

# wacom/transducer/piano instrument

on top of the piano sits a multi-touch wacom tablet fitted with a tactile surface in a similar pattern to a two manual keyboard. the finger motions are sent into a computer running max/msp used as an impulse sound source for signals sent from the computer through four transducers sitting on the strings of the piano. see also the technical layout description for more indepth layout. the wacom part is the central electronics source in the piece.

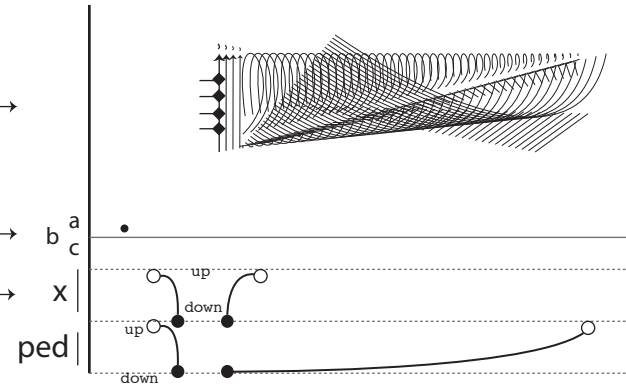
graphic notation is used in the wacom/piano part to visually describe the resulting sound as well as the gesture of the fingers, hands and arms on the tablet surface. in general, lines which are more vertical in orientation are used for more dry staccato like textures, while sounds that have more continuity (e.g. longer FM sounds) have more of a horizontal orientation. the approximate vertical center of a shape indicates a relative pitch, and the relative height/size of a shape indicates its intensity, and granular density.

graphic notation aims to describe the gesture of the hands/arms as well as the resulting sound

three sound types per section preset

synthesis/feedback crossfade

piano sustain pedal

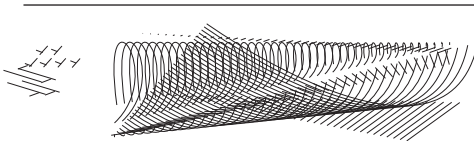


distorted test-tone beep



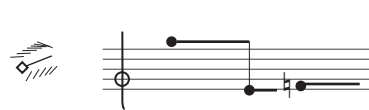
## basic sound types:

a



dry, percussive granular sounds

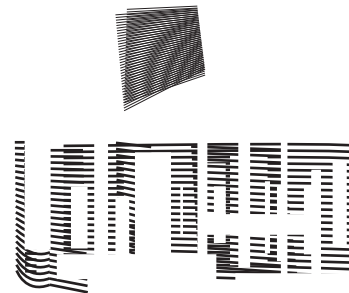
b



pitched, or semi pitched granular sounds.

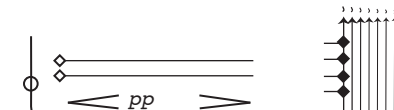
for notated pitches, keyboard range is from C below middle C, to C above the staff.

c



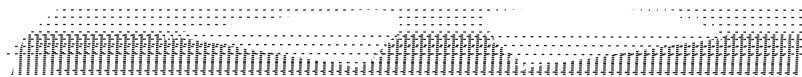
highly modulated, more continuous FM sounds

X



extreme feedback pitches to the point that the transducers jump up and down on the strings

recording of a large group of people talking filtered with wacom interface and played into transducers into the piano



# flint

rama gottfried 2014

♩ = ca. 66

1 2 4 3 1 10"

4 4 4 4 4

1

a b c x ped

10"

2

a b c x ped

pp mp ... sim.

1 4 3 2 1 1

4 4 4 4 4 4

3

a b c x ped

piano: 1

**4**

1 5 4 1 10"

4 4 4 4

a  
b  
c

x

ped

**5**

10"

1 4

a  
b  
c

x

ped

**6**

1 5 4 1 3

4 4 4 4 32

a  
b  
c

x

ped

7

3 32 3 2

3 32 3 4

15"

a  
b  
c  
x  
ped

8

15"

10"

preset: farthest finger from others sets pitch

a  
b  
c  
x  
ped

9

10"

3 32

solo

3-4"

fff

piano: 3

a  
b  
c  
x  
ped

10

3 5 5 6 3 7 5 10"

32 8 32 8 32 8 32

a  
b  
c  
x  
ped

11

10"

a  
b  
c  
x  
ped

12

fff

3 32

a  
b  
c  
x  
ped

13

3 7 5 8 5 2 7 10"

32 8 32 8 32 8 32

ped

14

10"

ped

15

10"

1 4

ped

16

very slow → a tempo

1 4 4 3 2 1 3

4 4 4 4 4 4 32

\* \* \* \*

b a c x ped

17

3 3 3 3 10"

32 2 32 4

b a c x ped

18

10"

b a c x ped

19

10"

b a  
c  
x  
ped

20

15"

b a  
c  
x  
ped

preset: farthest finger from others sets pitch

21

10"

b a  
c  
x  
ped



22

3 32 3 4 3 32 3 2 10"

a b c x ped

23

10" 3 32

solo 3-4"

a b c x ped

fff

24

3 5 3 5 6 3 7 5 2  
32 8 32 8 32 8 32 8

a b c x ped

25

Exercise 25, measures 1-6. The score is written on a grand staff with three systems: *a*, *b*, and *c*. The *a* system contains complex, dense, wavy line patterns. The *b* system contains a series of notes with stems and beams, indicating a melodic line. The *c* system contains a series of notes with stems and beams, indicating a bass line. The *ped* (pedal) system contains a series of notes with stems and beams, indicating a pedal point. The measures are numbered 1 through 6 at the top, with fingerings (2, 7, 8, 5, 7, 3, 6) and articulations (8, 32, 8, 32, 8, 32, 8) indicated above the notes.

26

Exercise 26, measures 1-6. The score is written on a grand staff with three systems: *a*, *b*, and *c*. The *a* system contains complex, dense, wavy line patterns. The *b* system contains a series of notes with stems and beams, indicating a melodic line. The *c* system contains a series of notes with stems and beams, indicating a bass line. The *ped* (pedal) system contains a series of notes with stems and beams, indicating a pedal point. The measures are numbered 1 through 6 at the top, with fingerings (6, 5, 5, 3, 4, 5, 3, 3) and articulations (8, 32, 8, 32, 8, 32, 8, 32) indicated above the notes.

27

Exercise 27, measures 1-11. The score is written on a grand staff with three systems: *a*, *b*, and *c*. The *a* system contains complex, dense, wavy line patterns. The *b* system contains a series of notes with stems and beams, indicating a melodic line. The *c* system contains a series of notes with stems and beams, indicating a bass line. The *ped* (pedal) system contains a series of notes with stems and beams, indicating a pedal point. The measures are numbered 1 through 11 at the top, with fingerings (3, 2, 5, 1, 5, 2, 3, 1, 3, 5, 1, 5, 2, 3, 5, 11) and articulations (32, 8, 32, 8, 32, 8, 32, 8, 32, 32, 8, 32, 8, 32, 32) indicated above the notes.

11"

28

1.v.

a  
b  
c  
x  
ped

29

a  
b  
c  
x  
ped

30

1.v.

a  
b  
c  
x  
ped



34

3 5 5 2 3 10"

32 8 32 8 2

(wacom)

1.v.

piano

p

a b c x ped

35

10"

a b c x ped

36

10"

a b c x ped

10"

37

a  
b  
c

x

ped

10"

38

a  
b  
c

x

ped

6  
4

5  
4

11"

39

a  
b  
c

x

ped

stop suddenly and freeze\*

\*possibly wacom will control the white noise in the speakers... to be determined

piano: 13

11"

40

(possibly the wacom instrument will control the white noise, still to be determined)

b<sup>a</sup>  
c  
x  
ped

41

b<sup>a</sup>  
c  
x  
ped

42

b<sup>a</sup>  
c  
x  
ped

43

Handwritten musical notation for measure 43. The notation is sparse, consisting of a few horizontal lines and a vertical line. The staff is labeled with 'a', 'b', 'c', 'x', and 'ped' on the left side.

44

Handwritten musical notation for measure 44. The notation is dense, consisting of many horizontal lines and a vertical line. The staff is labeled with 'a', 'b', 'c', 'x', and 'ped' on the left side. The text "(sound is only in piano now)" is written in the middle of the staff.

45

Handwritten musical notation for measure 45. The notation is sparse, consisting of a few horizontal lines and a vertical line. The staff is labeled with 'a', 'b', 'c', 'x', and 'ped' on the left side.



46

Handwritten musical notation for measure 46. The notation is on a five-line staff. The first line is a solid line. The second line is a solid line. The third line is a dotted line. The fourth line is a dotted line. The fifth line is a dotted line. The notation includes a vertical line at the beginning, a vertical line at the end, and a vertical line in the middle. The notation is labeled with 'b', 'a', 'c', 'x', and 'ped' on the left side.

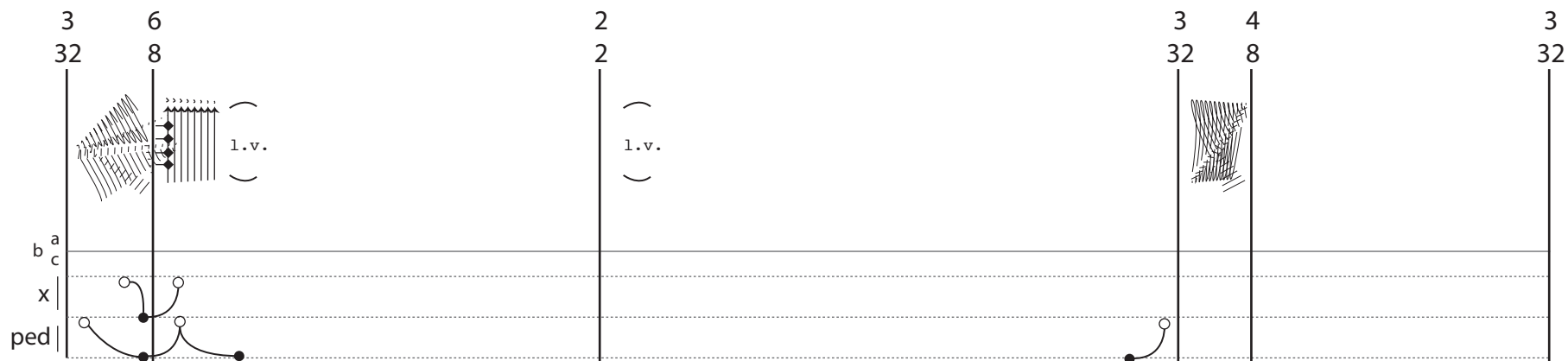
47

Handwritten musical notation for measure 47. The notation is on a five-line staff. The first line is a solid line. The second line is a solid line. The third line is a dotted line. The fourth line is a dotted line. The fifth line is a dotted line. The notation includes a vertical line at the beginning, a vertical line at the end, and a vertical line in the middle. The notation is labeled with 'b', 'a', 'c', 'x', and 'ped' on the left side. At the end of the measure, there is a double bar line with a '3' above it and a '32' below it.

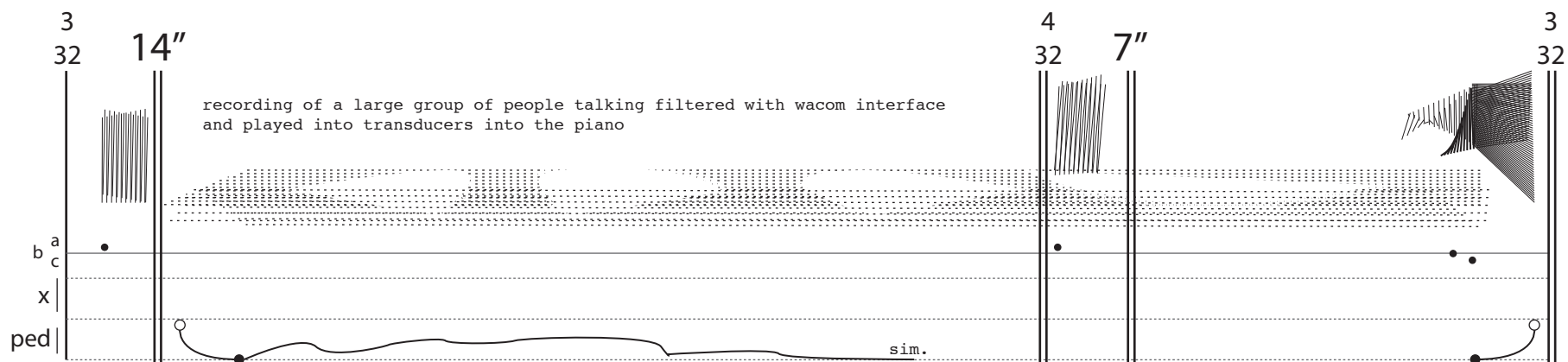
48

Handwritten musical notation for measure 48. The notation is on a five-line staff. The first line is a solid line. The second line is a solid line. The third line is a dotted line. The fourth line is a dotted line. The fifth line is a dotted line. The notation includes a vertical line at the beginning, a vertical line at the end, and a vertical line in the middle. The notation is labeled with 'b', 'a', 'c', 'x', and 'ped' on the left side. Above the staff, there are several numbers and ratios: '3 32', '2 4', '2 32', '3 4', '9 32', '2 4', '7 32', '1 4', and '3 32'. There are also some handwritten notes and symbols, including a series of slanted lines and a series of slanted lines with a '3' above them.

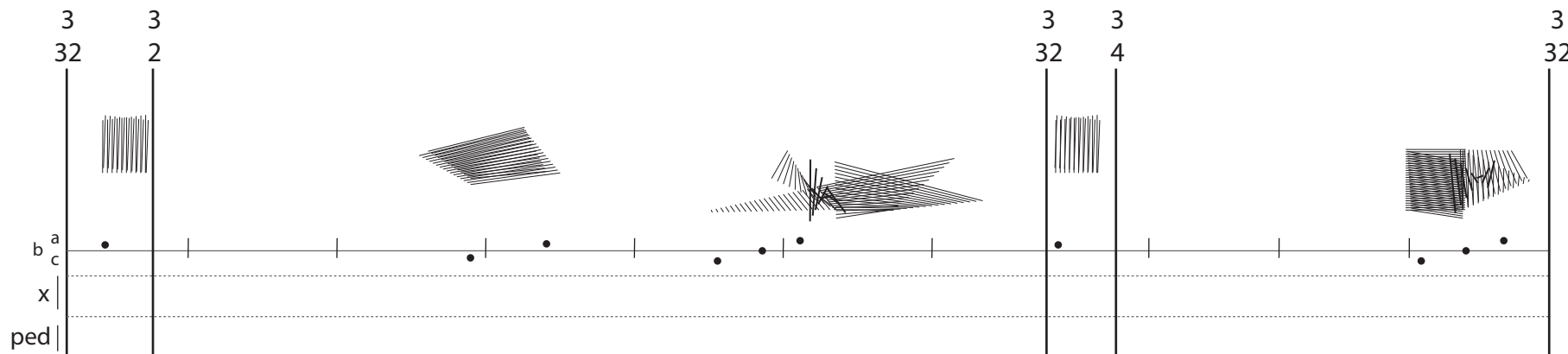
49



50



51





55

3 5 5 6 3 7 5 5"

4 16 4 16 4 16 4

pp

a b c x ped

56

5"

3 32

a b c x ped

57

3 3 3 2 4

32 2 32 2 32

1.v.

a b c x ped

58

5 8 5 32 2 8 3 2 10"

1.v.

piano

8

p

a b c x ped

59

10"

a b c x ped

unconducted unison with percussion

signal now in handheld speakers

60

10" 7"

a b c x ped

piano: 20

7"

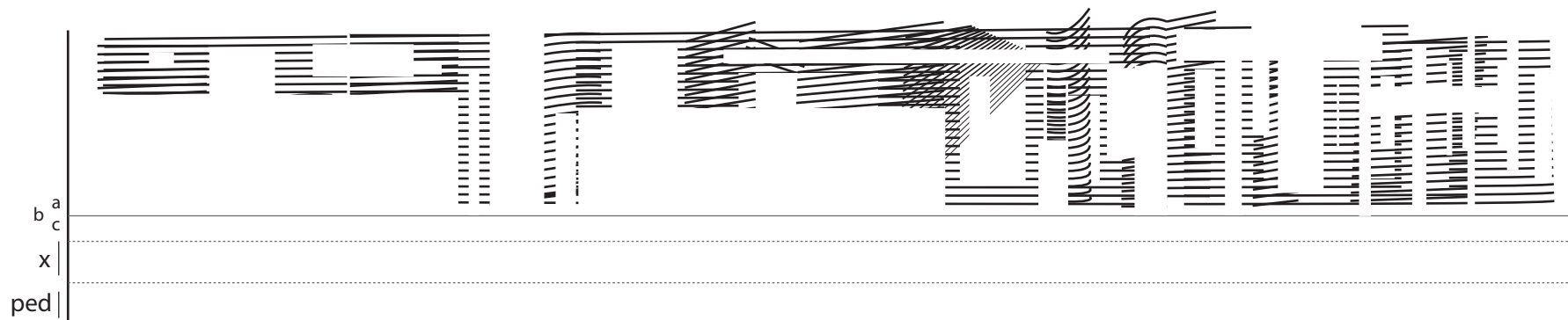
10"

61



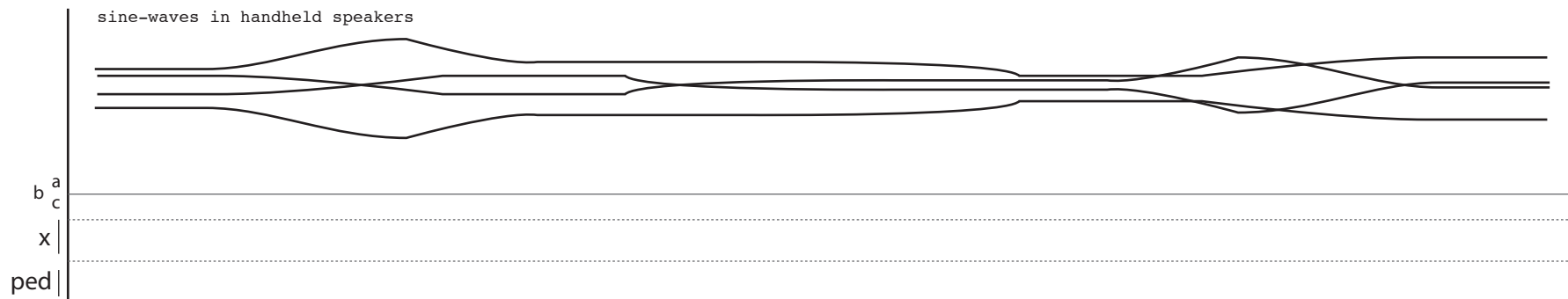
10"

62



sine-waves in handheld speakers

63



64

