



# General Introduction

**Call Center** is a multisensory experience:

- 1) as a visual work of art, it was conceived by the plastic artist *Joana Vasconcelos*
- 2) as a sound-sculpture, it contains music composed by *Jonas Runa*

Globalization in the age of technoscience unfolds a new phenomenology of the presence, allowing our existence to be projected, simultaneously, into different spaces and different times. With light-speed satellite communications, the same voice may be heard live, both in the Sahara and China; the same image can be seen in Australia as well as in the Moon, at the same time.

The telephone is one of the clearest examples of the dissociation of our own presence. The sound of our voice is here, there and everywhere: it may no longer originate from our own mouth. This cleavage was the basis for a primordial type of electronic music, namely *Musique Concrète*. In the physical world, sounds follow causality to a large degree: An instrument only produces a sound as a result of a gesture made by a musician. When we decouple the physical action from its audible result, sound becomes *pure sound*, and not a consequence of anything else. It is itself, and, as *pure sound*, it requires a much more attentive listening.

While Science is mainly focused on reductionist approaches (“divide and conquer” strategies), it is up to Art to produce models of holistic unification. To compete with the atomic bomb, all the weapons of mass destruction and all the mind-controlling mass media, Art must abandon all traditional notions of Beauty.

A symphony of telephones played by a giant gun might thus compete with the horrors that can be seen in everyday television - the explosion of information symbolically unified in the immediacy of a sensation.

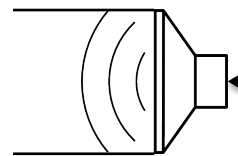
# Instruments

**I. Telephones with electric bells**  
(16 independent channels)

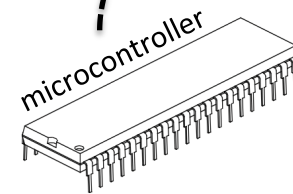
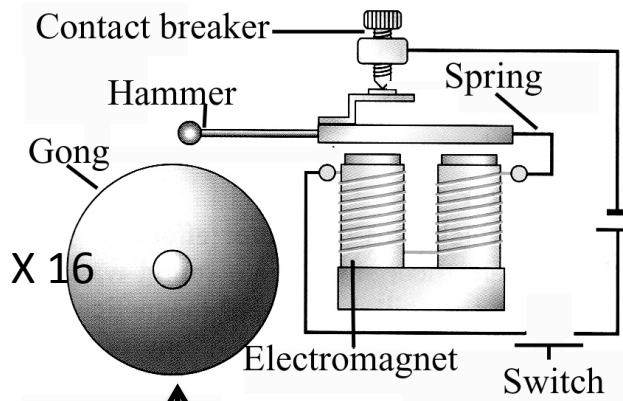
- 16 independent telephone bells (total: 16)  
or
- 16 groups of 2 telephone bells (total: 32)  
or
- 16 groups of 4 telephone bells (total: 64)  
or
- 16 groups of 8 telephone bells (total: 128)

+ { 1 independent channel going to  
12 telephone loudspeakers

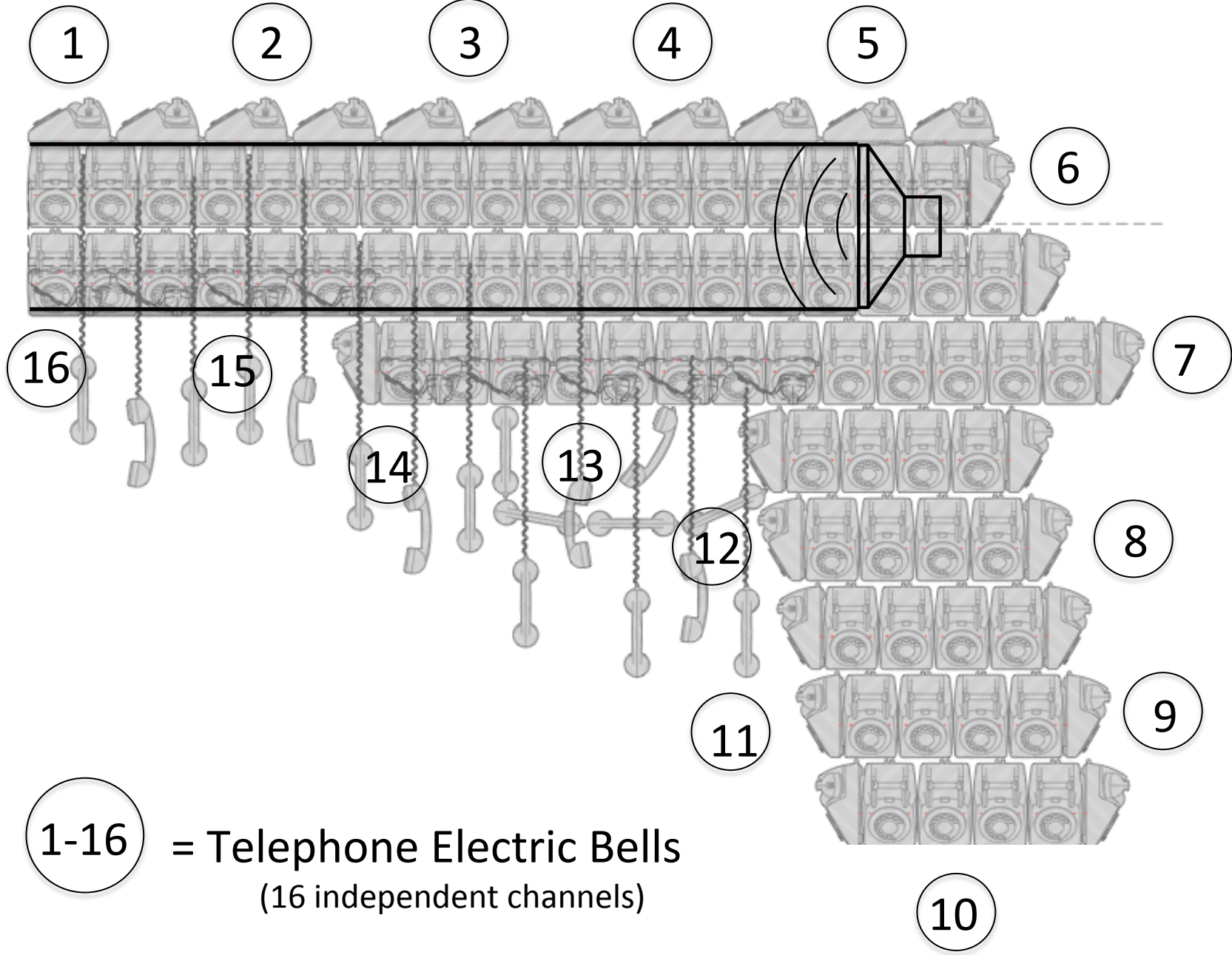
**II. 1 Loudspeaker**



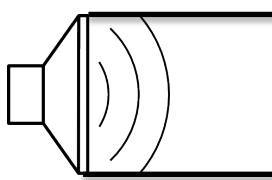
**III. 2 samplers or mp3 players**

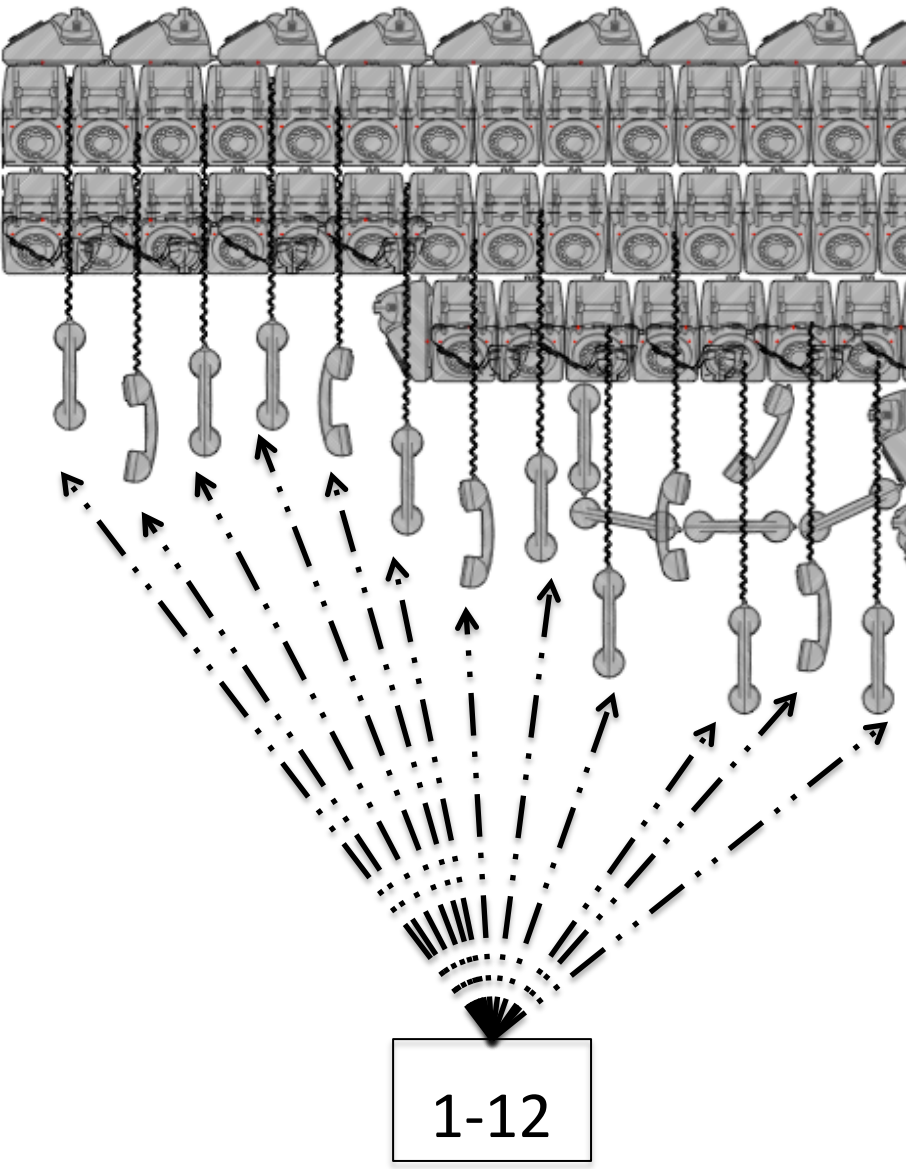


# Spatial Distribution



1-16 = Telephone Electric Bells  
(16 independent channels)

 = Loudspeaker mounted inside cylinder



 = Telephone Loudspeakers  
(1 independent channel)

# Notation of the Score

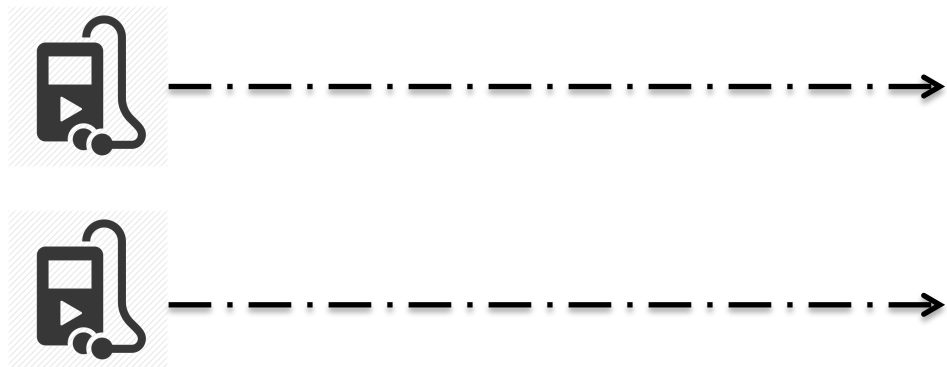
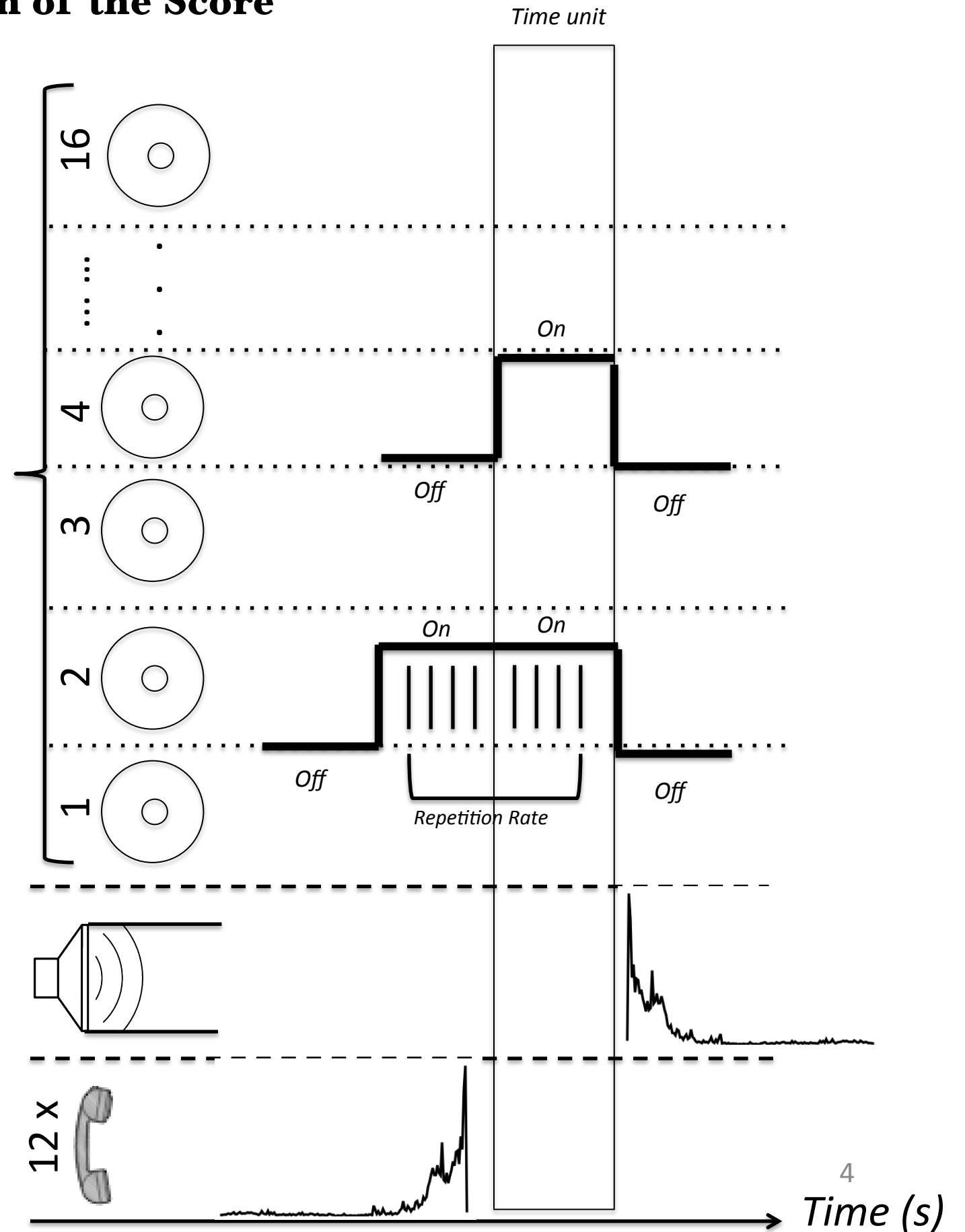
(Approximate values)

Frequency (Hz)	Repetition Rate (Hz)
3200.	24.
2917.51	19.4177
2659.96	15.7103
2425.15	12.7107
2211.06	10.2838
2015.87	8.32034
1837.92	6.73174
1675.67	5.44644
1527.75	4.40655
1392.88	3.56521
1269.92	2.8845
1157.82	2.33376
1055.61	1.88818
962.42	1.52767
877.46	1.23599
800.	1.

↑  
Increasing Frequency  
&  
Increasing Repetition Rate

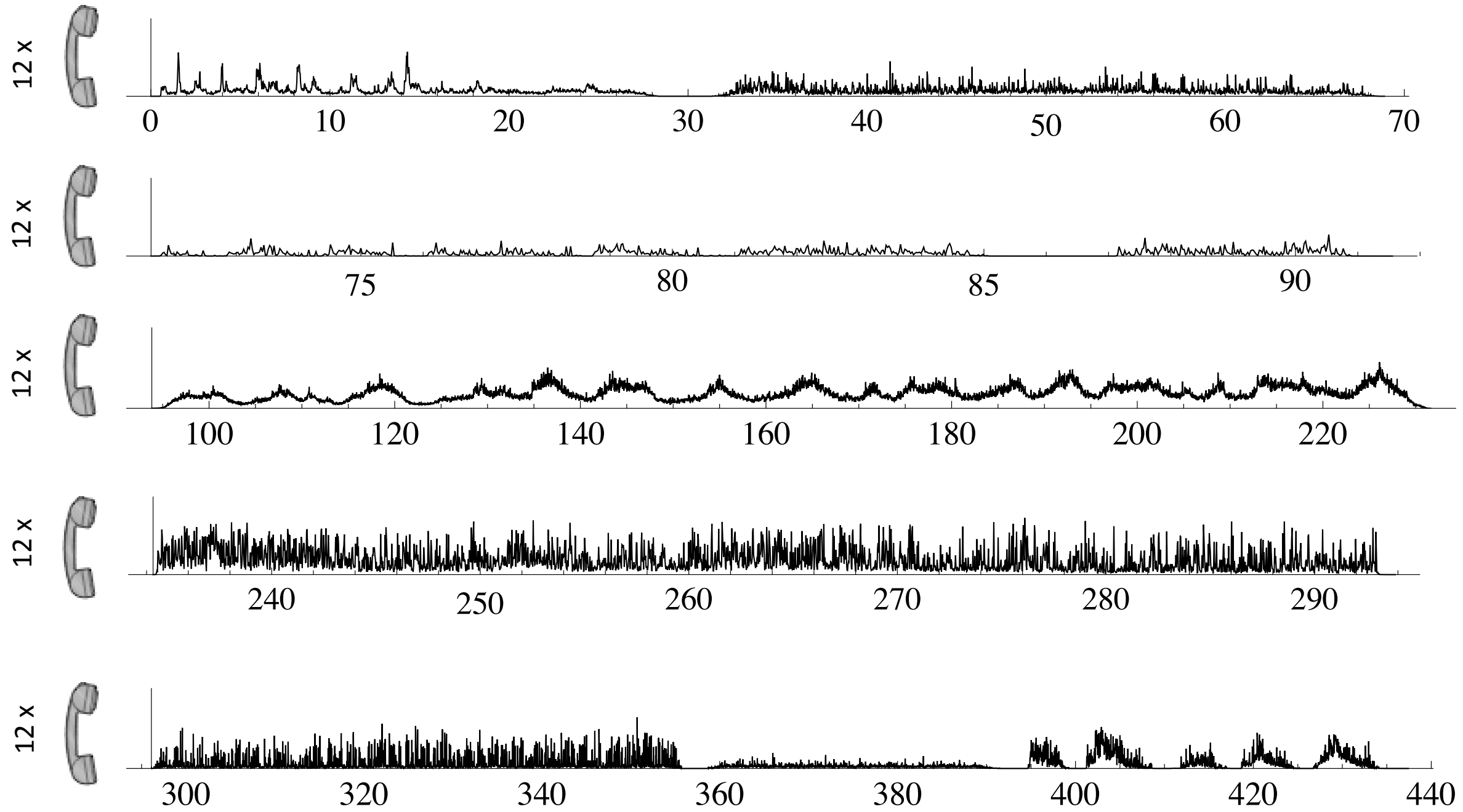
The telephone electric bells should be retuned and distributed in ascending frequency.  
The loudest frequency of each bell should be in the range:  
[ 800 Hz, 3200 Hz ]

The repetition rates are fixed and predetermined, ranging between : [ 1 Hz, 24 Hz ]

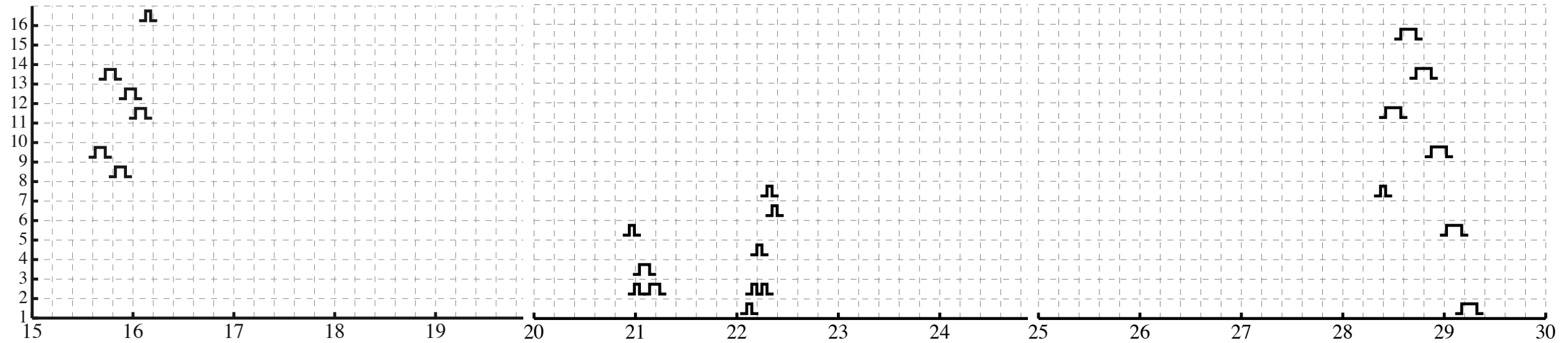
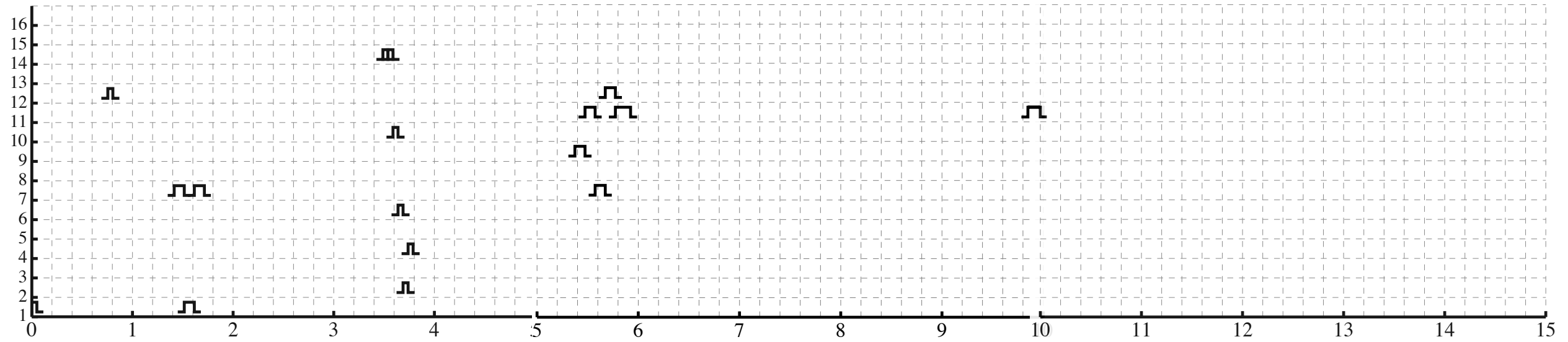





<b>Index of Structures</b>	<b>Duration (s)</b>
<b>Structure I</b> : “ <i>Near Silence</i> ”	440
<b>Structure II</b> : “ <i>Isolated Points</i> ”	54
<b>Structure III</b> : “ <i>Gun Shots, Spatial Movements &amp; Electronic Echos</i> ”	55
<b>Structure IV</b> : “ <i>Headphone Music</i> ”	153
<b>Structure V</b> : “ <i>Convoluteds Pyramids &amp; Continuum Loops</i> ”	168
<b>Structure VI</b> : “ <i>Electronic Modulations</i> ”	97
<b>Structure VII</b> : “ <i>Other Worlds</i> ”	132
<b>Structure VIII</b> : “ <i>Clinamen</i> ”	295

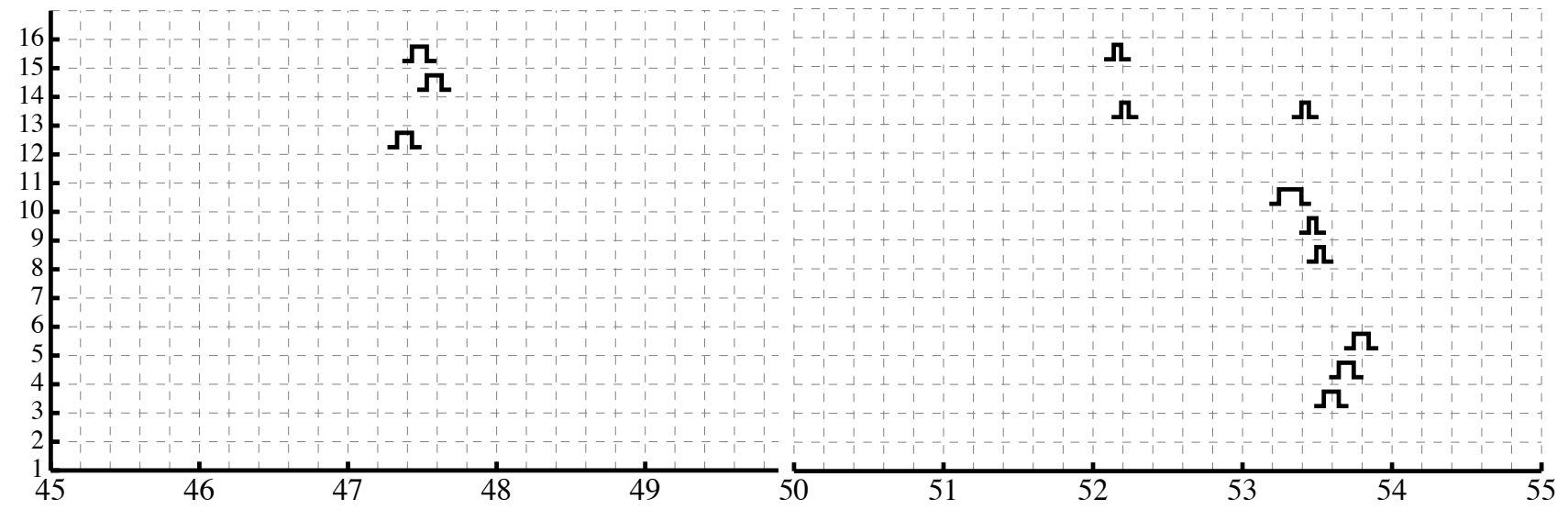
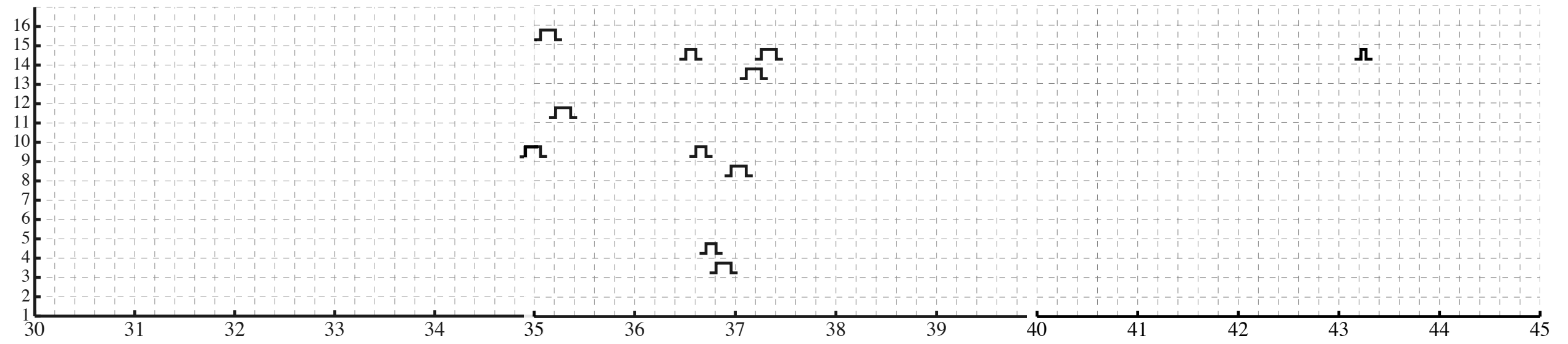
# Structure I – “Near Silence”



## Structure II - "Isolated Points"

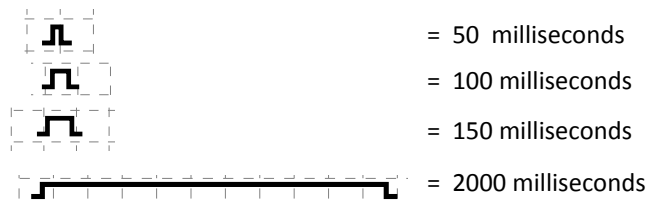
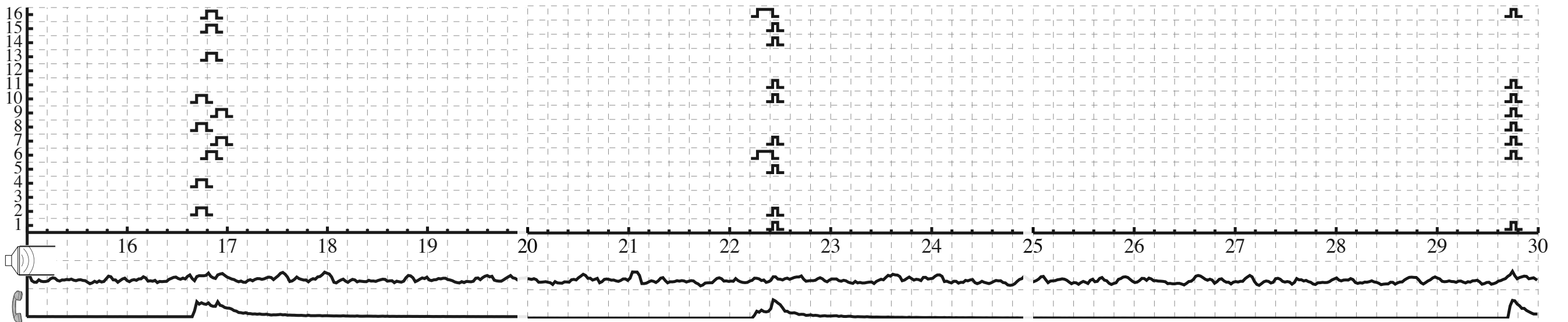
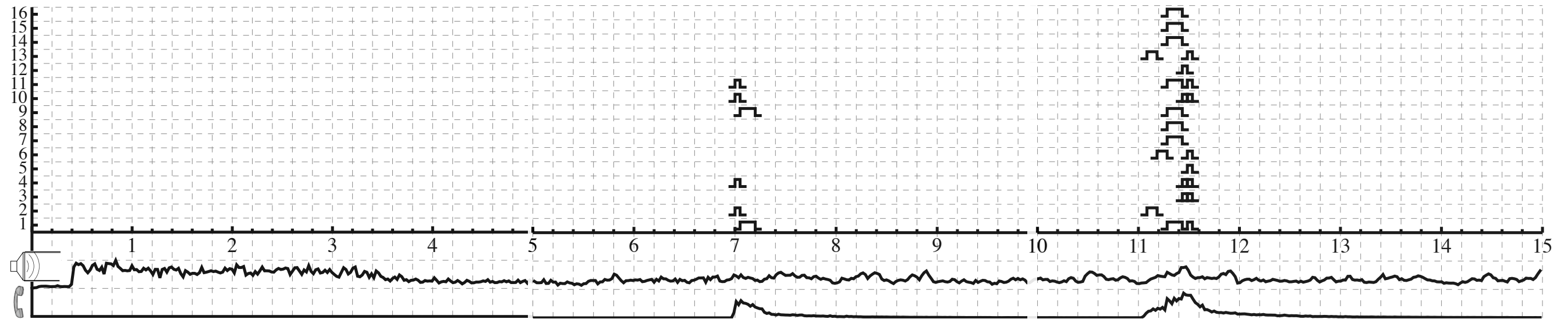


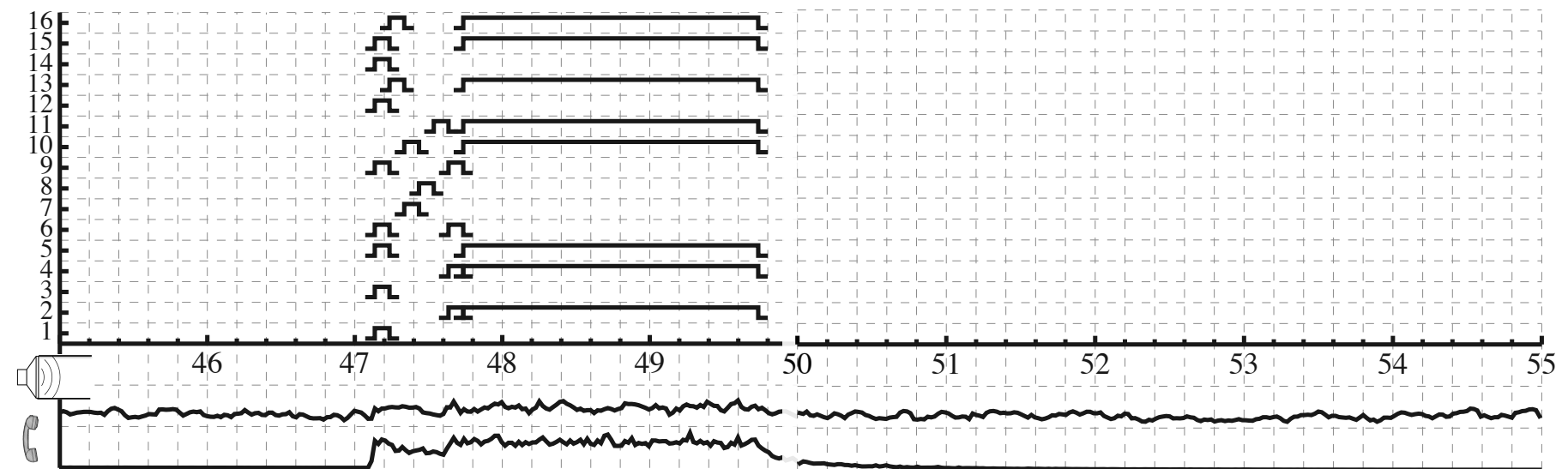
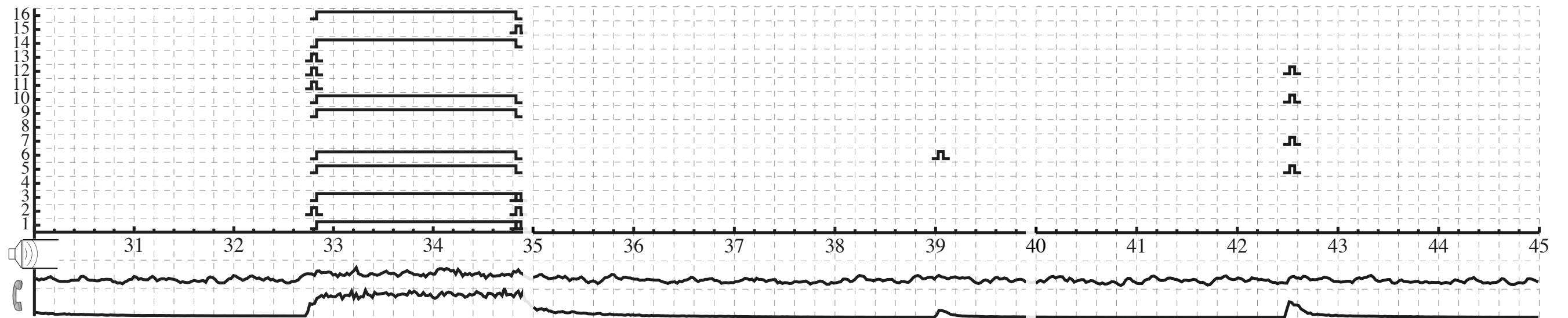
-  = 50 milliseconds
-  = 100 milliseconds
-  = 150 milliseconds



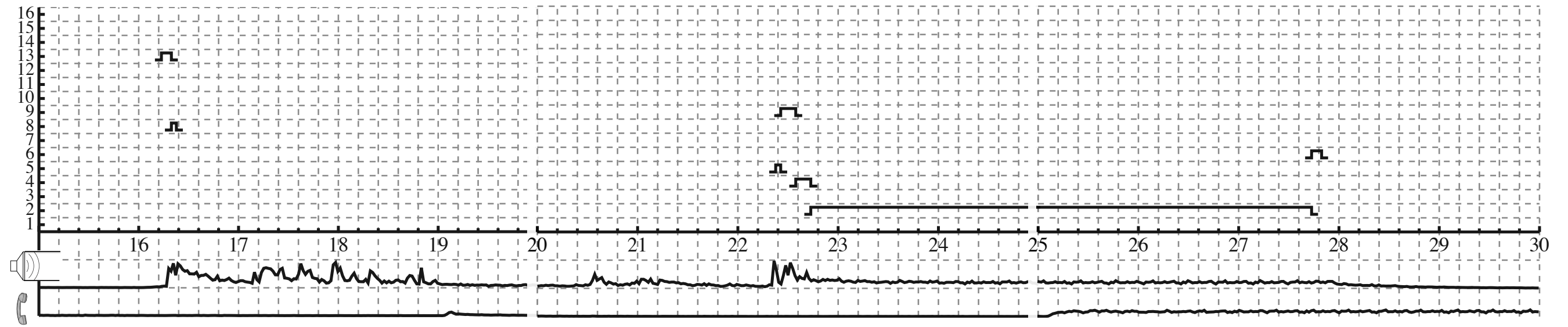
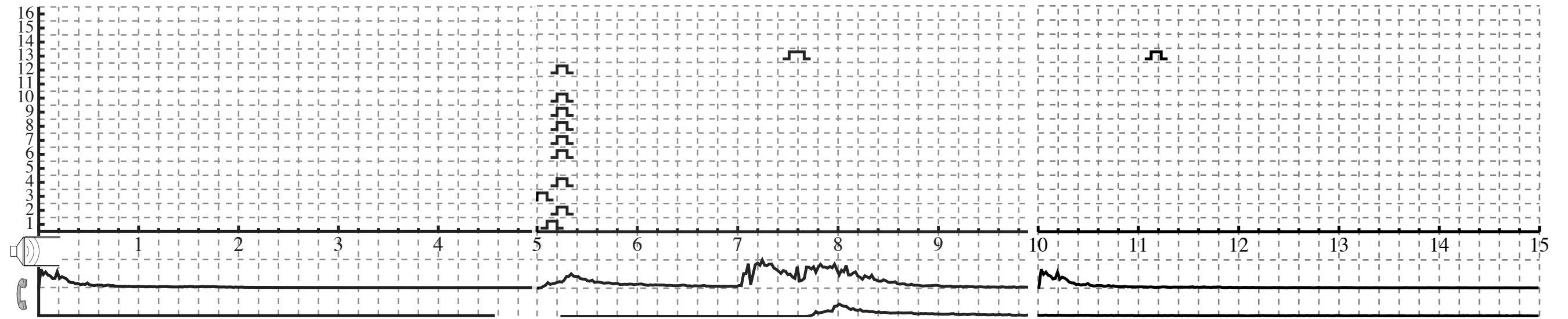
# Structure III - "Gun Shots, Spatial Movements & Electronic Echos"

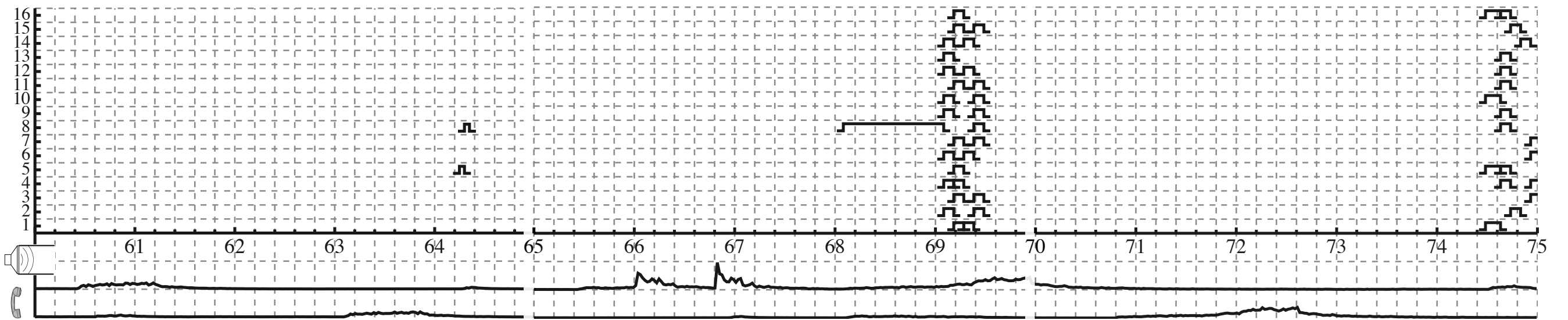
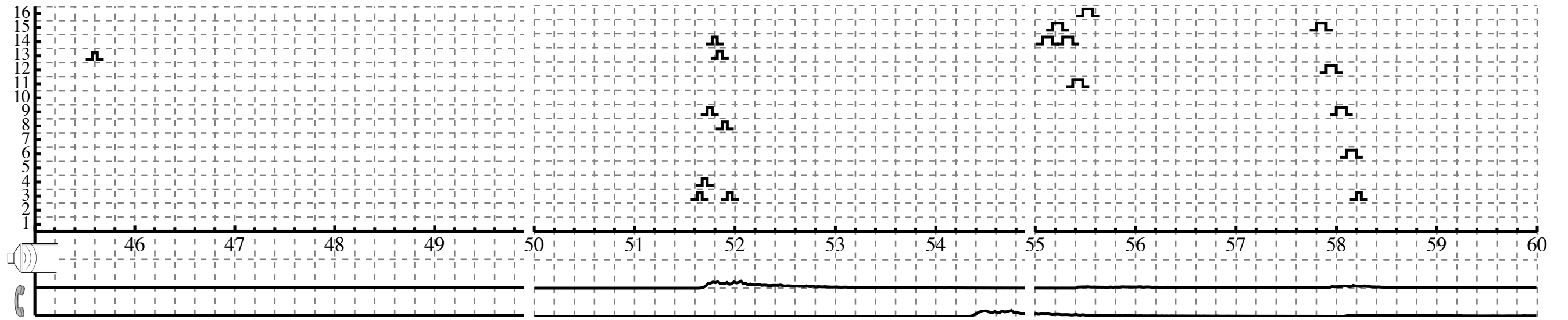
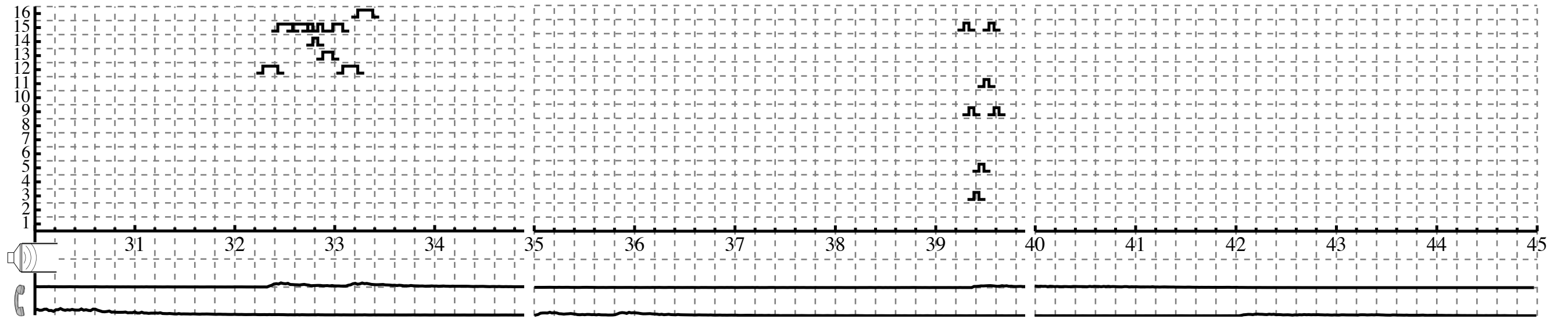
IIIa

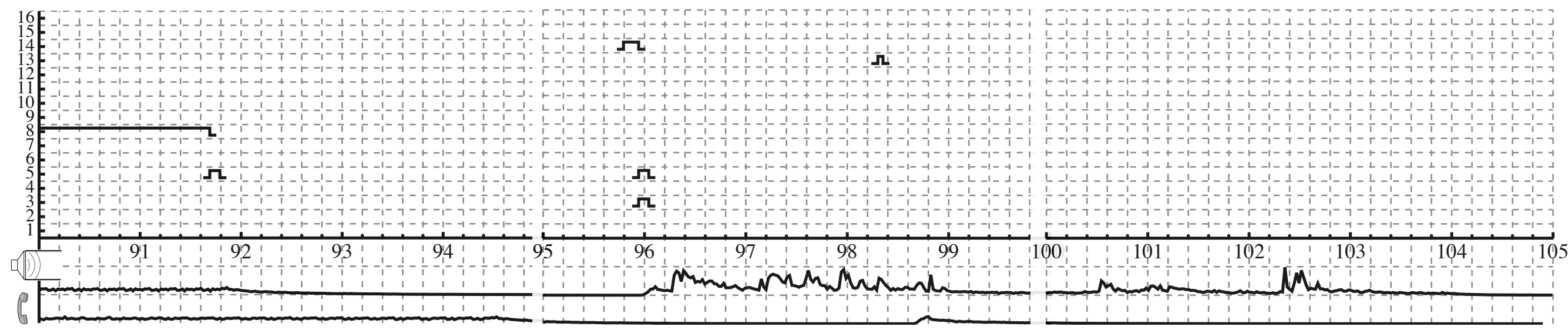
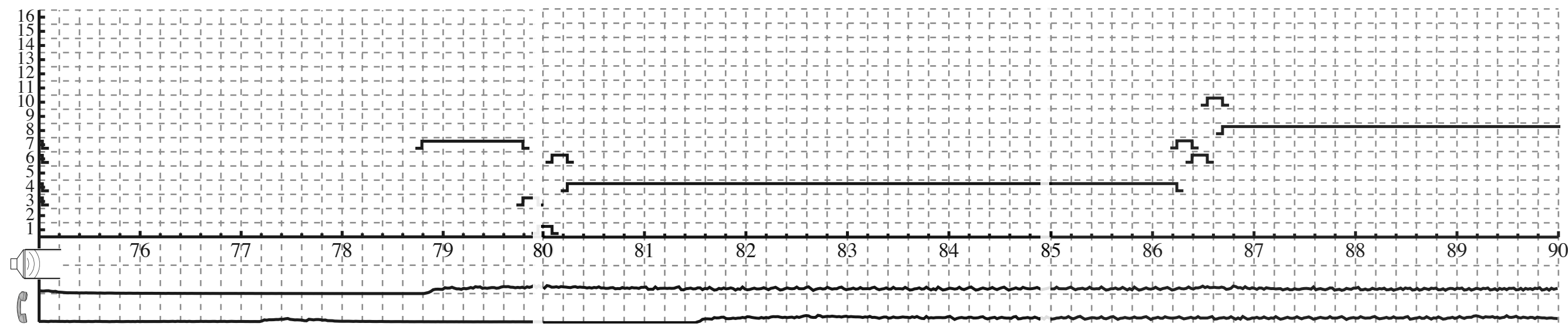




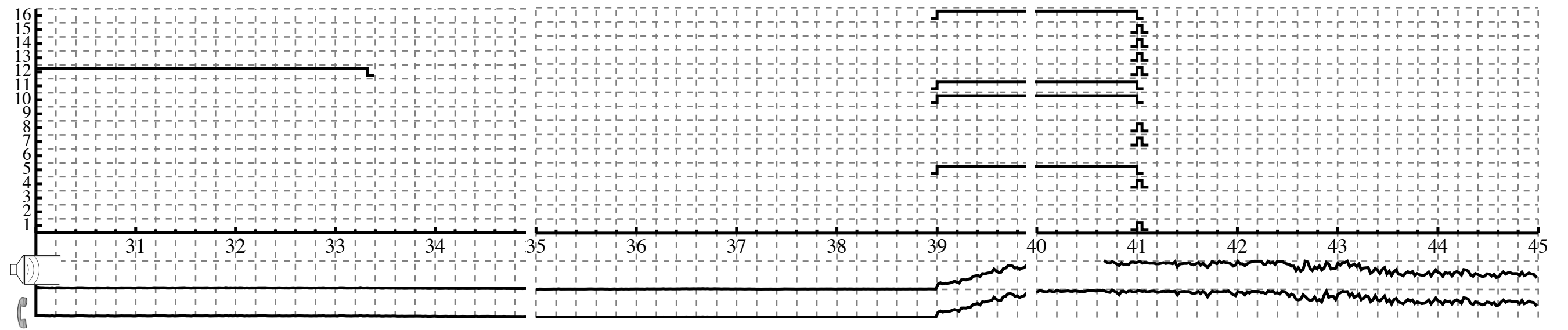
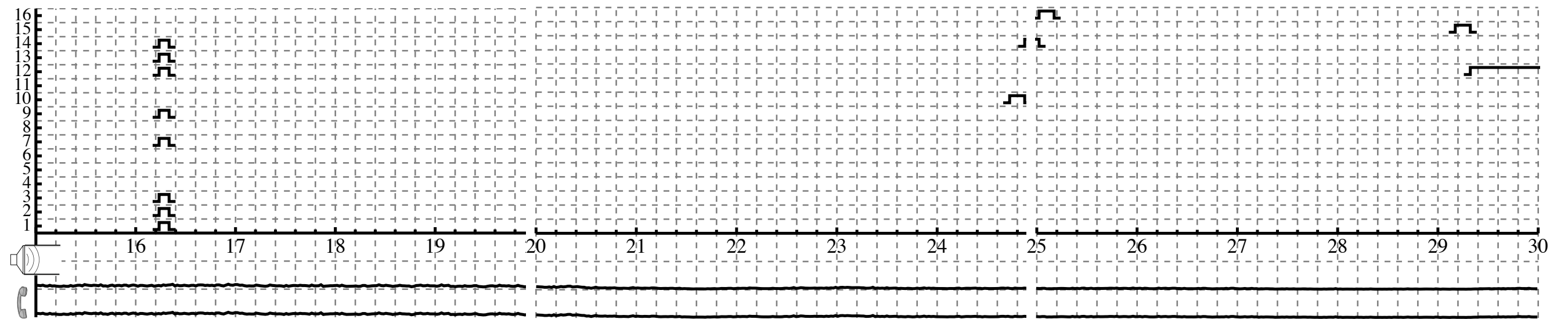
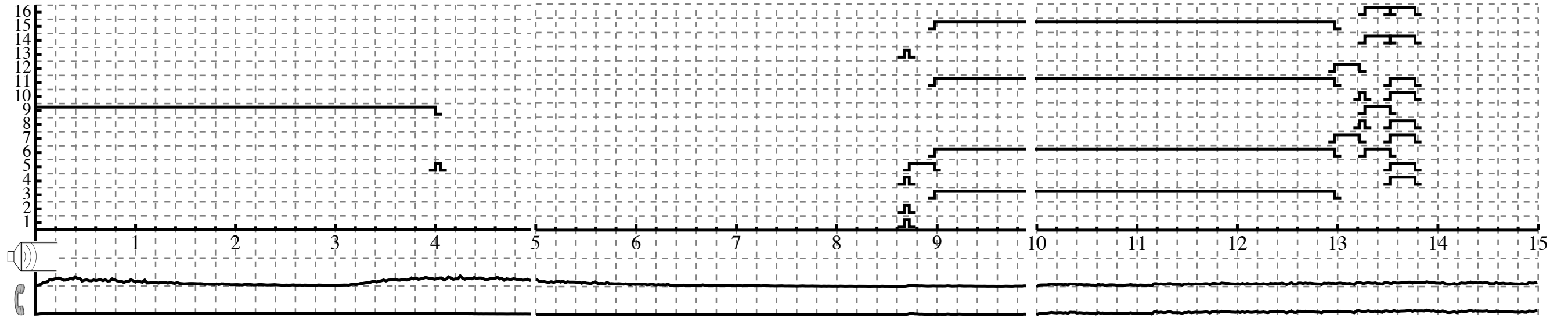
IIIb

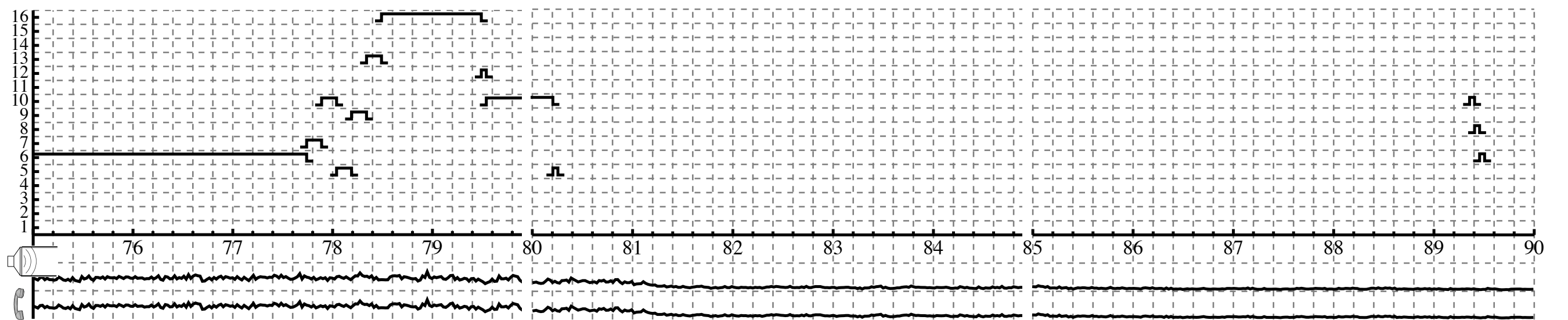
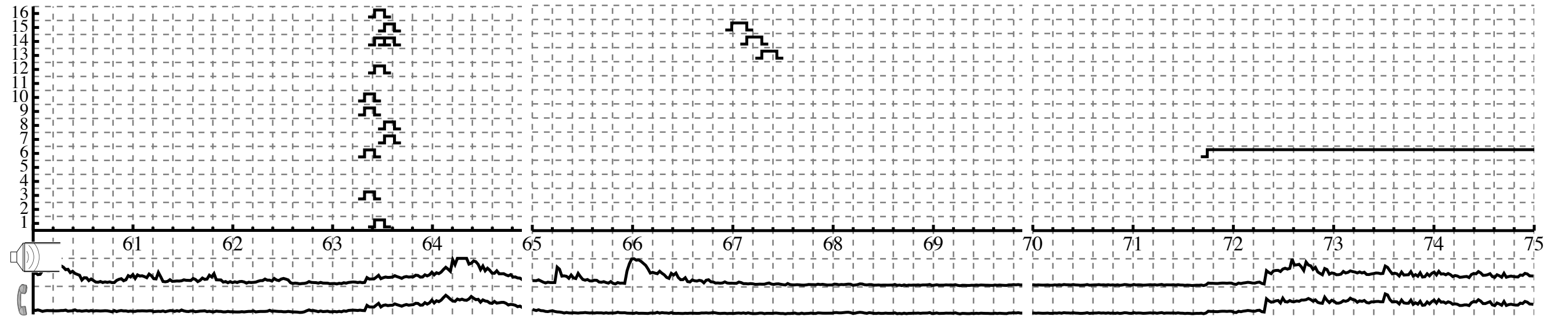
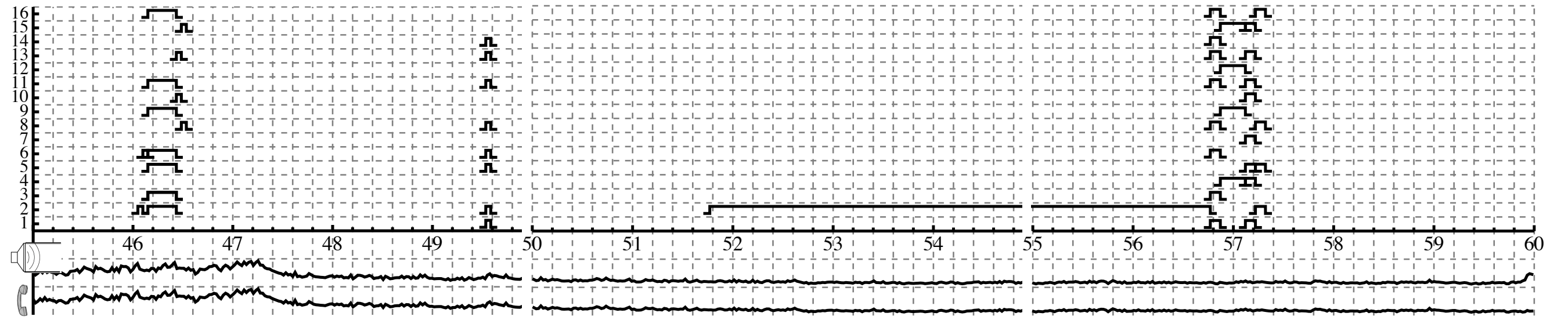


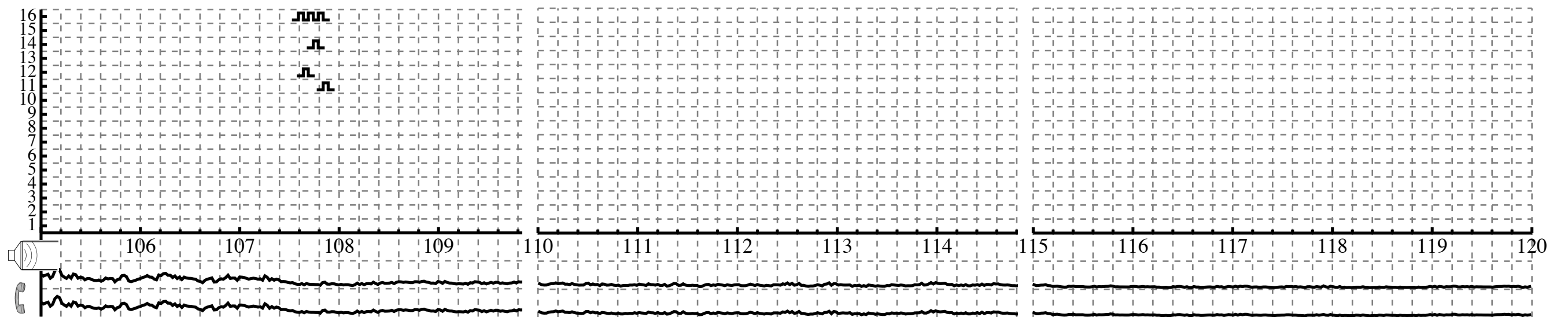
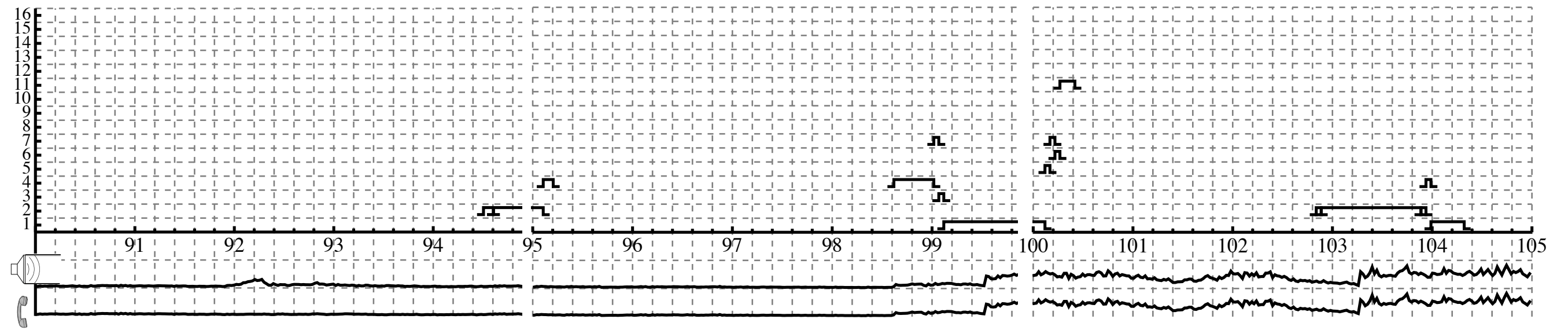




IIIc







## Appendix: Event-Tables

<b>Structure II</b>					
Start	Duration	Bell	Start	Duration	Bell
0	0.05	1	35.064	0.15	15
0.755	0.05	12	35.214	0.15	11
1.415	0.1	7	36.508	0.1	14
1.515	0.1	1	36.608	0.1	9
1.615	0.1	7	36.708	0.1	4
3.489	0.05	14	36.808	0.15	3
3.539	0.05	14	36.958	0.15	8
3.589	0.05	10	37.108	0.15	13
3.639	0.05	6	37.258	0.15	14
3.689	0.05	2	43.22	0.05	14
3.739	0.05	4	47.33	0.1	12
5.374	0.1	9	47.43	0.1	15
5.474	0.1	11	47.53	0.1	14
5.574	0.1	7	52.139	0.05	15
5.674	0.1	12	52.189	0.05	13
5.774	0.15	11	53.244	0.15	10
9.849	0.15	11	53.394	0.05	13
15.625	0.1	9	53.444	0.05	9
15.725	0.1	13	53.494	0.05	8
15.825	0.1	8	53.544	0.1	3
15.925	0.1	12	53.644	0.1	4
16.025	0.1	11	53.744	0.1	5
16.125	0.05	16			
20.94	0.05	5			
20.99	0.05	2			
21.04	0.1	3			
21.14	0.1	2			
22.097	0.05	1			
22.147	0.05	2			
22.197	0.05	4			
22.247	0.05	2			
22.297	0.05	7			
22.347	0.05	6			
28.372	0.05	7			
28.422	0.15	11			
28.572	0.15	15			
28.722	0.15	13			
28.872	0.15	9			
29.022	0.15	5			
29.172	0.15	1			
34.914	0.15	9			