Esther Ropón, as part of their residency at Mozarteum University Salzburg.

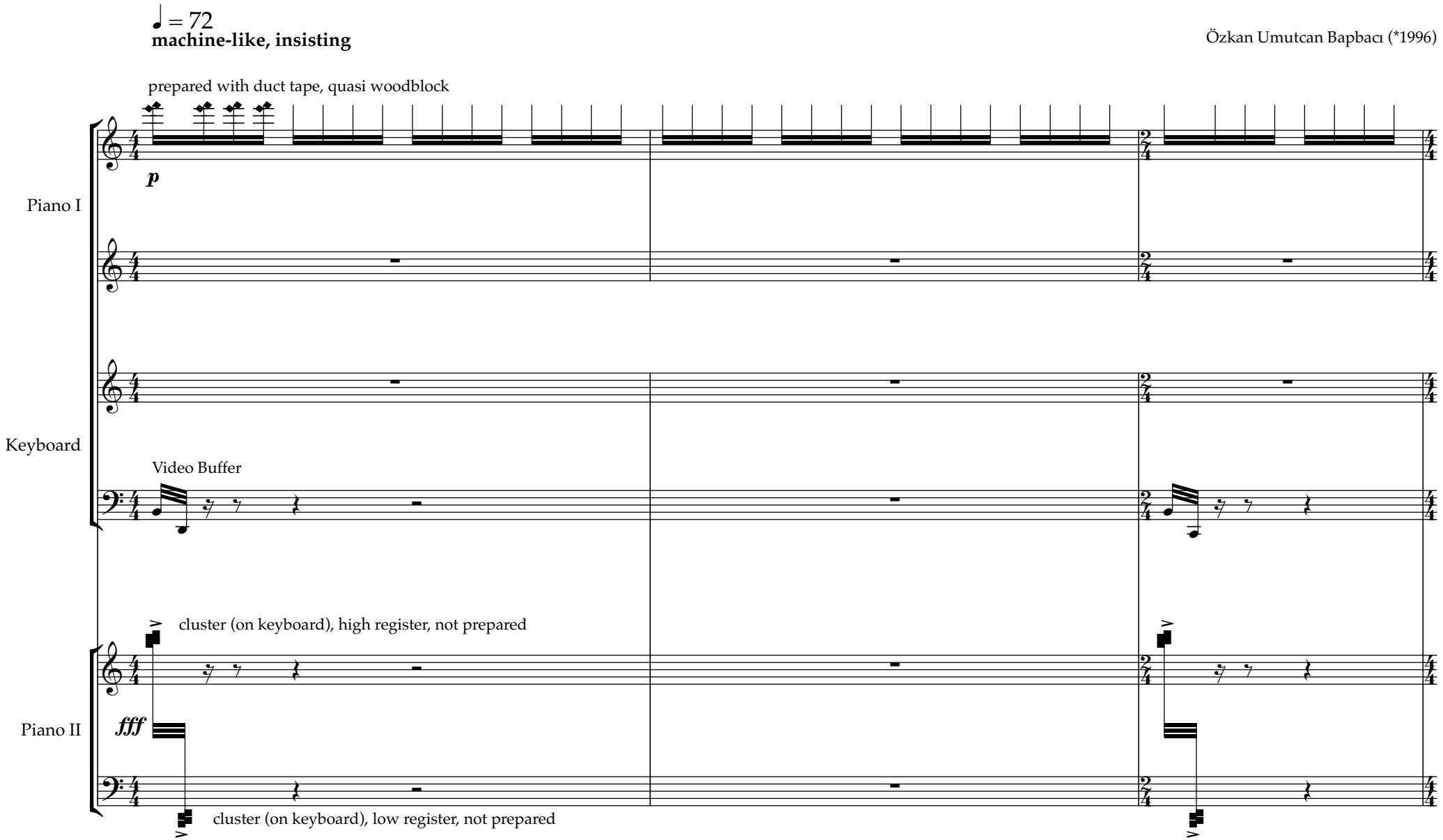
Özkan Umutcan Bapbacı
Salzburg, 2025

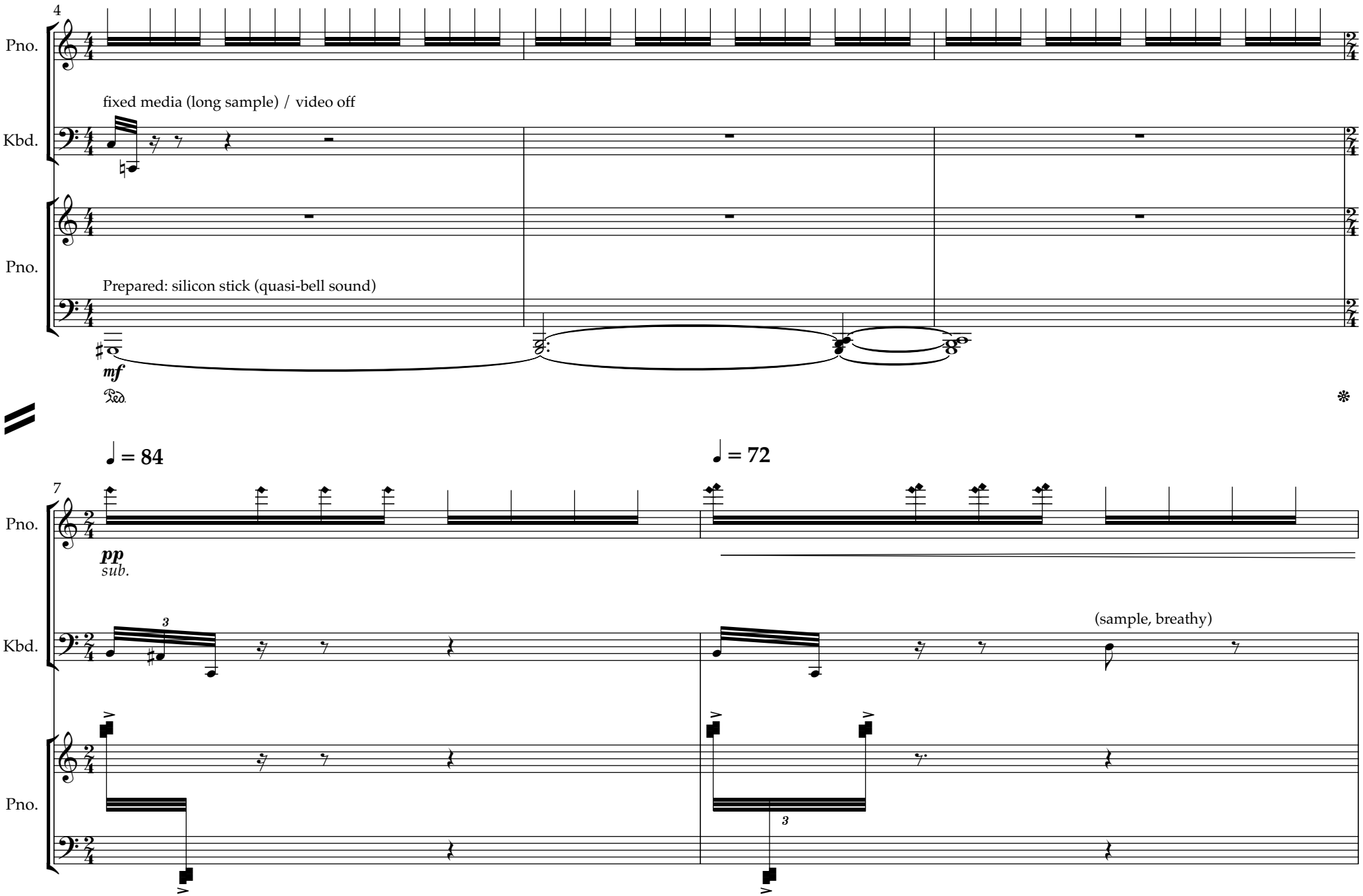
for Ernst Surberg & Esther Ropón

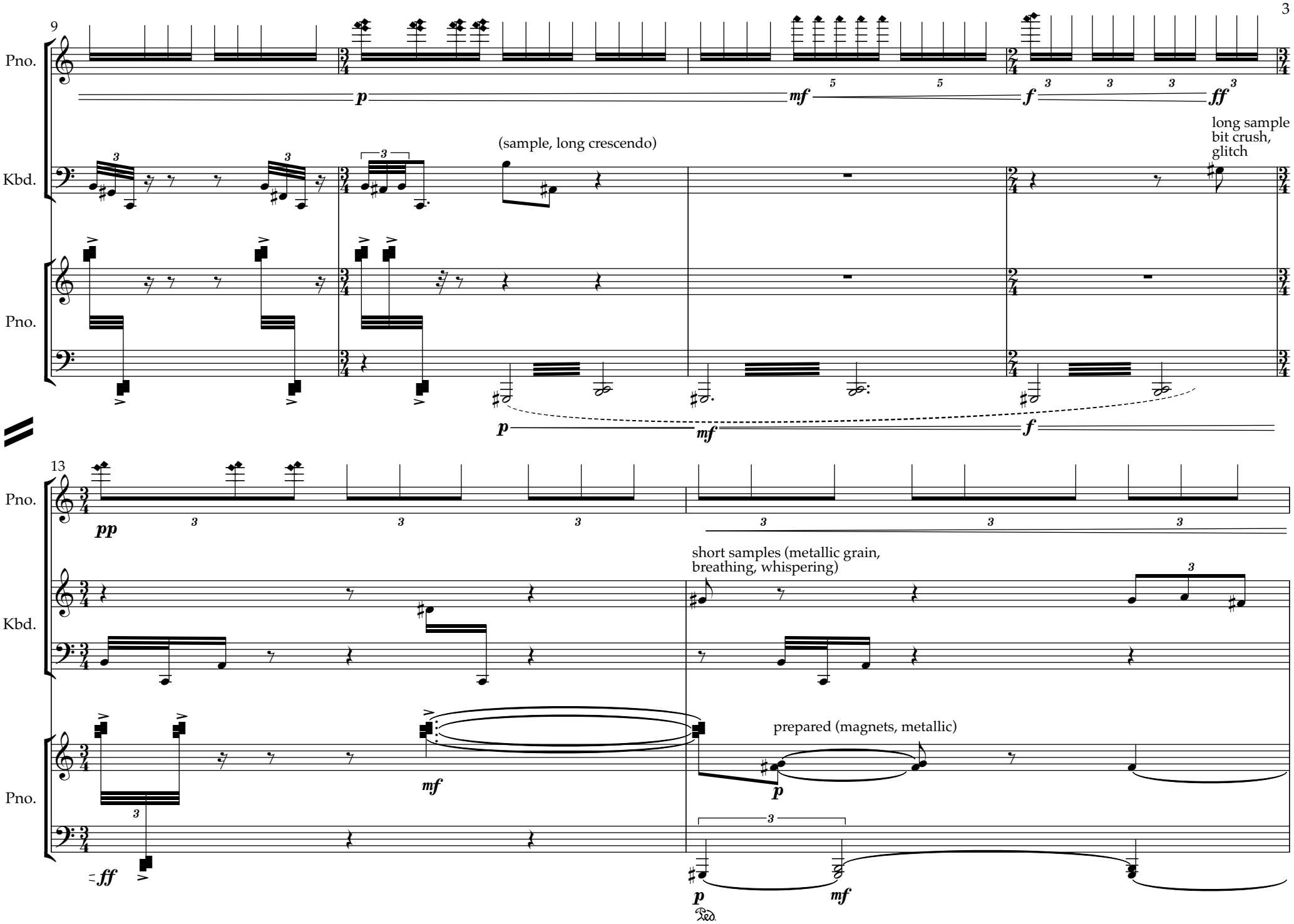
ANTI_DYNAMO

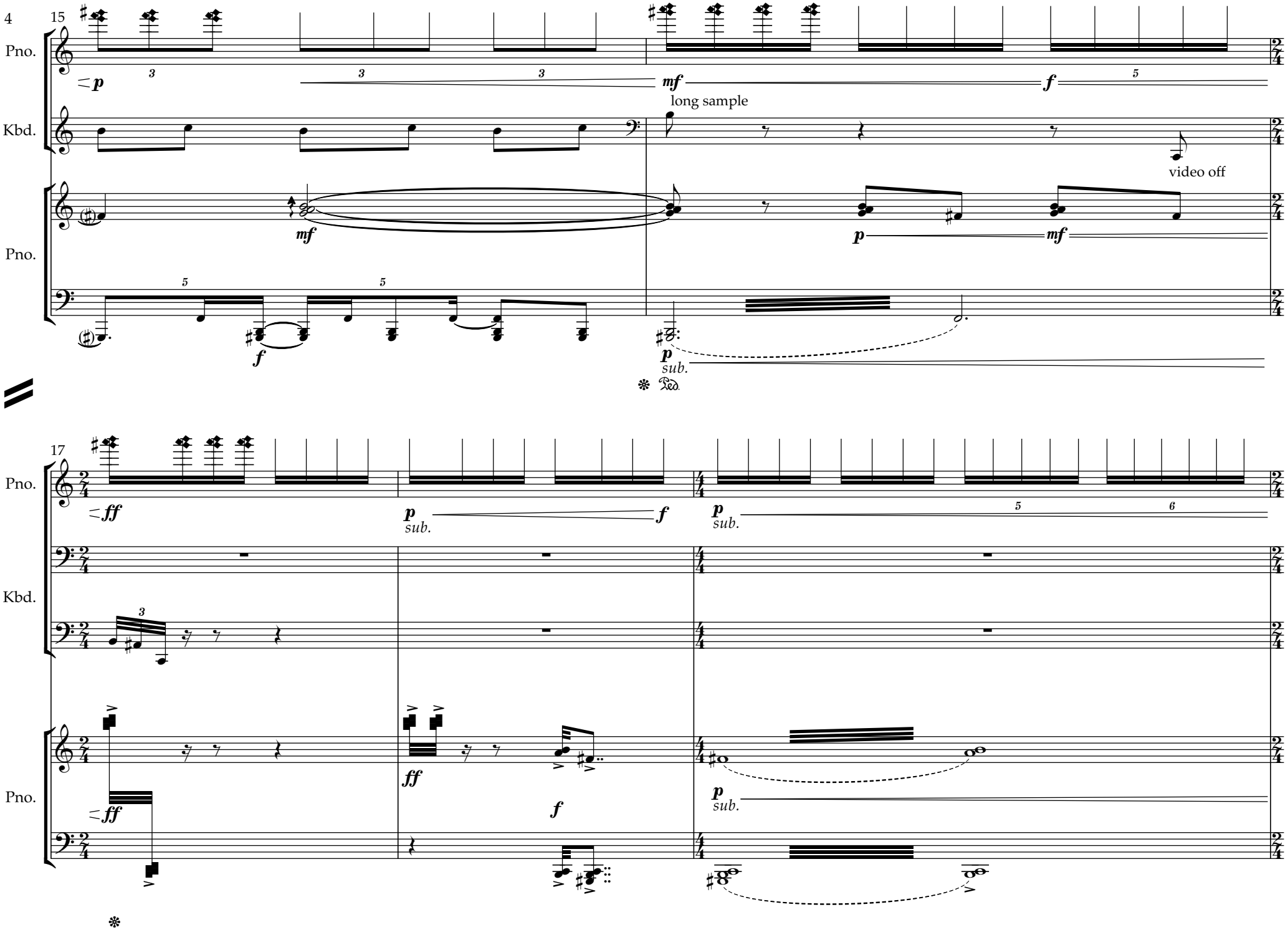
for piano duo, electronics, lights and video projection

Özkan Umutcan Bapbacı (*1996)




4
Pno.
fixed media (long sample) / video off
Kbd.
Pno.
Prepared: silicon stick (quasi-bell sound)
mf
Ped.
♩ = 84
♩ = 72
7
Pno.
pp
sub.
Kbd.
(sample, breathy)
Pno.


9
Pno.
p
mf
f
ff
Kbd.
(sample, long crescendo)
long sample
bit crush,
glitch
Pno.
p
mf
f
13
Pno.
pp
Kbd.
short samples (metallic grain,
breathing, whispering)
Pno.
mf
prepared (magnets, metallic)
p
ff
p
mf
Ped.


15
Pno.
Kbd.
Pno.
long sample
video off
sub.
17
Pno.
Kbd.
Pno.
sub.

♩ = 72
furious, deterioting

20

Pno.

ff

Pno.

ff

Increase AMP:
-Transposer
-Reverb_1
-Reverb_2

♩ = 54

22

Pno.

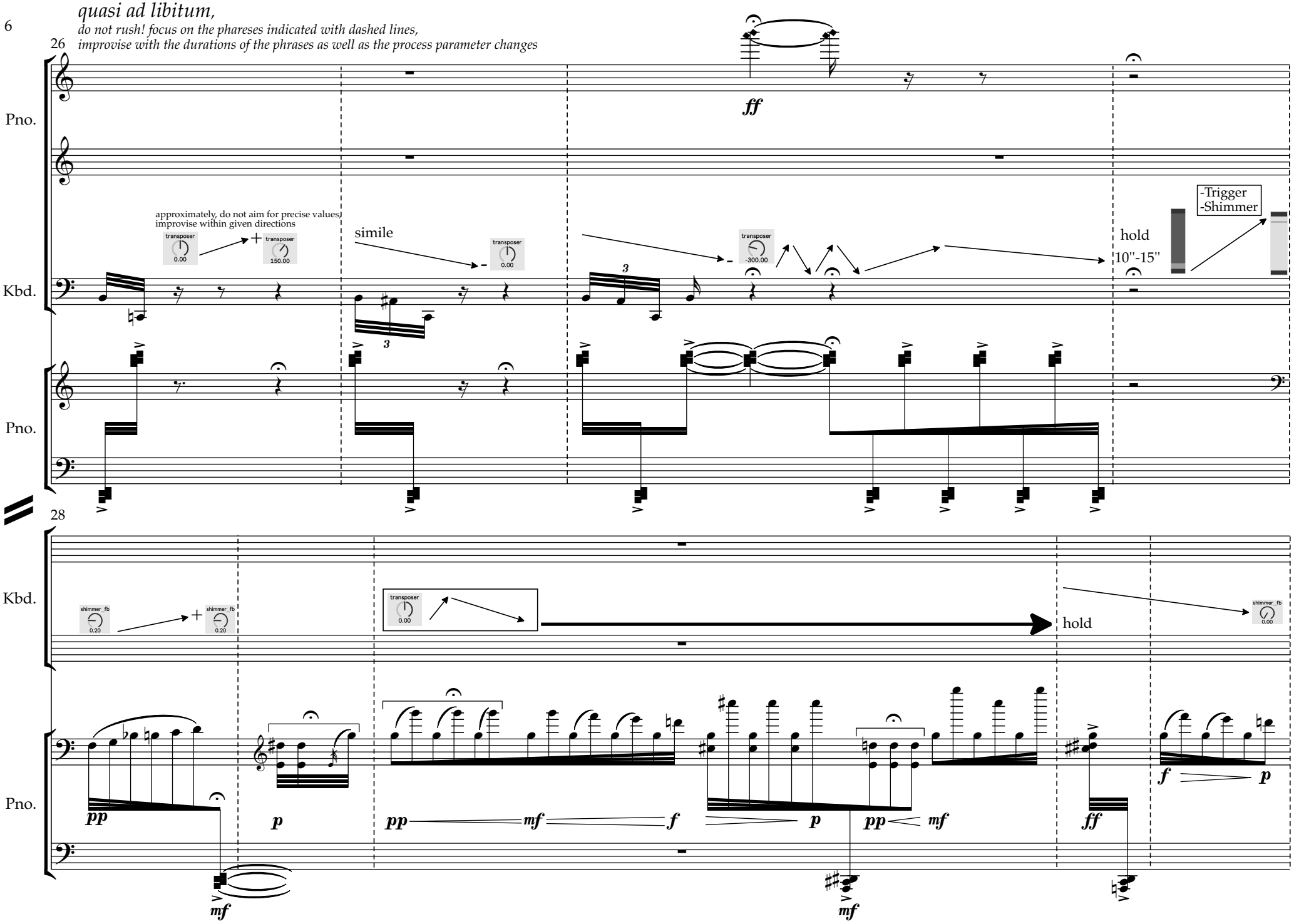
Pno.

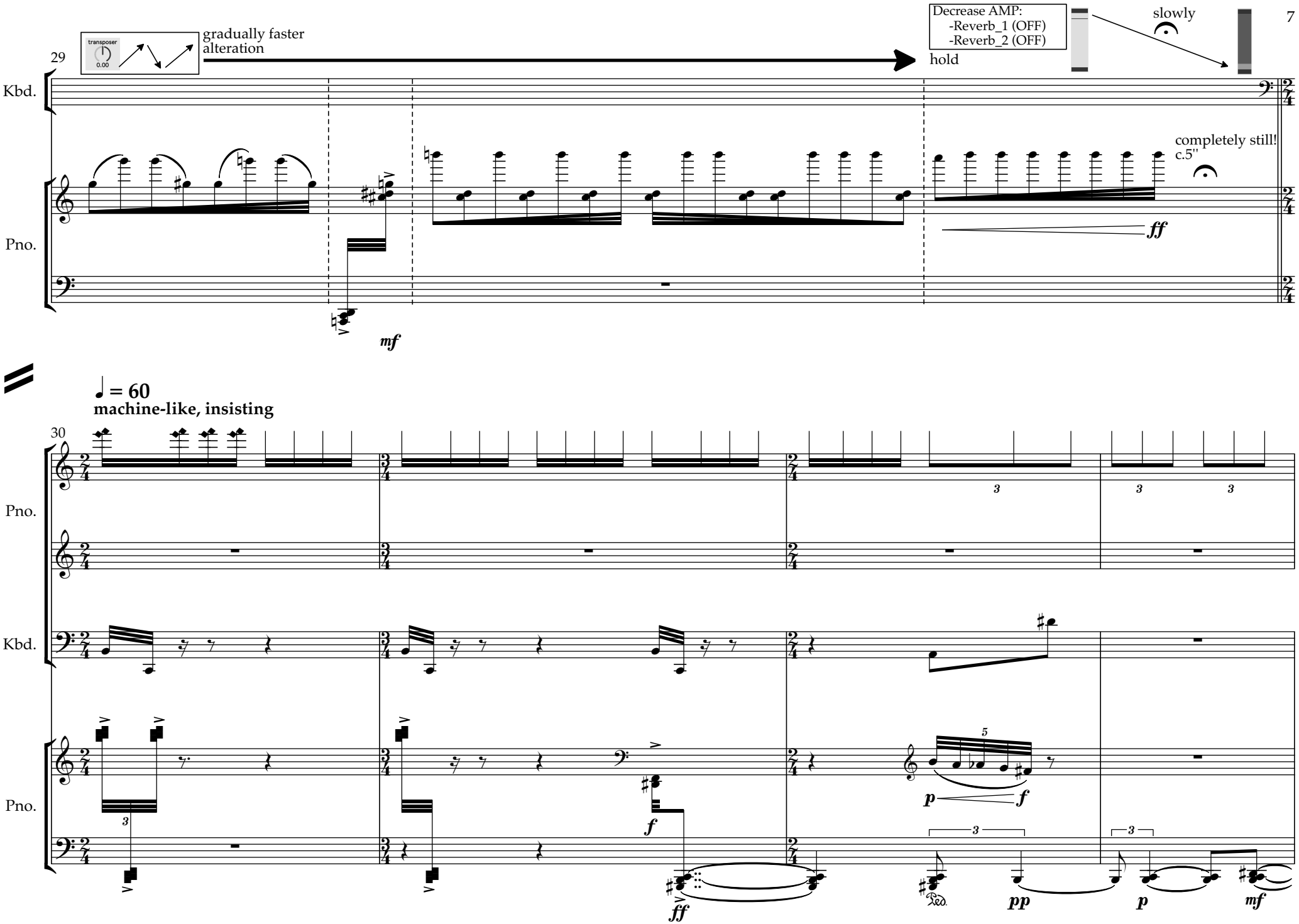
p

Ped.

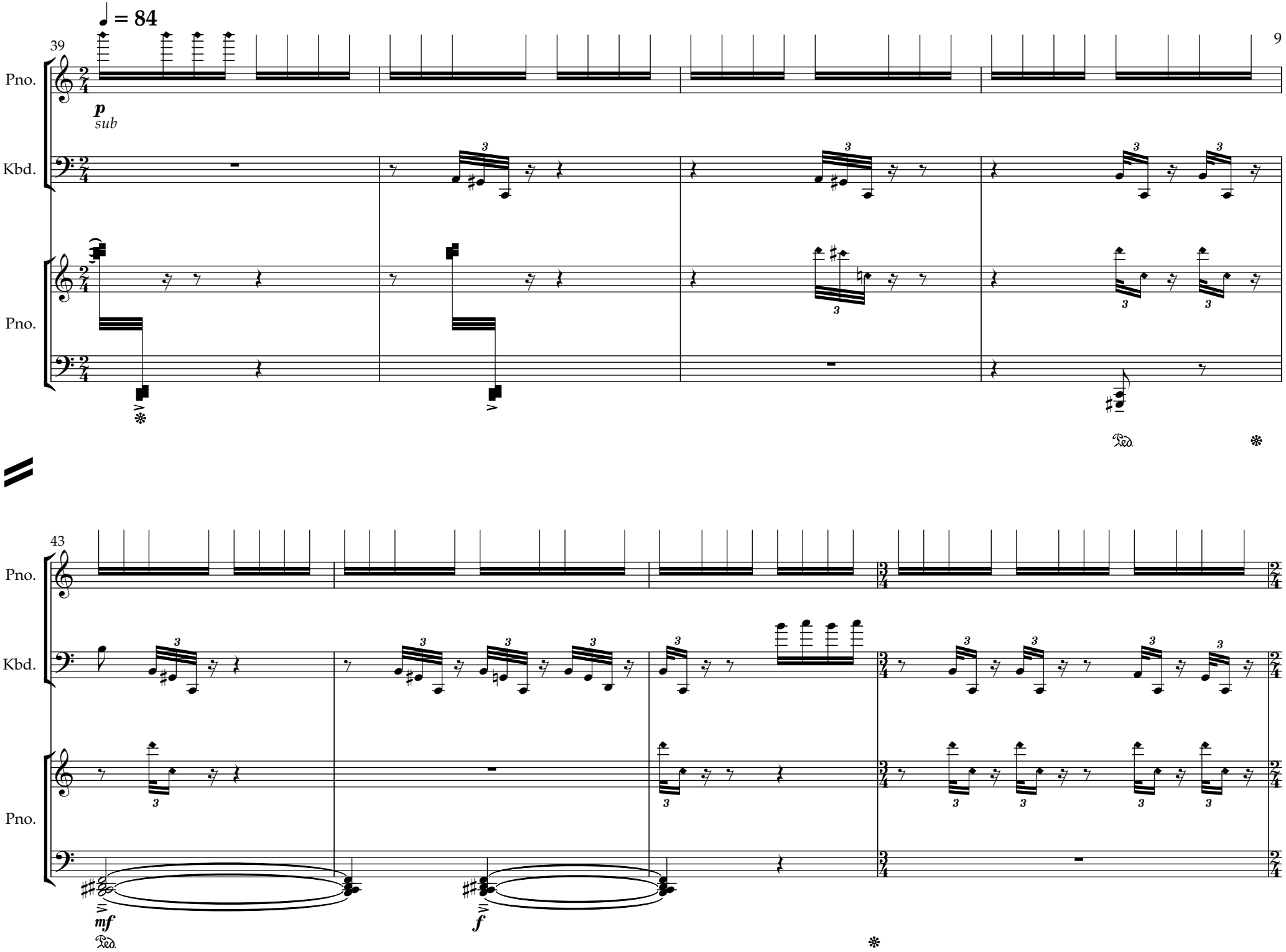
very quietly

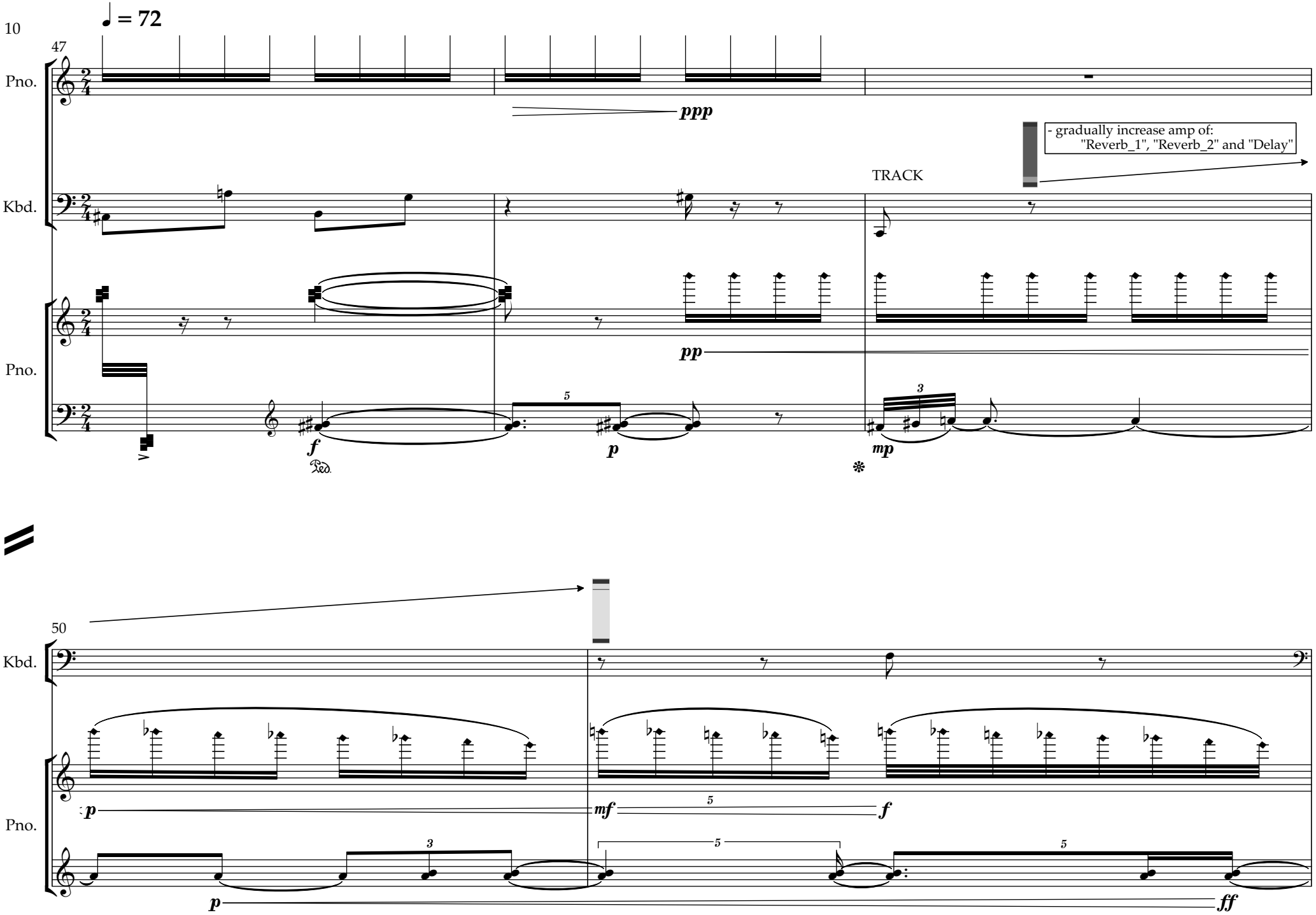
quasi ad libitum,
do not rush! focus on the phareses indicated with dashed lines,
improvise with the durations of the phrases as well as the process parameter changes

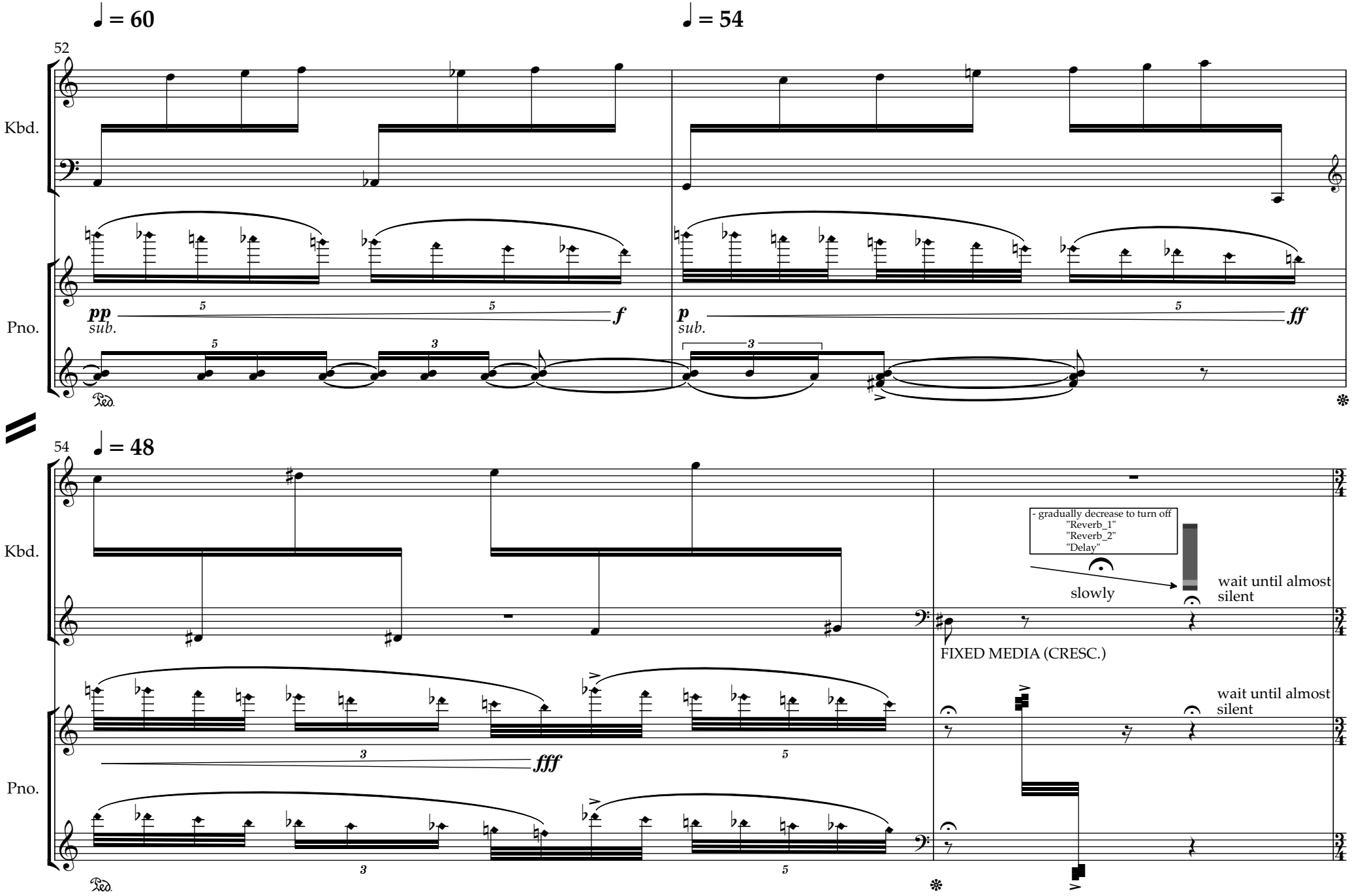


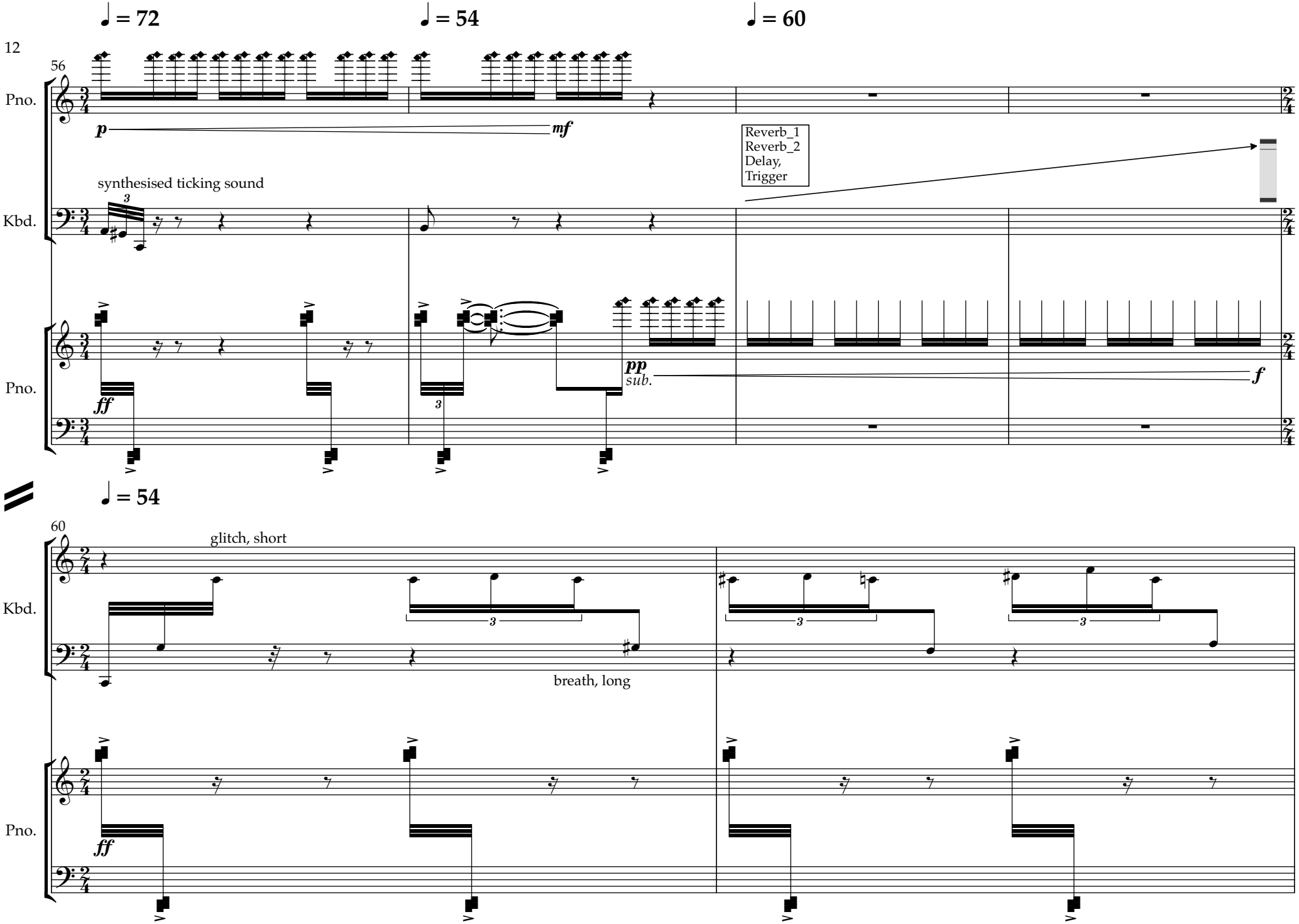

29
transposer
0.00
gradually faster
alteration
Decrease AMP:
-Reverb_1 (OFF)
-Reverb_2 (OFF)
hold
slowly
Kbd.
Pno.
completely still!
c.5"
ff
mf
♩ = 60
machine-like, insisting
30
Pno.
Kbd.
Pno.
f
p
f
ff
pp
p
mf

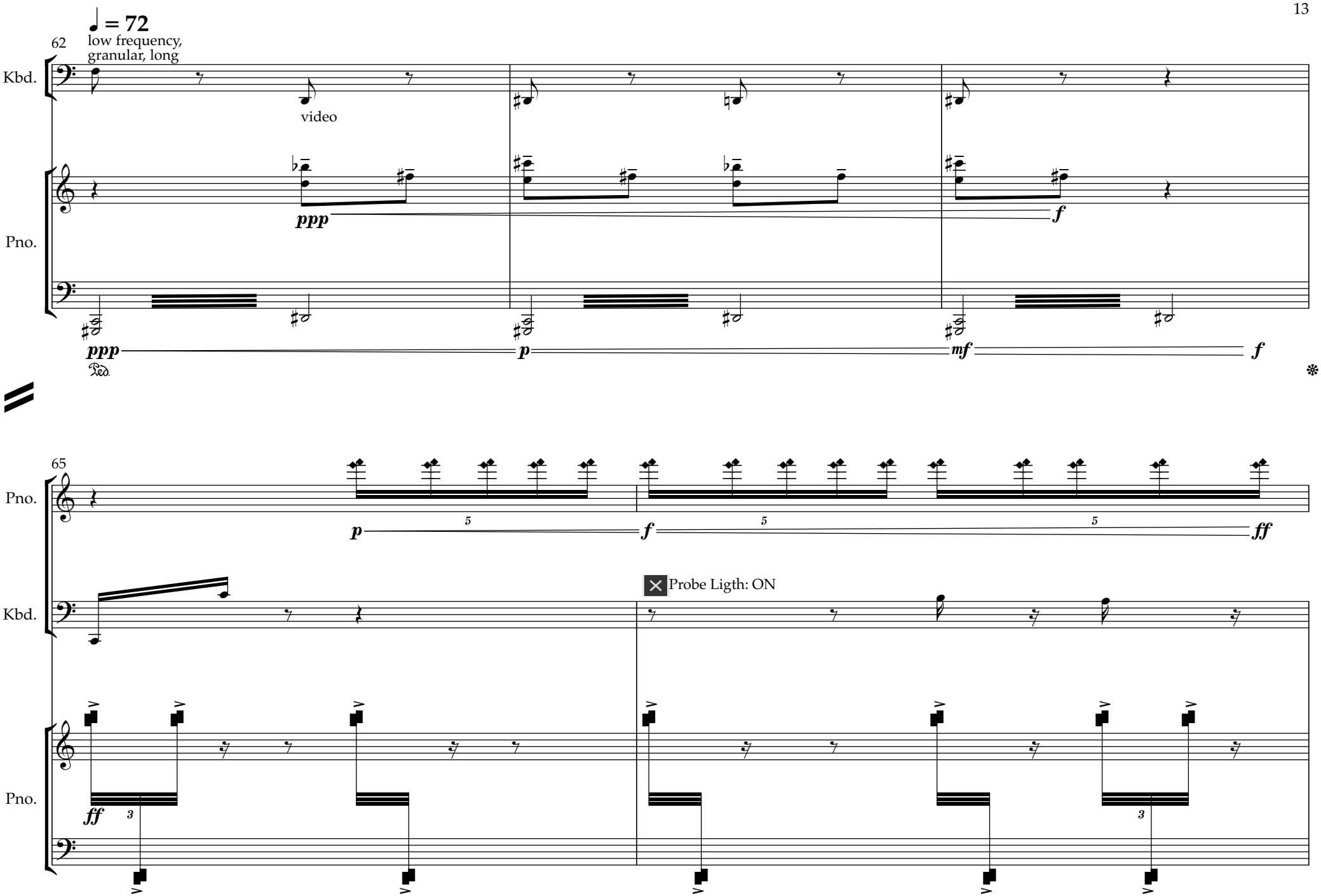

34
Pno.
Pno.
f
Ped.
p
36
Pno.
Pno.
ff
fff
ff
f
ff
fff

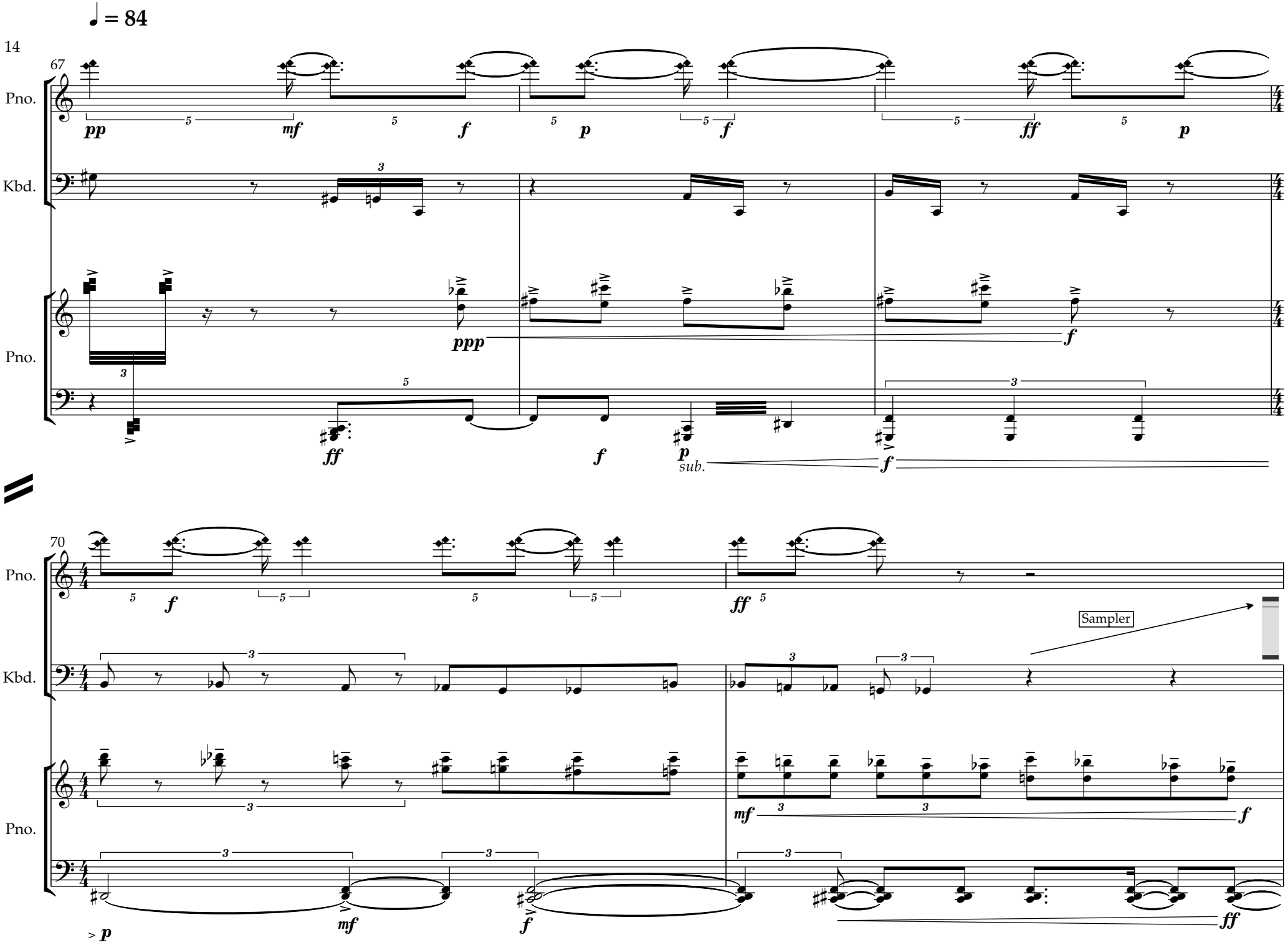

♩ = 84
39
9
Pno.
p
sub
Kbd.
Pno.
43
Pno.
Kbd.
Pno.
mf
f

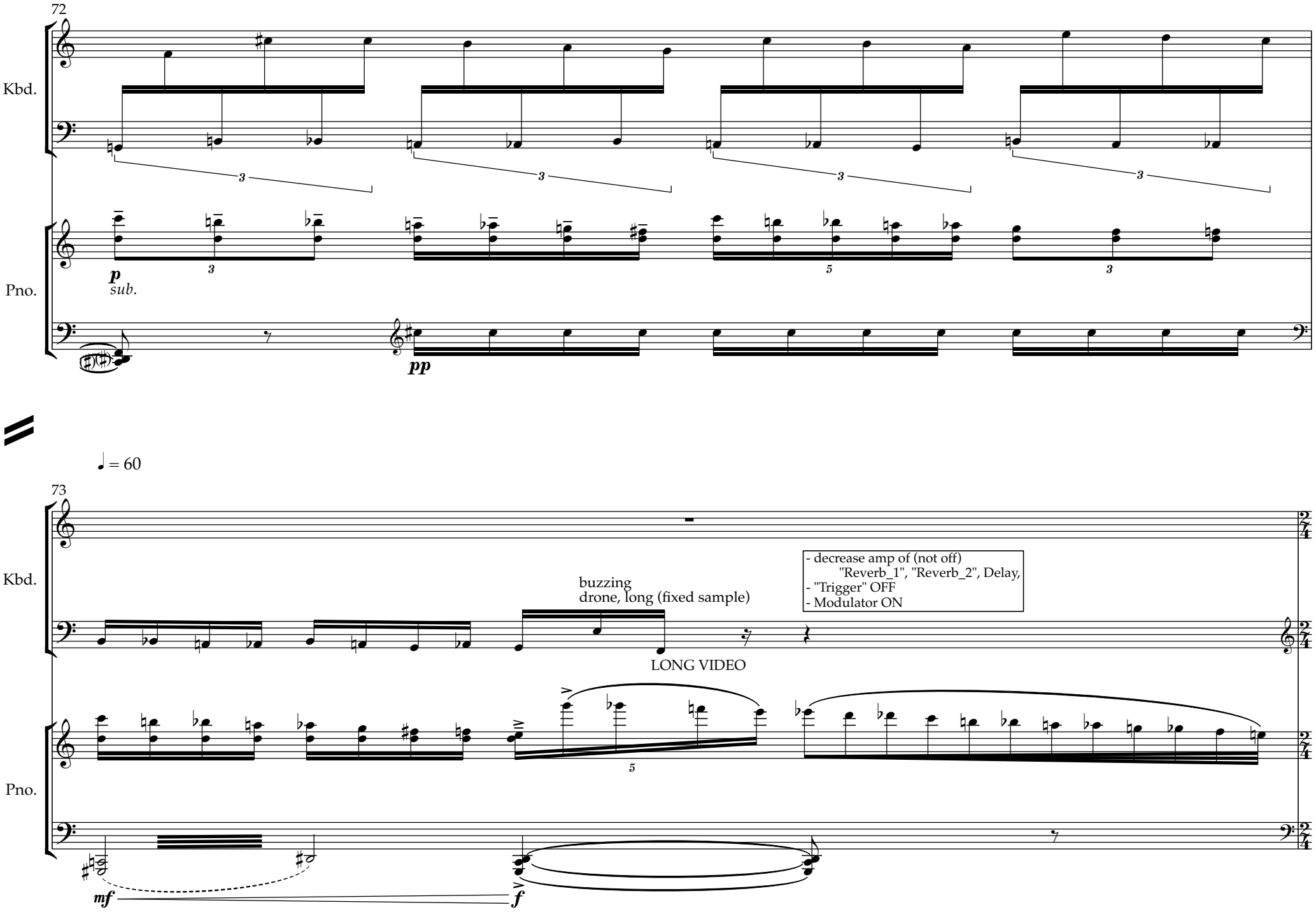

♩ = 72
47
Pno.
ppp
- gradually increase amp of:
"Reverb_1", "Reverb_2" and "Delay"
TRACK
Kbd.
Pno.
pp
f
p
mp
50
Kbd.
Pno.
p
mf
f
p
ff

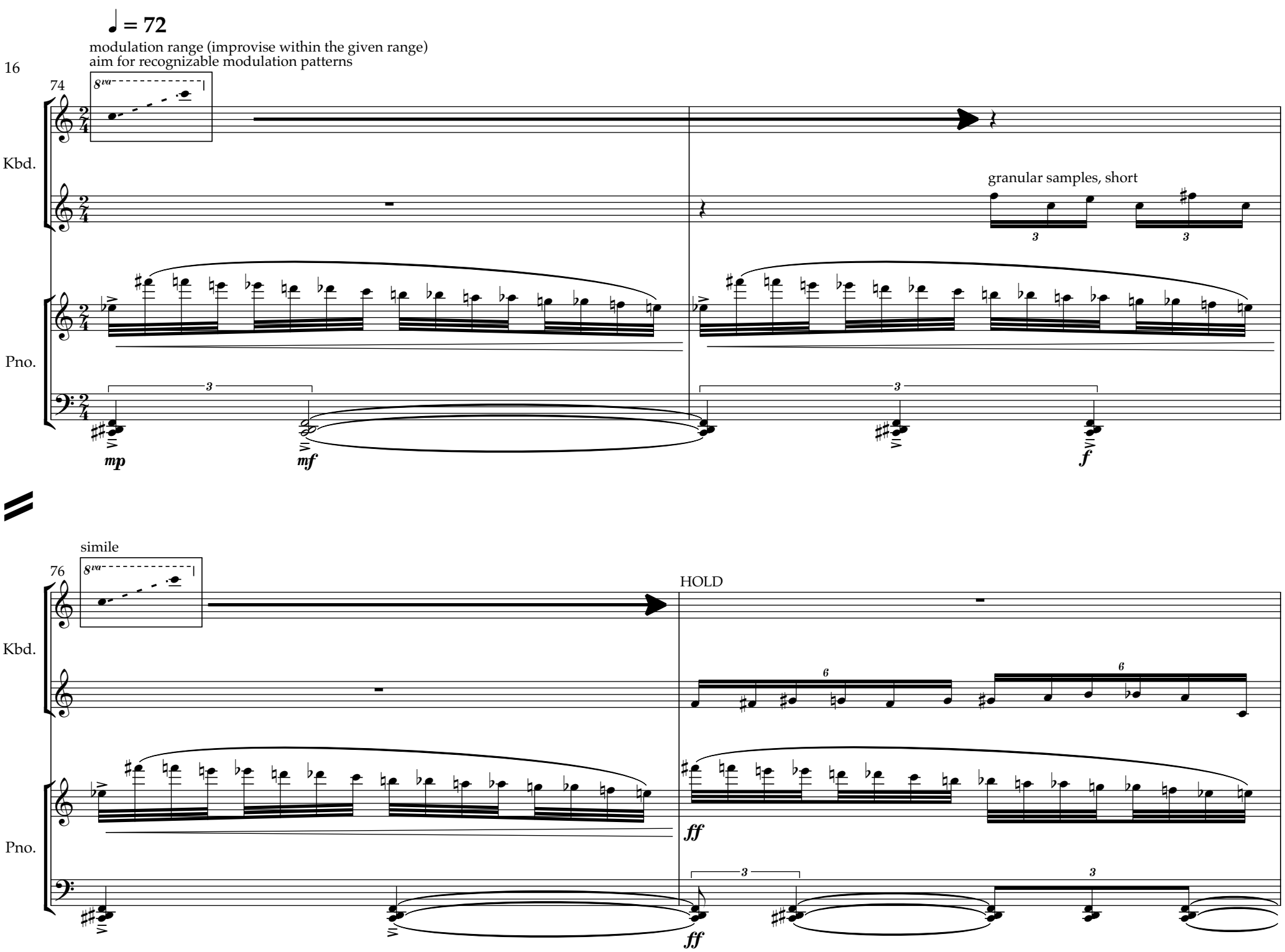

♩ = 60
♩ = 54
52
Kbd.
Pno.
pp
sub.
f
p
sub.
ff
54
♩ = 48
Kbd.
Pno.
- gradually decrease to turn off
"Reverb_1"
"Reverb_2"
"Delay"
slowly
wait until almost
silent
FIXED MEDIA (CRESC.)
wait until almost
silent
fff

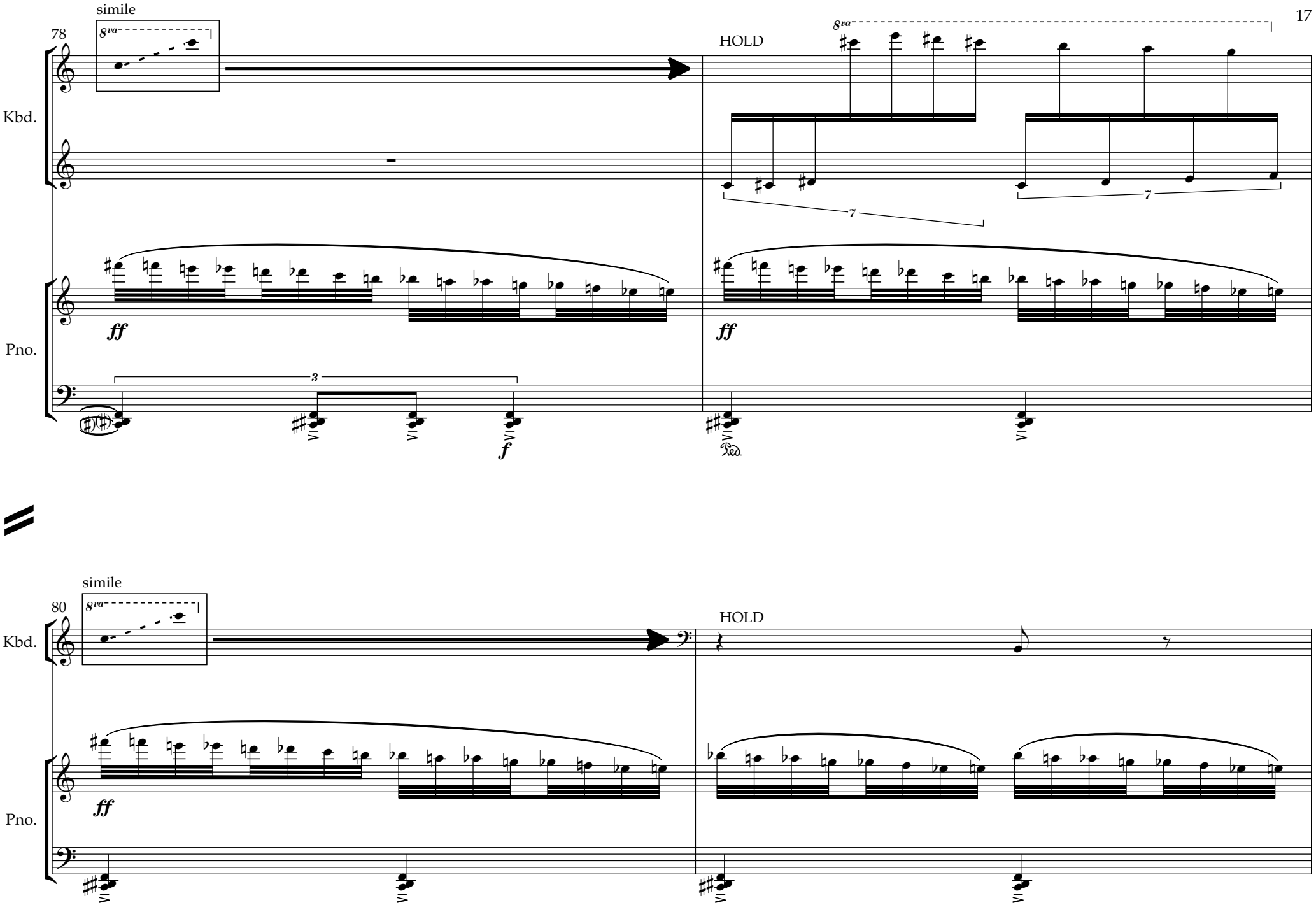

♩ = 72
♩ = 54
♩ = 60
56
Pno.
p
mf
Reverb_1
Reverb_2
Delay,
Trigger
synthesised ticking sound
Kbd.
Pno.
ff
pp
sub.
f
♩ = 54
60
glitch, short
Kbd.
breath, long
Pno.
ff


♩ = 72
low frequency,
granular, long
62
Kbd.
video
Pno.
ppp
f
ppp
Ped.
p
mf
f
65
Pno.
p
5
f
5
5
ff
Kbd.
Probe Ligth: ON
Pno.
ff
3
3


♩ = 84
67
Pno.
Kbd.
Pno.
70
Pno.
Kbd.
Pno.
Sampler


72
Kbd.
Pno.
p
sub.
pp
♩ = 60
73
Kbd.
Pno.
buzzing
drone, long (fixed sample)
- decrease amp of (not off)
"Reverb_1", "Reverb_2", Delay,
- "Trigger" OFF
- Modulator ON
LONG VIDEO
mf
f


♩ = 72
modulation range (improvise within the given range)
aim for recognizable modulation patterns
74
8va
Kbd.
Pno.
granular samples, short
mp
mf
f
simile
76
8va
HOLD
Kbd.
Pno.
ff
ff

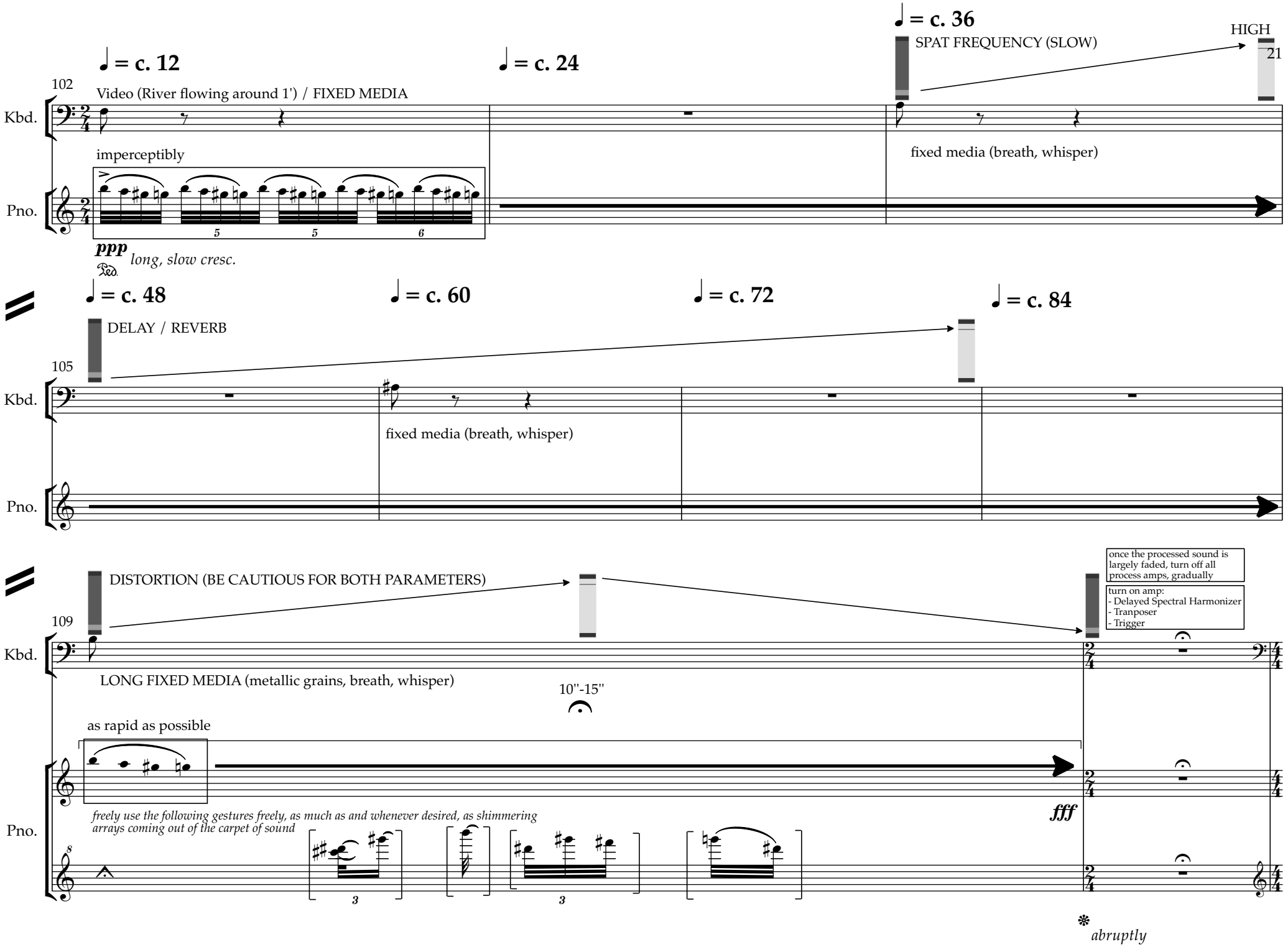

simile
78
8va
HOLD
8va
Kbd.
Pno.
ff
ff
3
7
7
f
Ped.
simile
80
8va
HOLD
Kbd.
Pno.
ff
7


82
Kbd.
Pno.
pp
Trigger
85
Kbd.
Pno.
3
f

♩ = 30
ethereal, gradually dissolving tension




95
Pno.
pp
per sempre
ppp
p
pp
once the processed sound is largely faded, turn off all process amps, gradually
Kbd.
- trigger ON
- shimmer ON
Pno.
mp
mf


♩ = c. 12
♩ = c. 24
♩ = c. 36
HIGH
SPAT FREQUENCY (SLOW)
21
102
Video (River flowing around 1') / FIXED MEDIA
Kbd.
imperceptibly
Pno.
fixed media (breath, whisper)
ppp
long, slow cresc.
♩ = c. 48
♩ = c. 60
♩ = c. 72
♩ = c. 84
DELAY / REVERB
105
Kbd.
fixed media (breath, whisper)
Pno.
DISTORTION (BE CAUTIOUS FOR BOTH PARAMETERS)
once the processed sound is largely faded, turn off all process amps, gradually
turn on amp:
- Delayed Spectral Harmonizer
- Tranposer
- Trigger
109
Kbd.
LONG FIXED MEDIA (metallic grains, breath, whisper)
10"-15"
as rapid as possible
fff
freely use the following gestures freely, as much as and whenever desired, as shimmering arrays coming out of the carpet of sound
Pno.
abruptly

♪ = c. 54

111

Fixed media, short: low register, string smack cluster

short sample (whisper, breath)

Kbd.

Delayed Spectral Harmonizer

improvise with the transposition index

transposer 0.00

c.3" c.3" c.3"

8vb

5"-7" 5"-7"

Pno.

pp p mf p sub. ppp p

prepared (magnets, quasi metallic/bell)

ppp

114

Kbd.

Delayed Spectral Harmonizer

transposer 0.00

c. 15"

hold still

8vb

8va

Pno.

mf p sub.

mp

p

Ped.

❋ very quietly


♪ = c. 102
Reverb 1
Reverb 2
Delay
SPAT FREQ (to slow)
♪ = c. 54
sampler (whisper, fixed media)
118
Kbd.
fixed media, low freq. drone
Pno.
slow tremolo
122
transposer
0.00
hold
faster!
10"
Transposer
slowly
wait until almost silent
fast trem.

♪ = c. 92

126

fixed media

Video

Trigger

c. 15''

Kbd.

low frequency, granular, long

start very slow, gradually as rapid as possible

c. 15''

Pno.

freely use the following gestures freely, as much as and whenever desired, as shimmering arrays coming out of the carpet of sound

Delayed Spectral Harmonizer

130

sampler (whisper, fixed media)

Kbd.

simile (slow->fast)

c. 20''

Pno.

do not coordinate the hands, let irregular repetition of notes occur

simile (slow->fast)

c. 20''

abruptly

quasi ad libitum,
do not rush! focus on the phareses,
improvise with the durations of the phrases as well as the process parameter changes

133

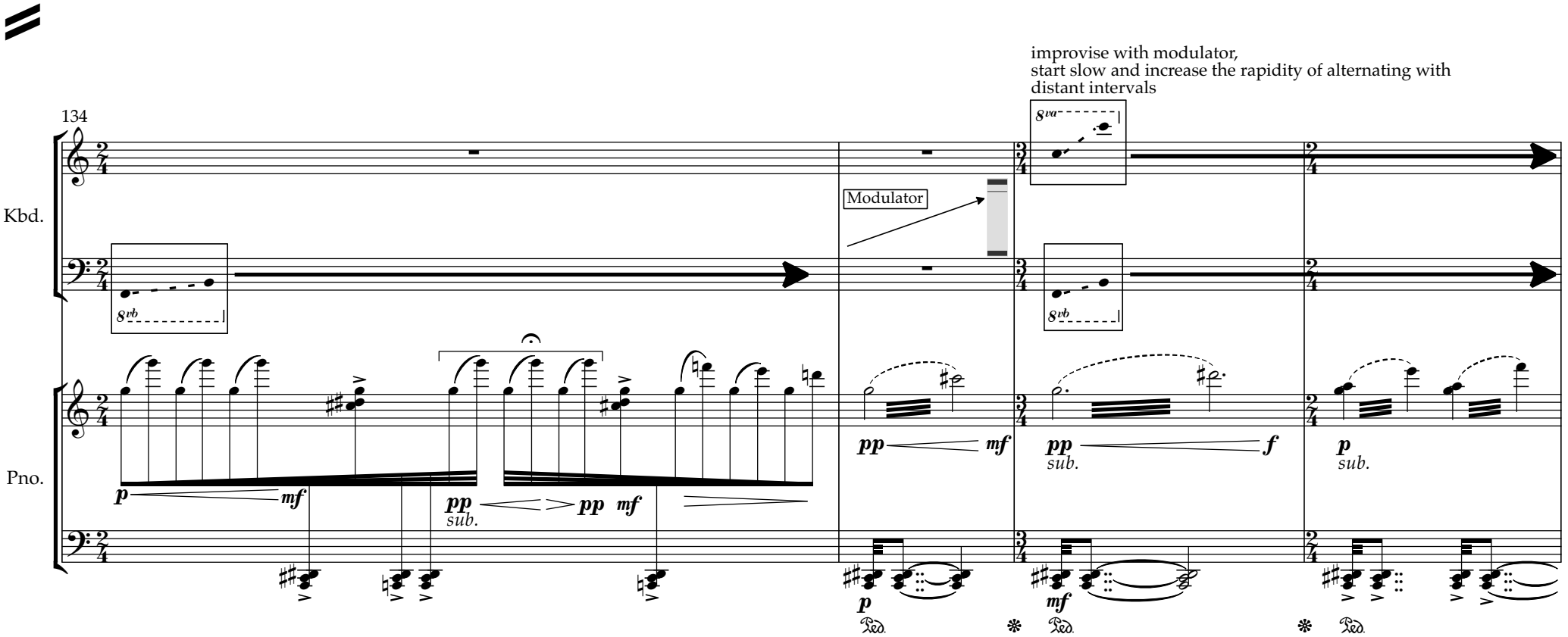
improvise with delayed spectral harmonizer,
mind the ad libitum and follow piano II

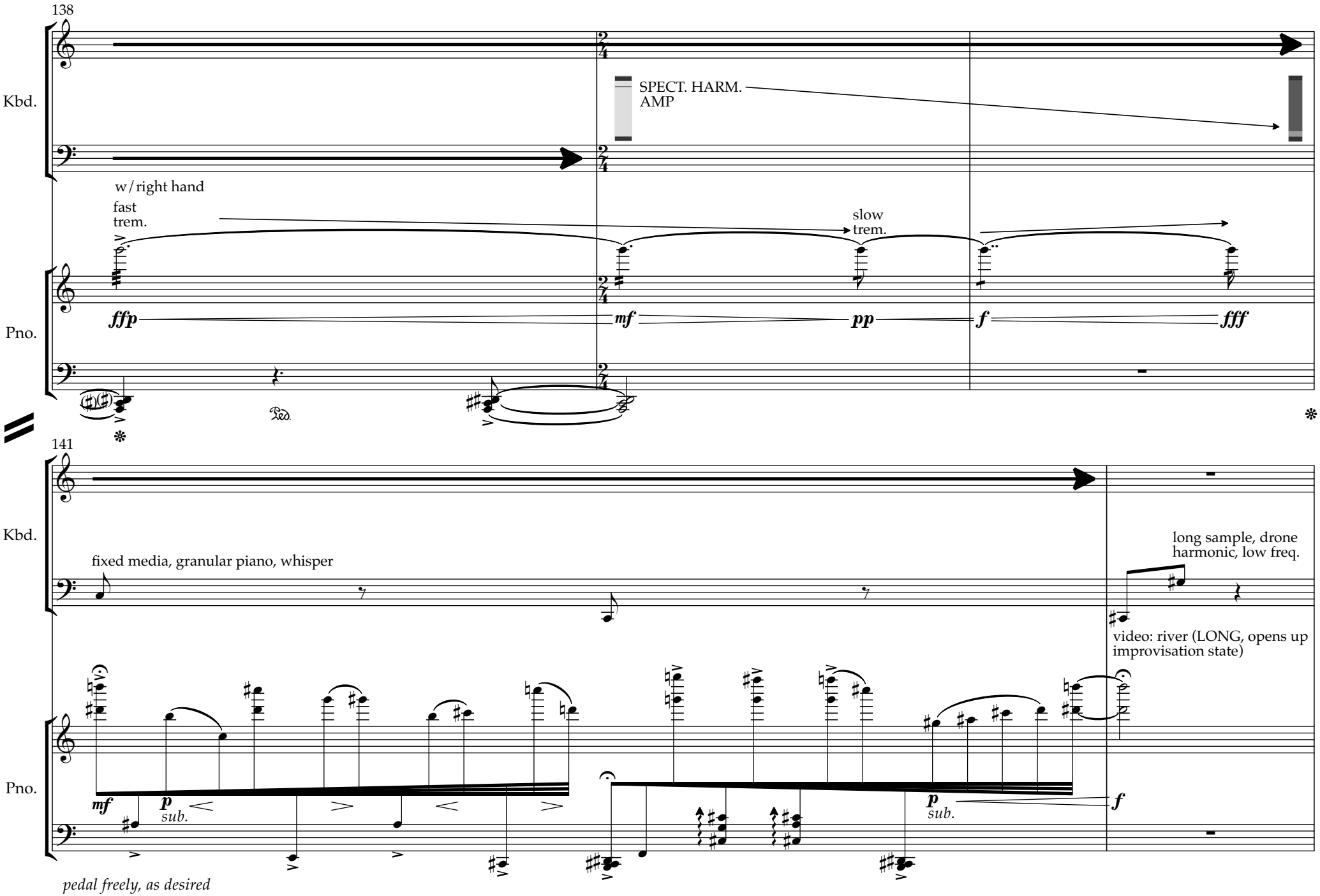
Kbd.

Video

Pno.

pedal freely, as desired (until mm.127)




138
Kbd.
SPECT. HARM.
AMP
w/right hand
fast
trem.
slow
trem.
Pno.
ffp
mf
pp
f
fff
Ped.
141
Kbd.
fixed media, granular piano, whisper
long sample, drone
harmonic, low freq.
video: river (LONG, opens up
improvisation state)
Pno.
mf
p
sub.
p
sub.
f
pedal freely, as desired

You will observe a video, in which a river flow is closely depicted. The shimmering light and the inner movement of the river contrasted with the camera movement and the sunlight of a beautiful day gradually creates granulated visual spectrum. Pianist II can use the phrases depicted on each measure and then create echoes, following or diverting from the initial attack, freely. Pianist I can benefit from any of the available electronic processes they seem fit on the keyboard, as well as the grand piano.

The improvisation state can be broken down whenever the performers please. Only requirement is that the leaving the this state and following the last page of the score should be performed imperceptibly.

143

Kbd.

Pno.

p

pp

pedal freely, as desired, blend gestures that are sharp with cloudy, through use of pedalling (until mm.144)

once the video faded and is completely black, wait for existing sonic material to naturally fade away, then gradually turn off all current modules

148

Kbd.

Pno.

8va


♪ = c. 92
152
Kbd.
Pno.
Transposer, Trigger
sffz
f
mp
mf
f
p
pp
p
pp
ppp
156
slowly
hold
gradually faster
hold
Transposer
transposer
0.00
8va
mf
3
mf
mf
p
mf
mf
f
mf
mf
f
mf
Ped.


161
Kbd.
Pno.
Spat Frequency
Distortion
(8)
3
p
pp
mf
f
fff
fff
f
p
f
p
pp
very quietly
166
Pno.
ppp
per sempre
Reverb I, II
Distortion
very quietly
turn off all amp values, slowly
Kbd.
let the distortion emerge considerably
8va
Pno.
ppp
per sempre
very quietly