

Hysteresis

Wouter Snoei








Version #1
For 11 sirens and live electronics

Hysteresis

parts:

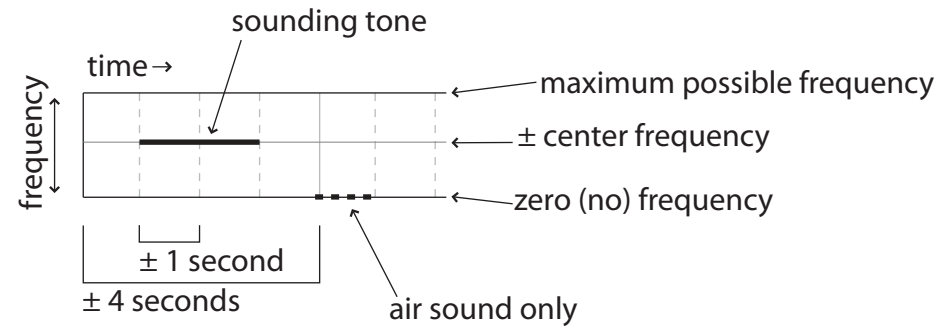
n1, n2, n3: single tone sirens
d1, d2: dual tone sirens
o1, o2: dual "research" sirens
b1, b2: base tube sirens (b2: sawtooth)

symbols in the score:

-  air pressure
-  motor voltage
-  touch wheel with hand or glove
-  Helmholtz resonator (o1, o2)
-  ballpoint pen
- pp p mp*
mf f ff apx. loudness (air pressure)
-  fade to/from silence (air pressure)
-  fermate

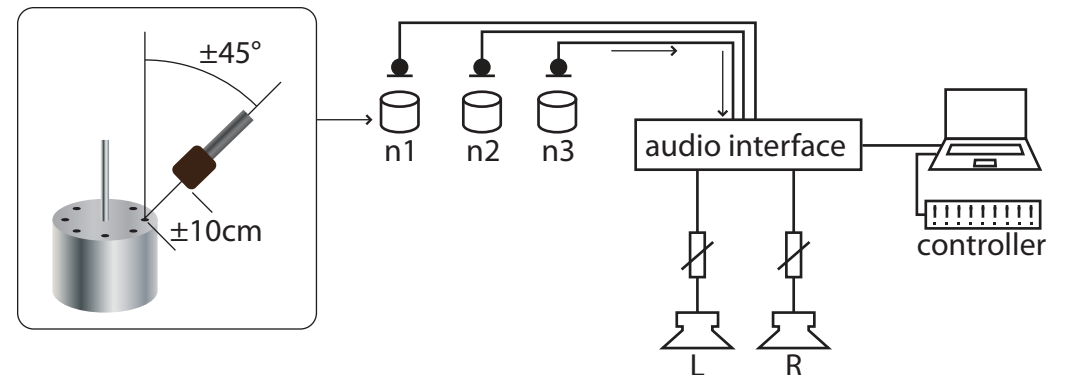
notes:

- timing and frequency are never strict,
 but are relative to the other players



electronics:

The electronics cues are written in the score (**A** **B** etc.), accompanied by a small description. The electronics are only applied to **n1, n2, n3**.



Hysteresis

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1 A electronics: triggered granular $\pm 1s$ *staccato* 5

n1 *ff* *mf ff*

n2 *staccato* *ff*

n3 *staccato* *ff*

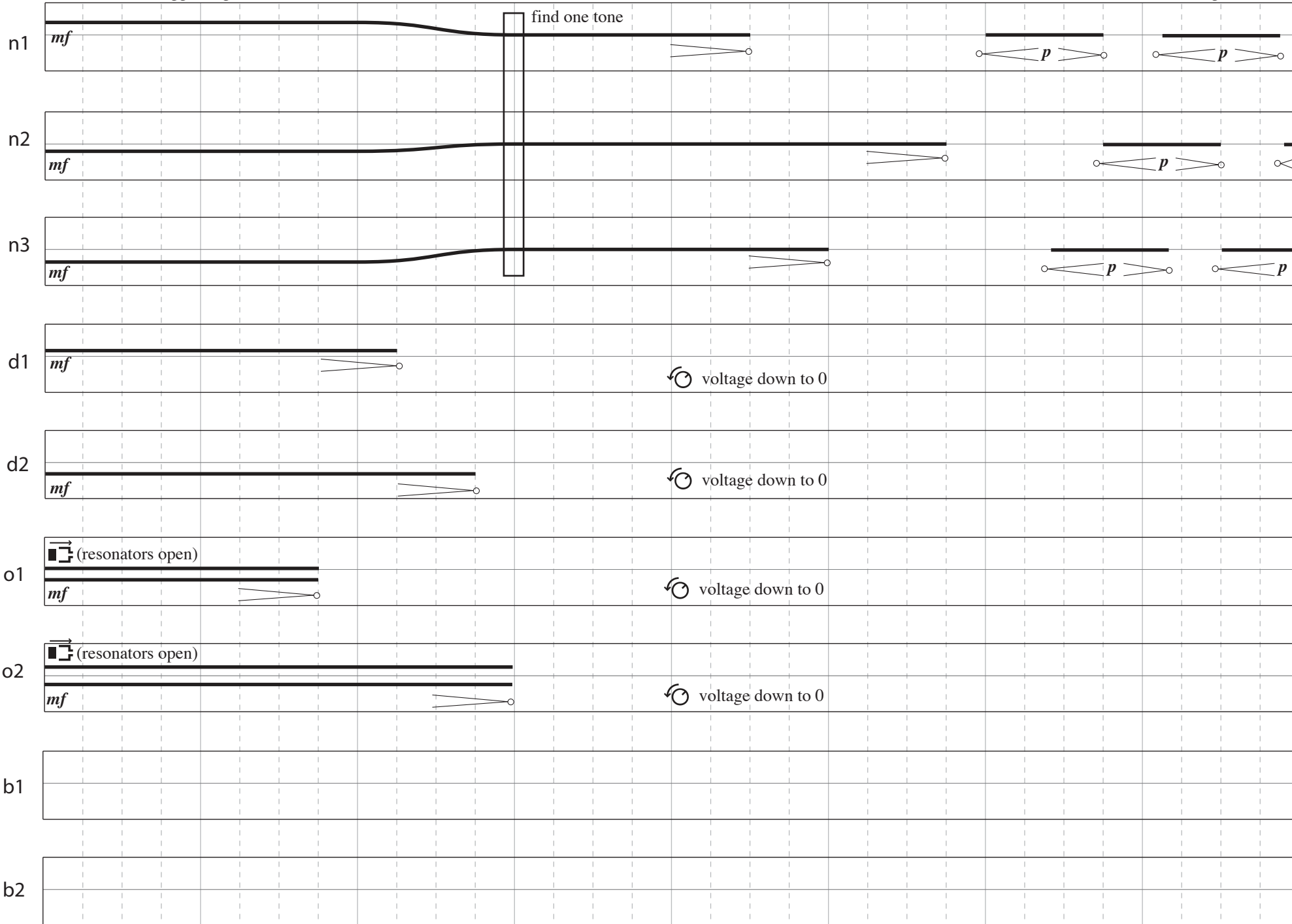


9 *short glissandi* 13

n1 *(clicks)* *improvise short glissandi*

n2 *(clicks)* *short glissandi* *improvise short glissandi*

n3 *short glissandi* *improvise short glissandi*



The image displays a musical score with ten staves, labeled n1 through b2. The score is divided into two systems: measures 25 and 29. The notation includes various dynamics and articulation marks.

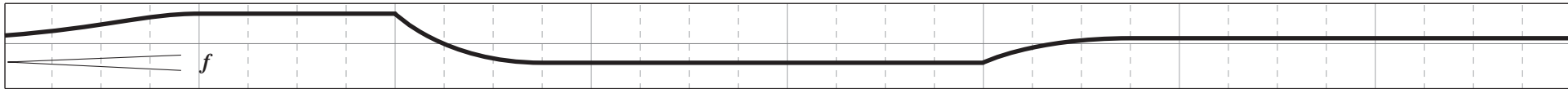
- Staff n1:** Measure 25 has a *p* dynamic with an accent. Measure 29 has an *mf* dynamic with an accent.
- Staff n2:** Measure 25 has a *p* dynamic with an accent. Measure 29 has an *mp* dynamic with an accent.
- Staff n3:** Measure 25 has a *p* dynamic with an accent. Measure 29 has an *mf* dynamic with an accent.
- Staff d1:** Measure 25 has a dashed line with "(air only)" and an accent. Measure 29 has a wavy line with "vary *p* to *f*".
- Staff d2:** Measure 25 has a dashed line with "(air only)" and an accent. Measure 29 has a wavy line with "vary *p* to *f*".
- Staff o1:** Measure 25 has a dashed line with "(air only)" and an accent. Measure 29 has a wavy line with "vary *p* to *f*".
- Staff o2:** Measure 25 has a dashed line with "(air only)" and an accent. Measure 29 has a wavy line with "vary *p* to *f*".
- Staff b1:** Empty staff.
- Staff b2:** Empty staff.



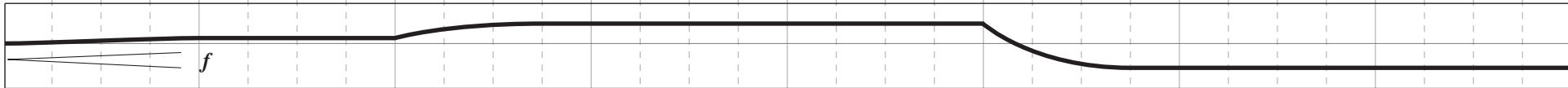
33

37

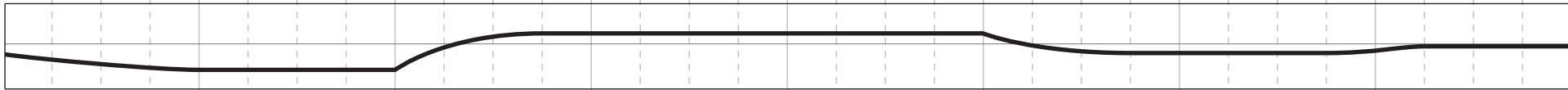
n1



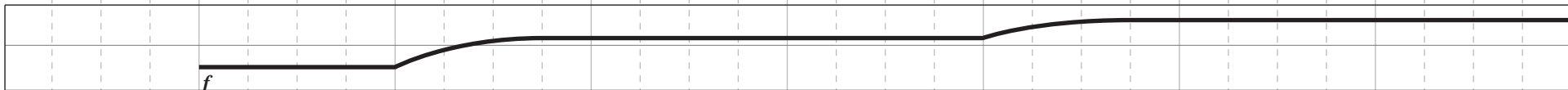
n2



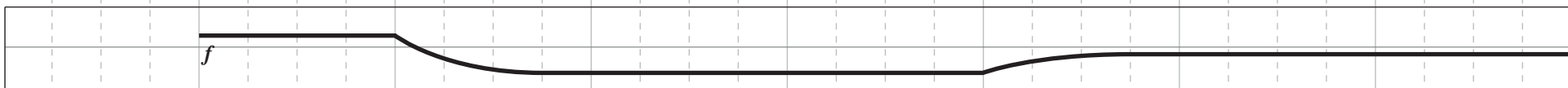
n3



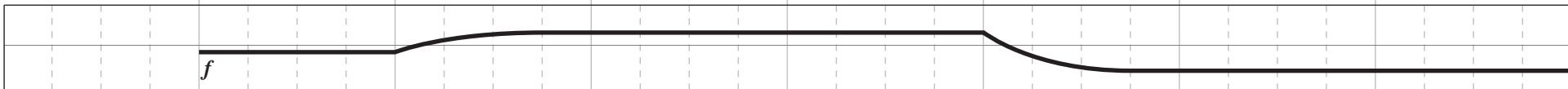
d1



d2



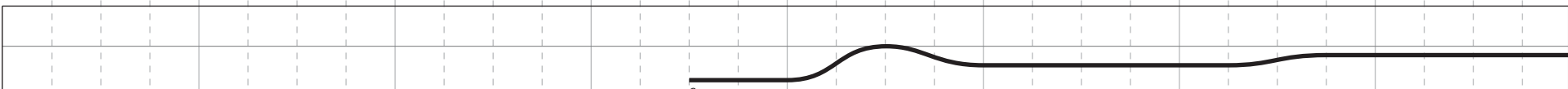
o1



o2



b1



b2

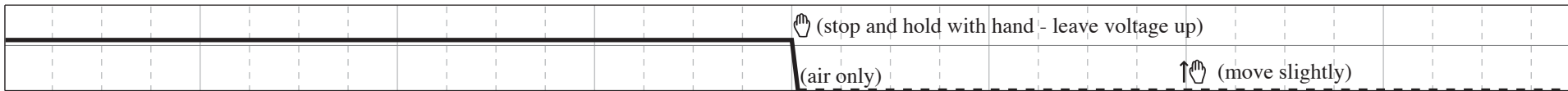


41

⌚ until all have stopped

E electronics: spectral peak hold
45

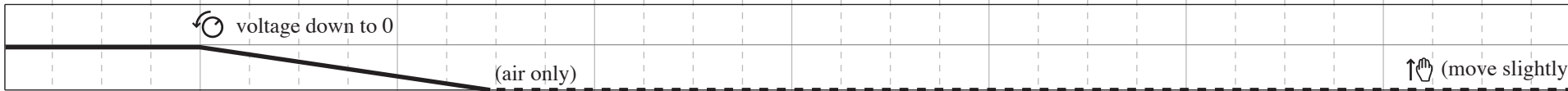
n1



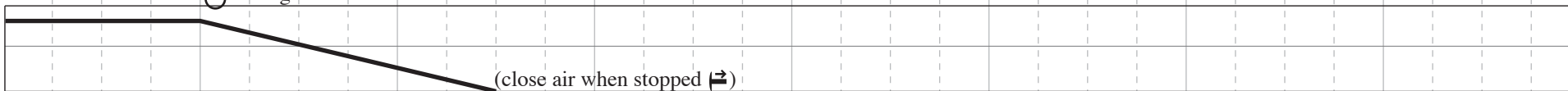
n2



n3



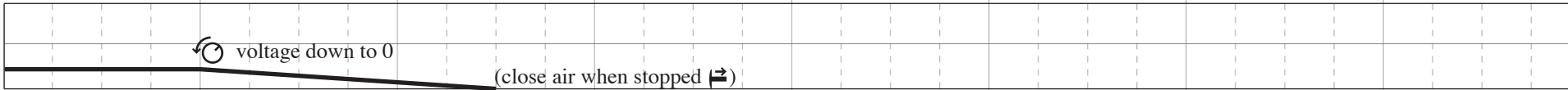
d1



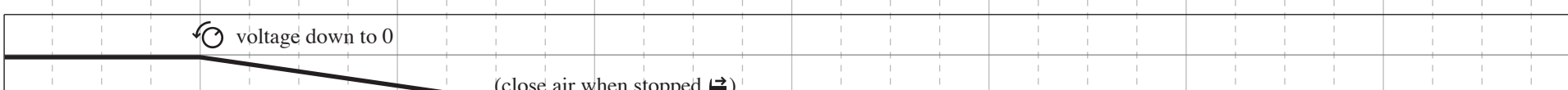
d2



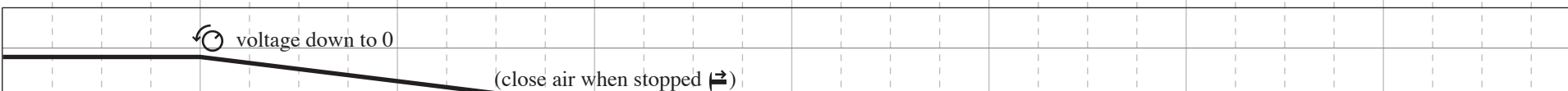
o1



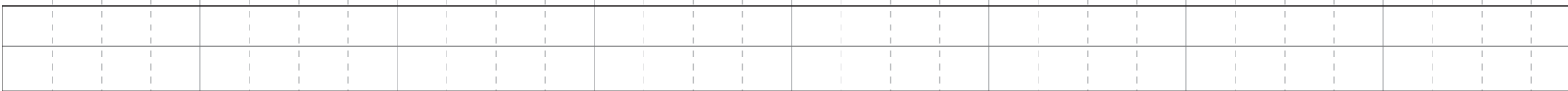
o2

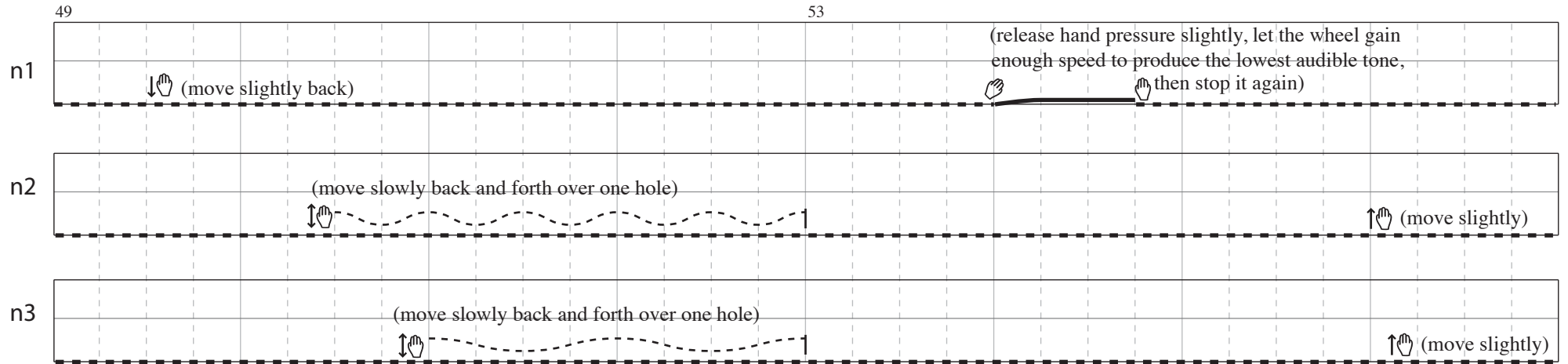


b1

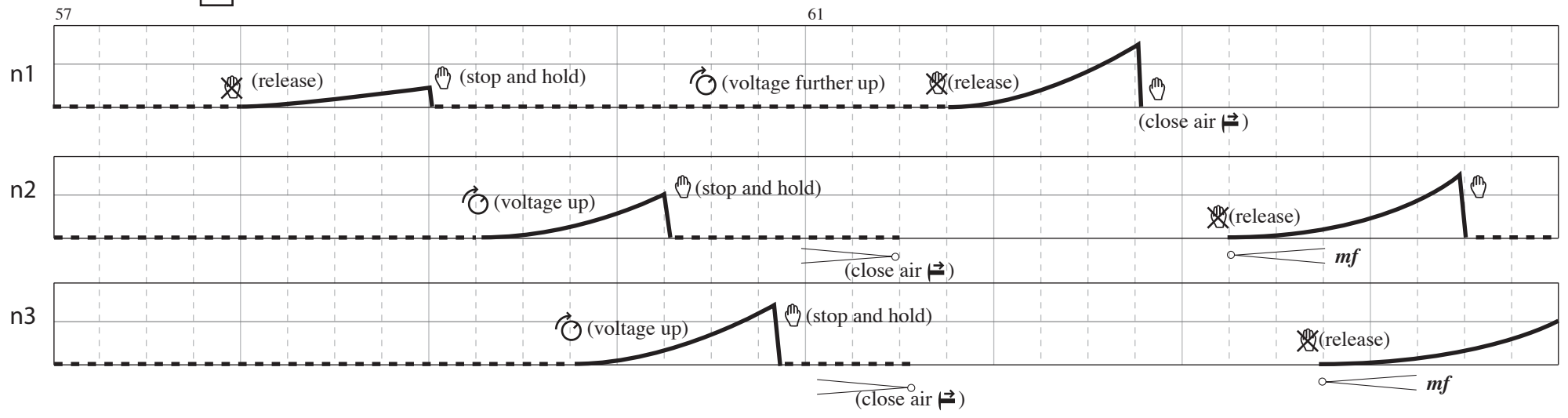


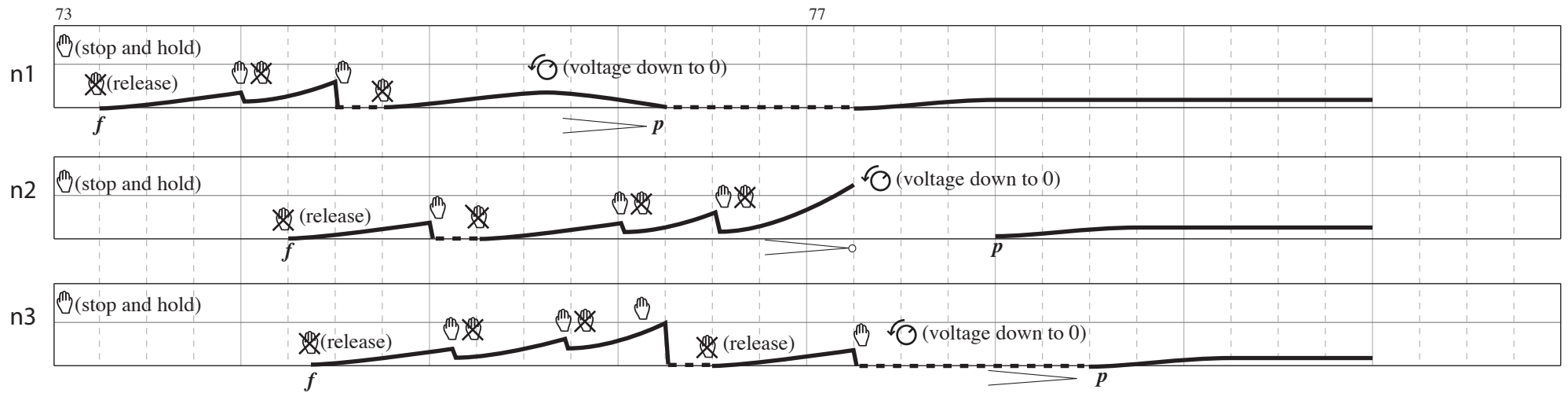
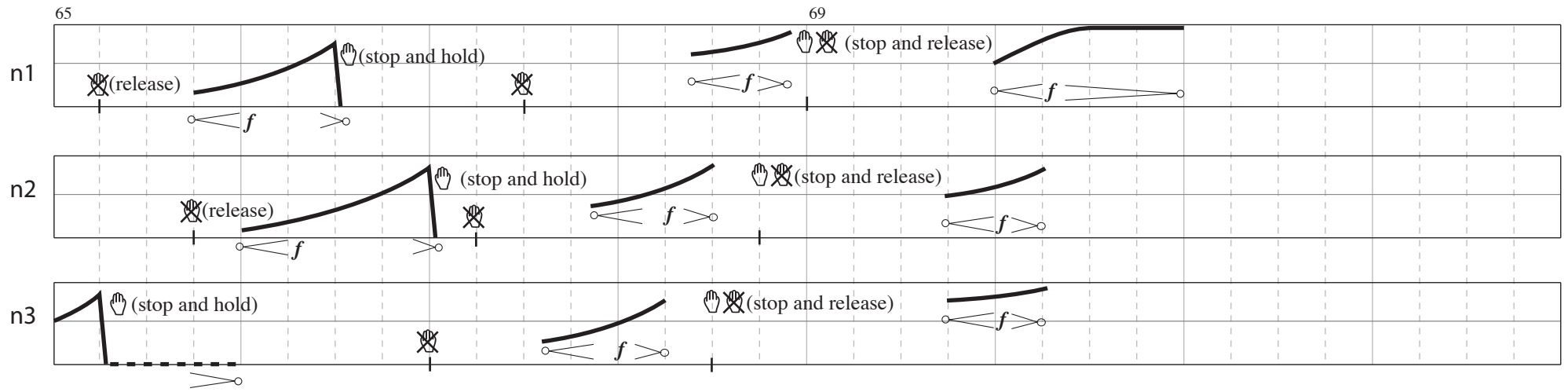
b2

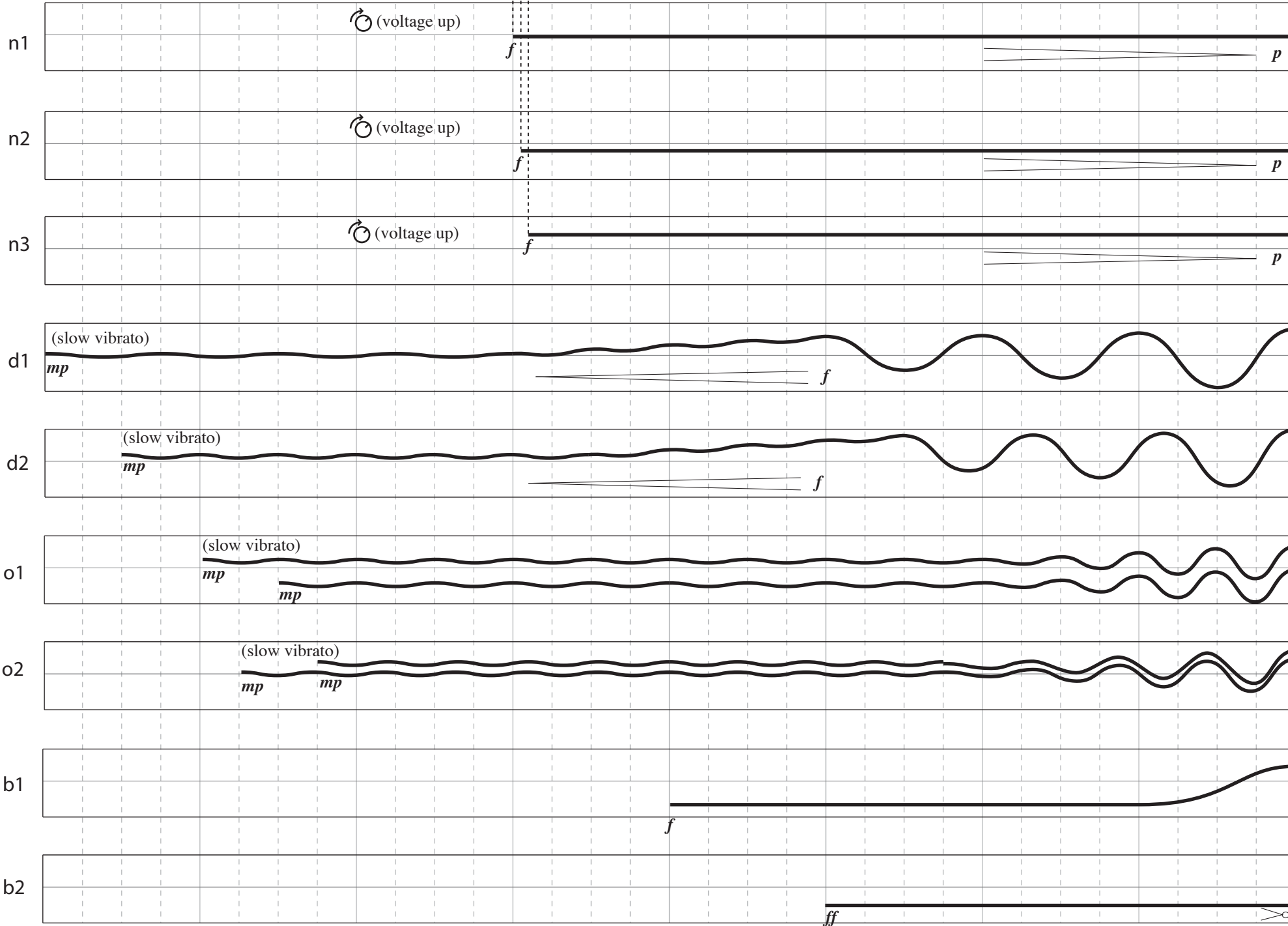




F electronics: spectral peak hold







n1

Musical staff n1: A thick horizontal line at the top. Below it, a wedge-shaped line starts wide on the left and tapers to the right, labeled *ff*. A short upward-sloping line segment is positioned above the staff at approximately the 50% mark.

n2

Musical staff n2: A thick horizontal line at the top. Below it, a wedge-shaped line starts wide on the left and tapers to the right, labeled *ff*. A short upward-sloping line segment is positioned above the staff at approximately the 65% mark.

n3

Musical staff n3: A thick horizontal line at the top. Below it, a wedge-shaped line starts wide on the left and tapers to the right, labeled *ff*.

d1

Musical staff d1: A thick horizontal line at the top. Below it, a wedge-shaped line starts wide on the left and tapers to the right, labeled *pp*.

d2

Musical staff d2: A thick horizontal line at the top. Below it, a wedge-shaped line starts wide on the left and tapers to the right, labeled *pp*.

o1

Musical staff o1: A thick horizontal line at the top. Below it, a wedge-shaped line starts wide on the left and tapers to the right, labeled *p*. To the right of the wedge, there is a square icon with a left-pointing arrow and the text "(close resonators) - - -|".

o2

Musical staff o2: A thick horizontal line at the top. Below it, a wedge-shaped line starts wide on the left and tapers to the right, labeled *p*. To the right of the wedge, there is a square icon with a left-pointing arrow and the text "(close resonators) - - -|".

b1

Musical staff b1: A thick horizontal line at the top. Below it, a wedge-shaped line starts wide on the left and tapers to the right, ending in a small circle.

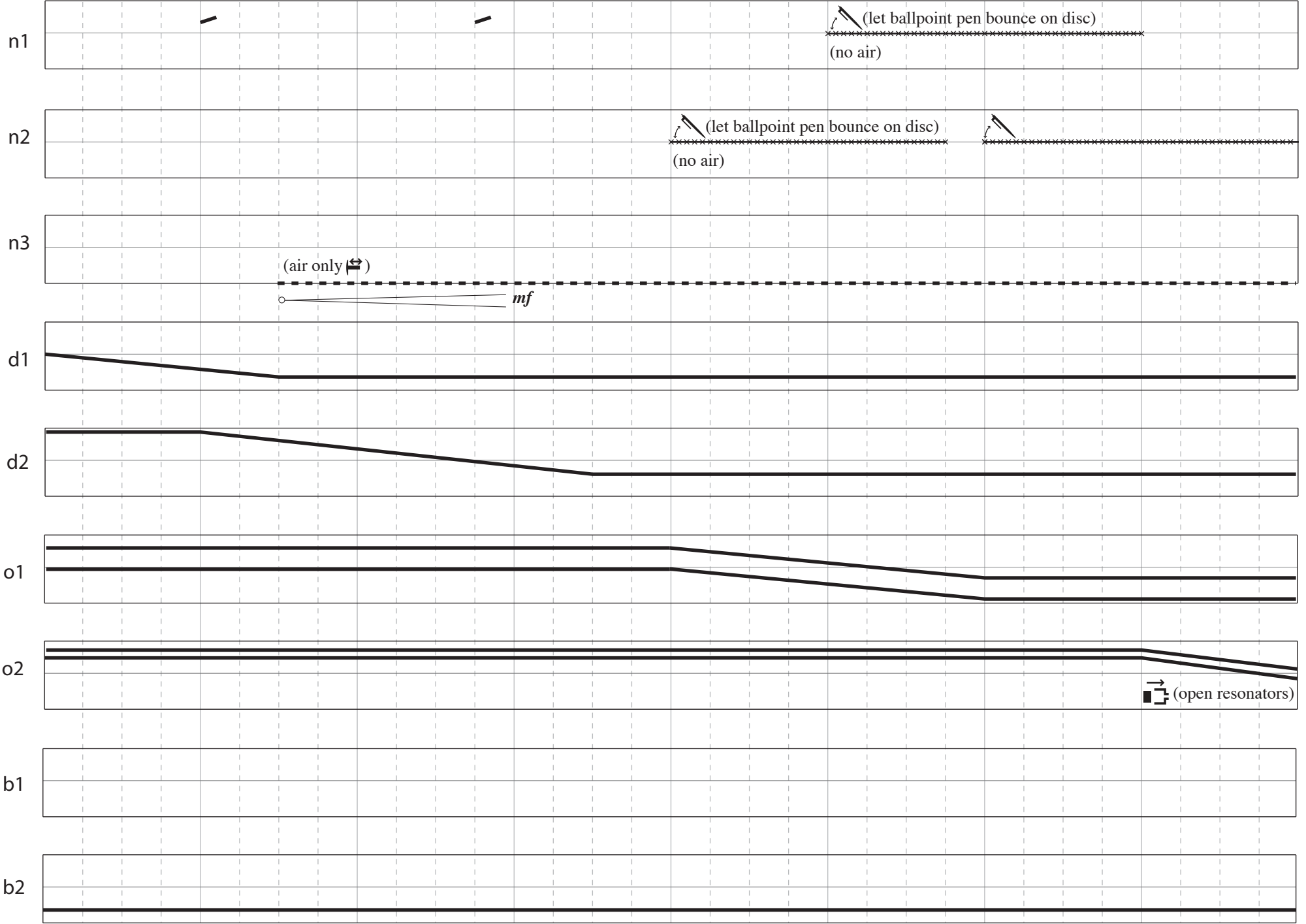
b2

Musical staff b2: A thick horizontal line at the top. Below it, a wedge-shaped line starts wide on the left and tapers to the right, ending in a small circle, labeled *p*.

short glissandi ←

97

101



n1

n2

n3

d1

d2

o1

o2

b1

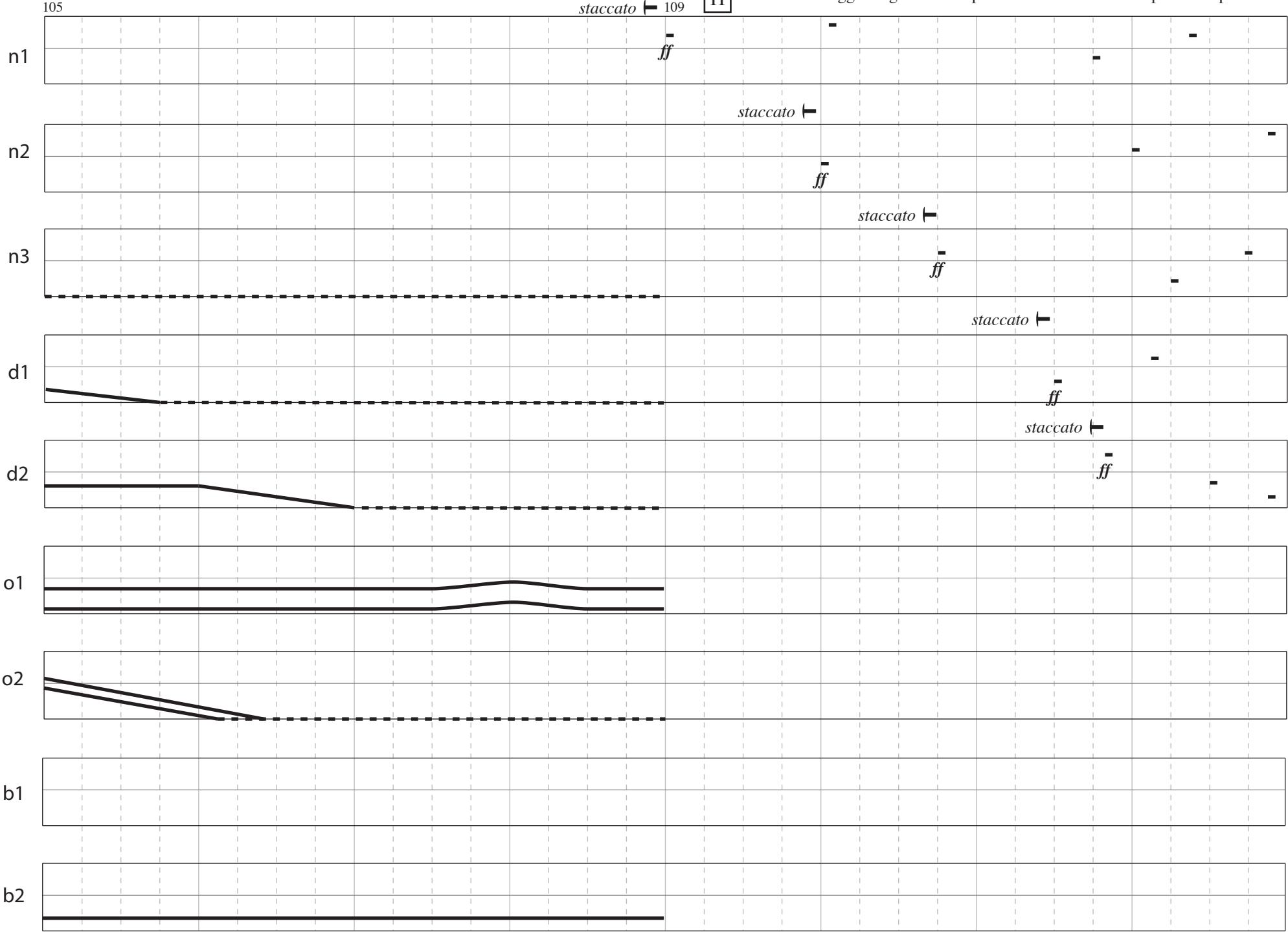
b2

(let ballpoint pen bounce on disc)
(no air)

(let ballpoint pen bounce on disc)
(no air)

(air only)
 mf

(open resonators)



I electronics: sudden stop, only ballpoint samples left

113

117

n1

n2

n3

d1

d2

o1

o2

staccato

b1

b2

improvise staccato

(let ballpoint pen bounce on disc)

(no air)

ff

ff