Samsara

Jerod Sommerfeldt

sam·sa·ra /səmˈsɑrə/

:the indefinitely repeated cycles of birth, death, and misery caused by karma

:conceived of as having no perceptible beginning or end

:unbroken chain that follows continuously

Performance Directions

Samsara is a work for vibraphone and interactive electronics.

For the percussion:

Yarn mallets and two bass or cello bows are required. Tapping with finger pads is also required.
The motor should remain off for the duration of the piece.
The score is unmeasured, but there are 5” divisions in each system. Each page lasts for 60”.
Rhythms are approximate and bowings are held for the duration of each straight line.
Trills and bowed tremolos are also used within the work.

For the electronics:

One [or two] microphone(s) are needed for the vibraphone, running to an audio interface.
Only stereo playback is needed, though the percussionist will likely want a stage monitor speaker.
A laptop running RTcmix and/or Pure Data is required.
Both the RTcmix code and Pure Data patch are available from the composer.

Samsara

I

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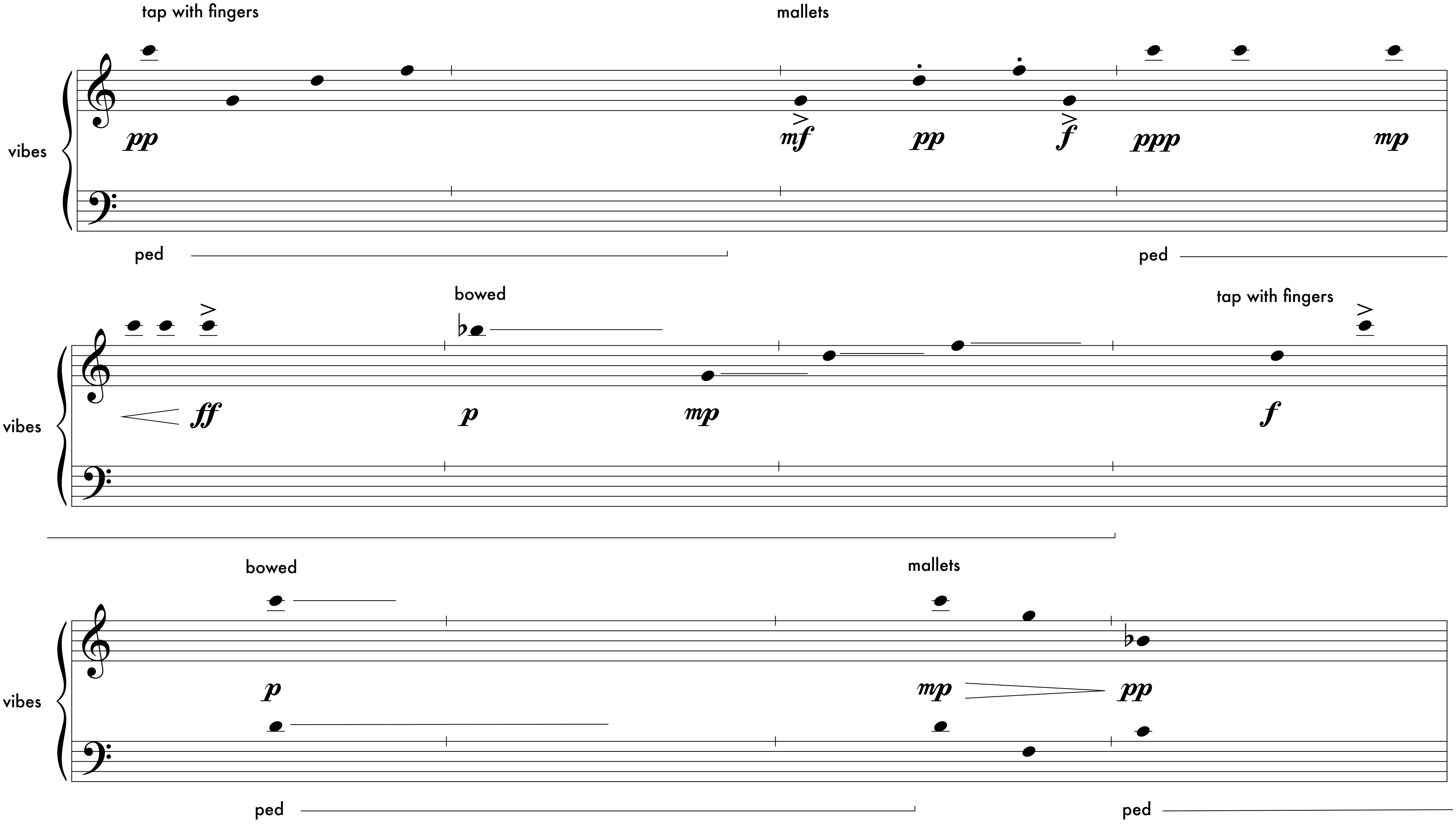
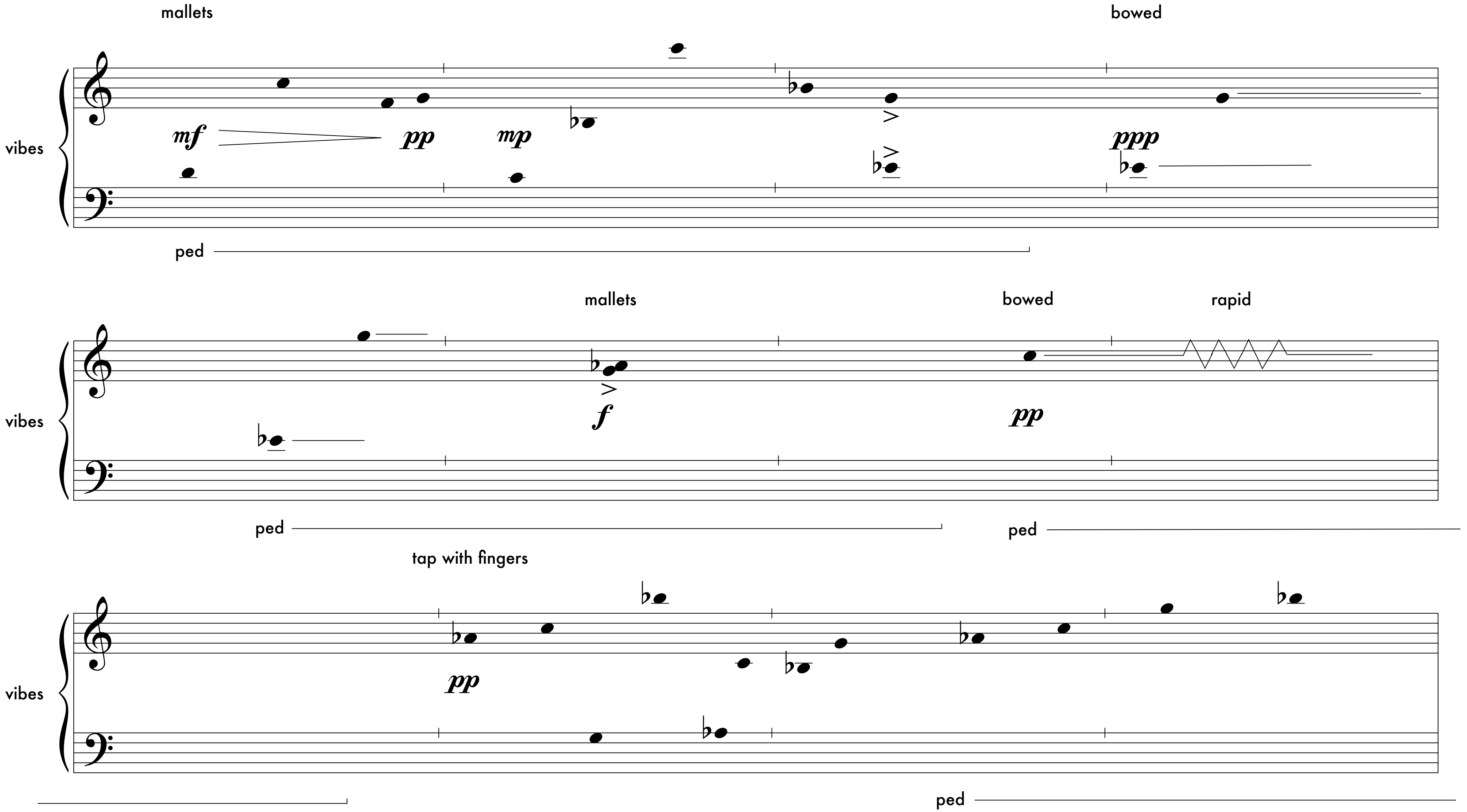
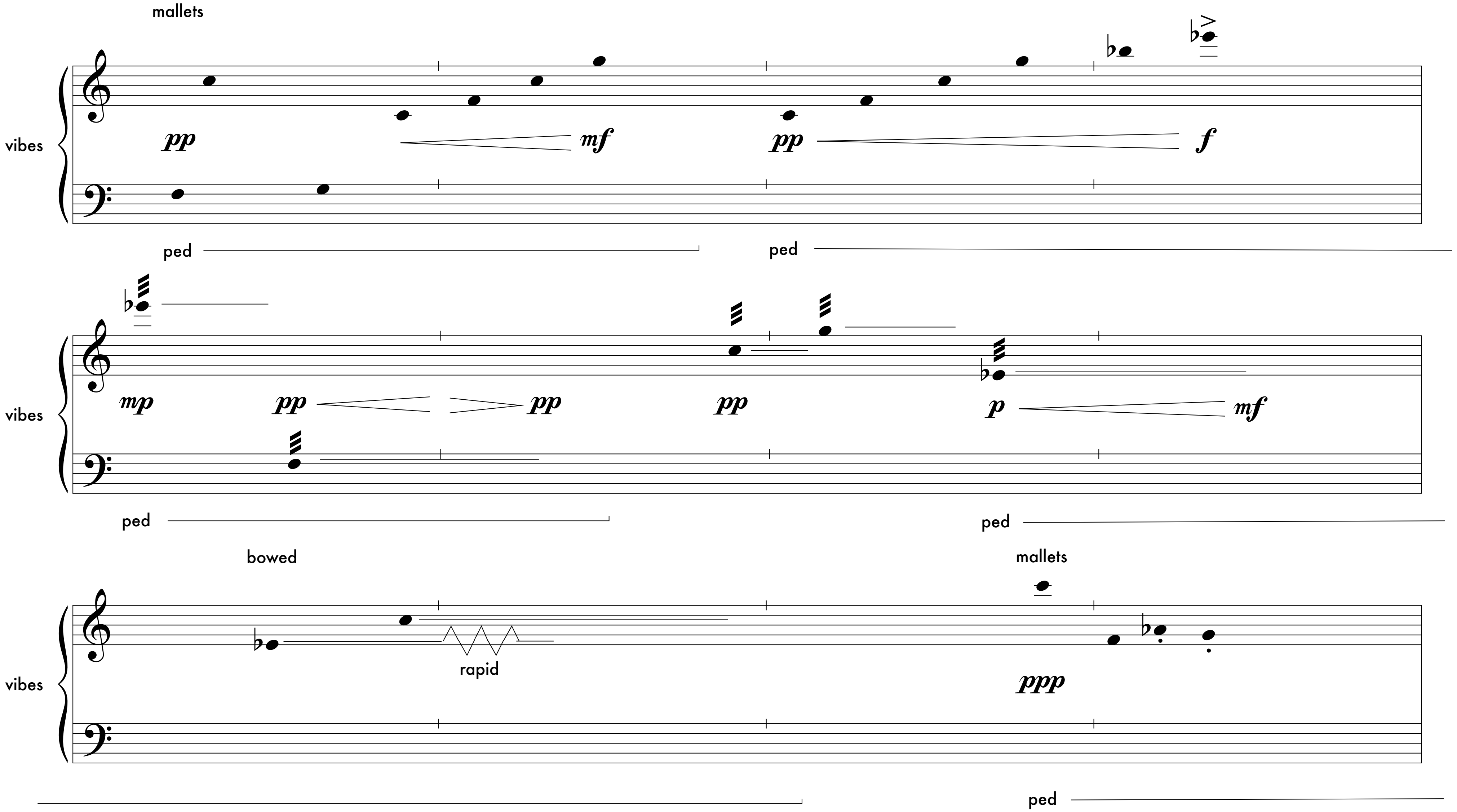


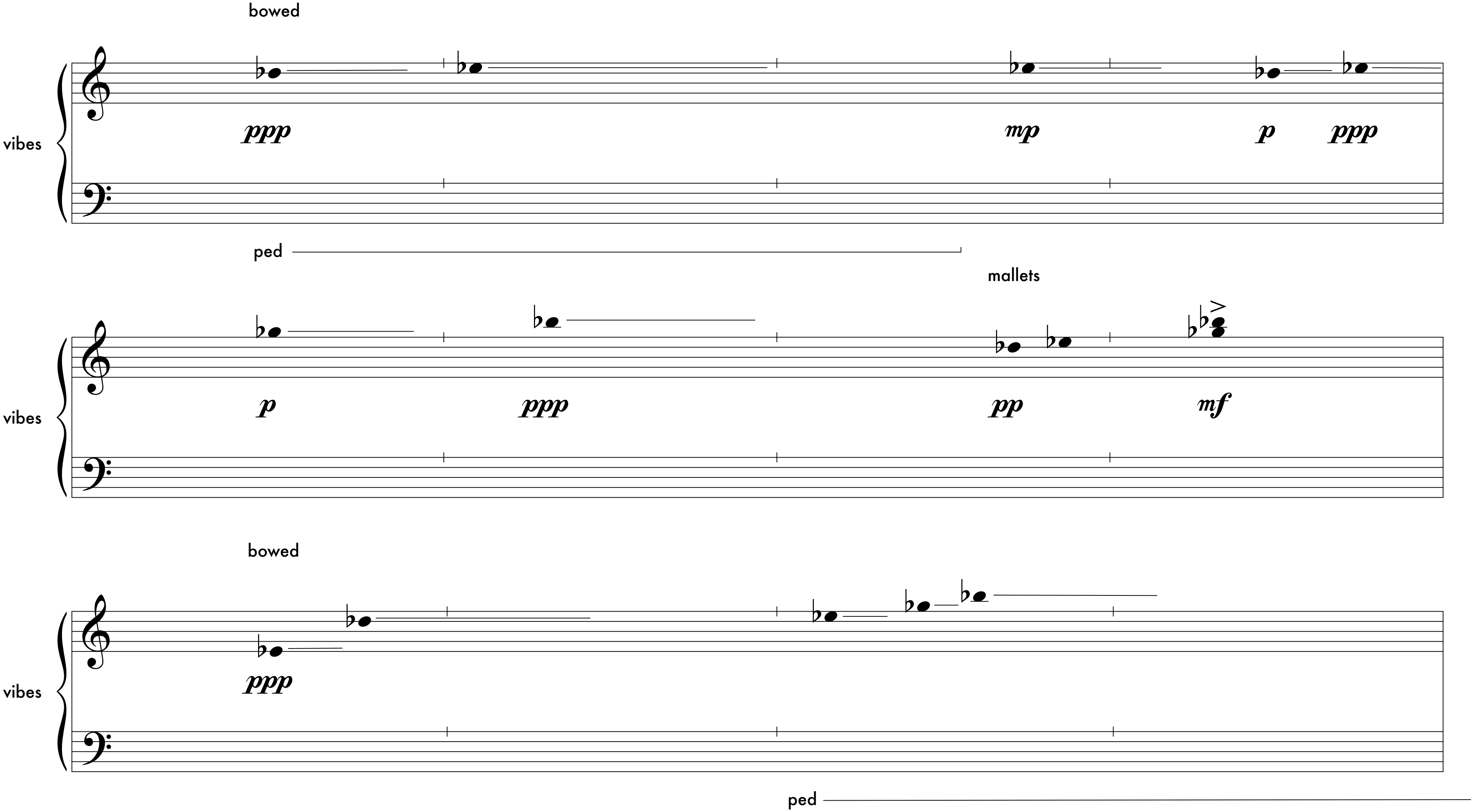
II


mallets
bowed
vibes
mf
pp
mp
ppp
ped
mallets
bowed
rapid
vibes
f
pp
ped
ped
tap with fingers
vibes
pp
ped

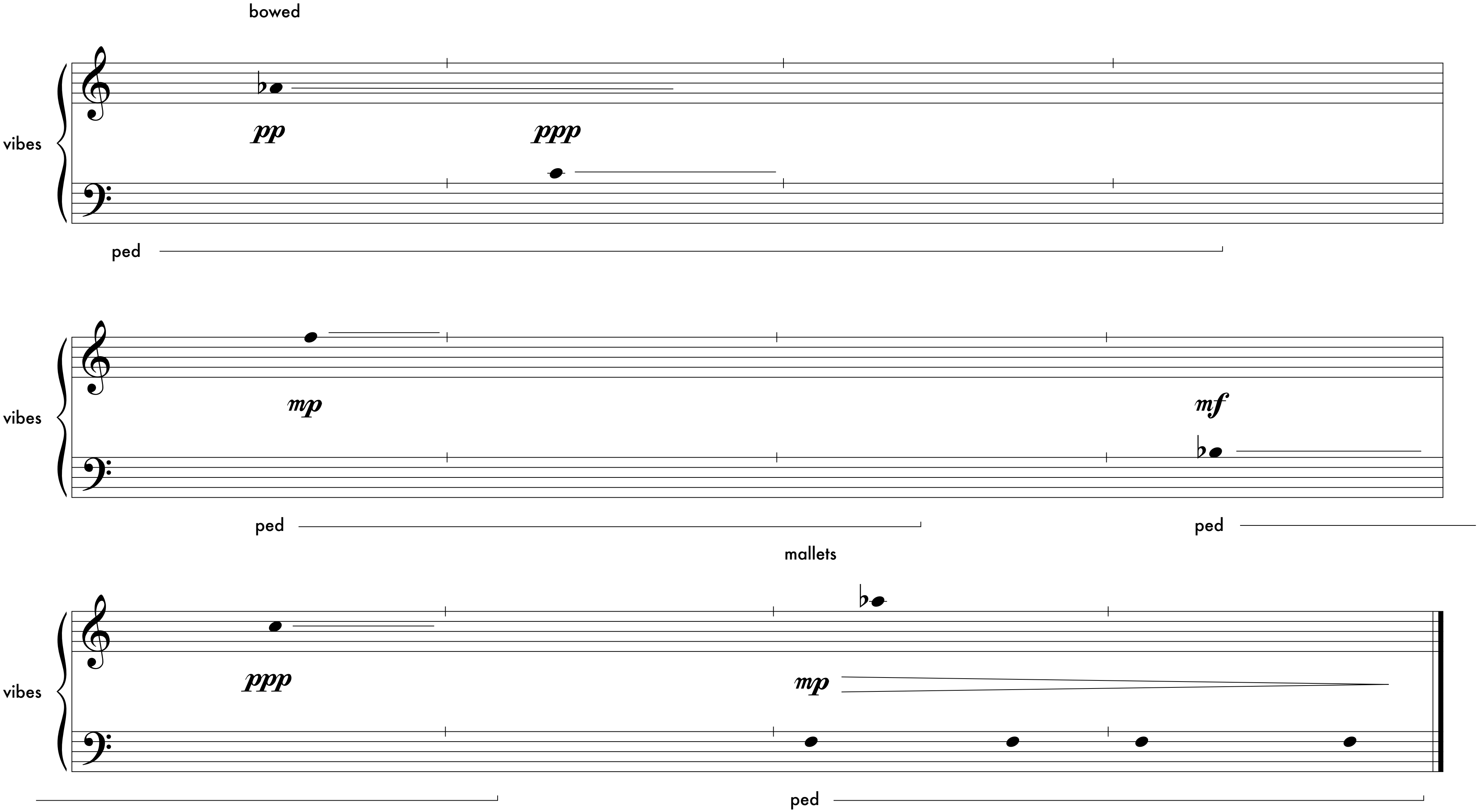
III


mallets
vibes
pp
mf
pp
f
ped
ped
vibes
mp
pp
pp
pp
p
mf
ped
ped
bowed
mallets
vibes
rapid
ppp
ped

IV


bowed
vibes
ppp
mp
p
ppp
ped
mallets
vibes
p
ppp
pp
mf
bowed
vibes
ppp
ped

V



Oxford, Ohio 12.15.2012

```
load("DELAY")
load("SPECTACLE2")
rtinput("AUDIO")

//Samsara master scorefile, playable from Terminal window or Pure Data
//////////////////////////////////////////////////////// I

srand()
inskip = 0
amp = 9.0
// envelope tables read from DC offset! Will need to change path for performances...

env1 = maketable("textfile", 1000, "/Users/jerod_s/Desktop/Caccia/envtable.txt")
deltime1 = 0.14
feedback1 = 0.7
ringdur1 = 3.5
inchan = 0

pan1 = maketable("random", 1000, "low", 0.0,0.5) // more toward L

DELAY(0, inskip, 300, amp*env1, deltime1, feedback1, ringdur1, inchan, pan1)

start1a = irand(1.0, 4.0)
inskip = 0
amp = 9.0
env2 = maketable("textfile", 1000, "/Users/jerod_s/Desktop/Caccia/envtable.txt")
deltime2 = 1.4
feedback2 = 0.3
ringdur2 = 1.0
pan2 = maketable("random", 1000, "high", 0.5,1.0) // more toward R

DELAY(0, inskip, 300, amp*env2, deltime2, feedback2, ringdur2, inchan, pan2)

 //////////////////////////////////////////////////////// II

inchan = 0
inskip = 0
ringdur = 15           // play after indur elapses, while delay lines flush
amp = 5.0
wet = 0.8

fftlen = 1024          // yielding 512 frequency bands
winlen = fftlen * 2    // the standard window length is twice FFT size
overlap = 2            // 2 hops per fftlen (4 per window)
window = 0             // use Hamming window

// input envelope (spanning <indur>)
ienv = maketable("line", 1000, 0,0, 1,1, 19,1, 20,0)

// output envelope (spanning <indur> + <ringdur>)
oenv = maketable("curve", 1000, 0,1,0, 2,1,-1, 3,0)

eqtablen = fftlen / 2
mineqfreq = 0
maxeqfreq = 0

// EQ curve: -90 dB at 0 Hz, ramping up to 0 dB at 200 Hz, etc.
eq = maketable("line", "nonorm", eqtablen, 0,-90, 200,0, 8000,-3, 22050,-6, 44100, 0)

deltablen = fftlen / 2
mindelfreq = 0
maxdelfreq = 0

mindt = .4  // Delay times
maxdt = 3
seed = srand()
deltime = maketable("random", "nonorm", deltablen, "even", mindt, maxdt, seed)

minfb = .1  // Feedback times
maxfb = .8
fbtime = maketable("random", "nonorm", deltablen, "even", minfb, maxfb, seed)

pan = makeLFO("saw", 0.5, 0, 1)  // sine for smooth, saw for clicks (later on)

SPECTACLE2(60, inskip, 240, amp*oenv, ienv, ringdur, fftlen, winlen,
    window, overlap, eq, deltime, fbtime, mineqfreq, maxeqfreq,
    mindelfreq, maxdelfreq, 0, wet, inchan, pan)

 //////////////////////////////////////////////////////// III

inchan = 0
inskip = 0
ringdur = 15           // play after indur elapses, while delay lines flush
amp = 8.0
wet = 0.8

fftlen = 1024          // yielding 512 frequency bands
winlen = fftlen * 2    // the standard window length is twice FFT size
overlap = 2            // 2 hops per fftlen (4 per window)
window = 0             // use Hamming window

// input envelope (spanning <indur>)
ienv = maketable("line", 1000, 0,0, 1,1, 19,1, 20,0)

// output envelope (spanning <indur> + <ringdur>)
oenv = maketable("curve", 1000, 0,1,0, 2,1,-1, 3,0)

eqtablen = fftlen / 2
mineqfreq = 0
maxeqfreq = 0

// EQ curve: -90 dB at 0 Hz, ramping up to 0 dB at 200 Hz, etc.
eq = maketable("line", "nonorm", eqtablen, 0,-90, 200,0, 8000,-3, 22050,-6, 44100, 0)

deltablen = fftlen / 2
mindelfreq = 0
maxdelfreq = 0

mindt = .4  // Delay times
maxdt = 3
seed = srand()
deltime = maketable("random", "nonorm", deltablen, "even", mindt, maxdt, seed)

minfb = .1  // Feedback times
maxfb = .8
fbtime = maketable("random", "nonorm", deltablen, "even", minfb, maxfb, seed)
LFOfreq = maketable("random", "nonorm", 1000, "even", 0.1, 9.0, seed)
pan = makeLFO("saw", LFOfreq, 0, 1)  // sine for smooth, saw for clicks (later on)

SPECTACLE2(180, inskip, 120, amp*oenv, ienv, ringdur, fftlen, winlen,
    window, overlap, eq, deltime, fbtime, mineqfreq, maxeqfreq,
    mindelfreq, maxdelfreq, 0, wet, inchan, pan)

 //////////////////////////////////////////////////////// IV-V

inchan = 0
inskip = 0
ringdur = 15           // play after indur elapses, while delay lines flush
amp = 8.0
wet = 0.8

fftlen = 1024          // yielding 512 frequency bands
winlen = fftlen * 2    // the standard window length is twice FFT size
overlap = 2            // 2 hops per fftlen (4 per window)
window = 0             // use Hamming window

// input envelope (spanning <indur>)
ienv = maketable("line", 1000, 0,0, 1,1, 19,1, 20,0)

// output envelope (spanning <indur> + <ringdur>)
oenv = maketable("curve", 1000, 0,1,0, 2,1,-1, 3,0)

eqtablen = fftlen / 2
mineqfreq = 0
maxeqfreq = 0

// EQ curve: -90 dB at 0 Hz, ramping up to 0 dB at 200 Hz, etc.
eq = maketable("line", "nonorm", eqtablen, 0,-90, 200,0, 8000,-3, 22050,-6, 44100, 0)

deltablen = fftlen / 2
mindelfreq = 0
maxdelfreq = 0

mindt = .4  // Delay times
maxdt = 3
seed = srand()
deltime = maketable("random", "nonorm", deltablen, "even", mindt, maxdt, seed)

minfb = .1  // Feedback times
maxfb = .8
fbtime = maketable("random", "nonorm", deltablen, "even", minfb, maxfb, seed)
LFOfreq = maketable("random", "nonorm", 1000, "high", 5.0, 18.0, seed)
pan = makeLFO("saw", LFOfreq, 0, 1)  // sine for smooth, saw for clicks (later on)

SPECTACLE2(180, inskip, 120, amp*oenv, ienv, ringdur, fftlen, winlen,
    window, overlap, eq, deltime, fbtime, mineqfreq, maxeqfreq,
    mindelfreq, maxdelfreq, 0, wet, inchan, pan)
```