Music for Piano & Computer

by Cort Lippe

1996

for Yoshiko Shibuya

© 1996 Cort Lippe
All International Rights Reserved

Cort Lippe

Program Notes

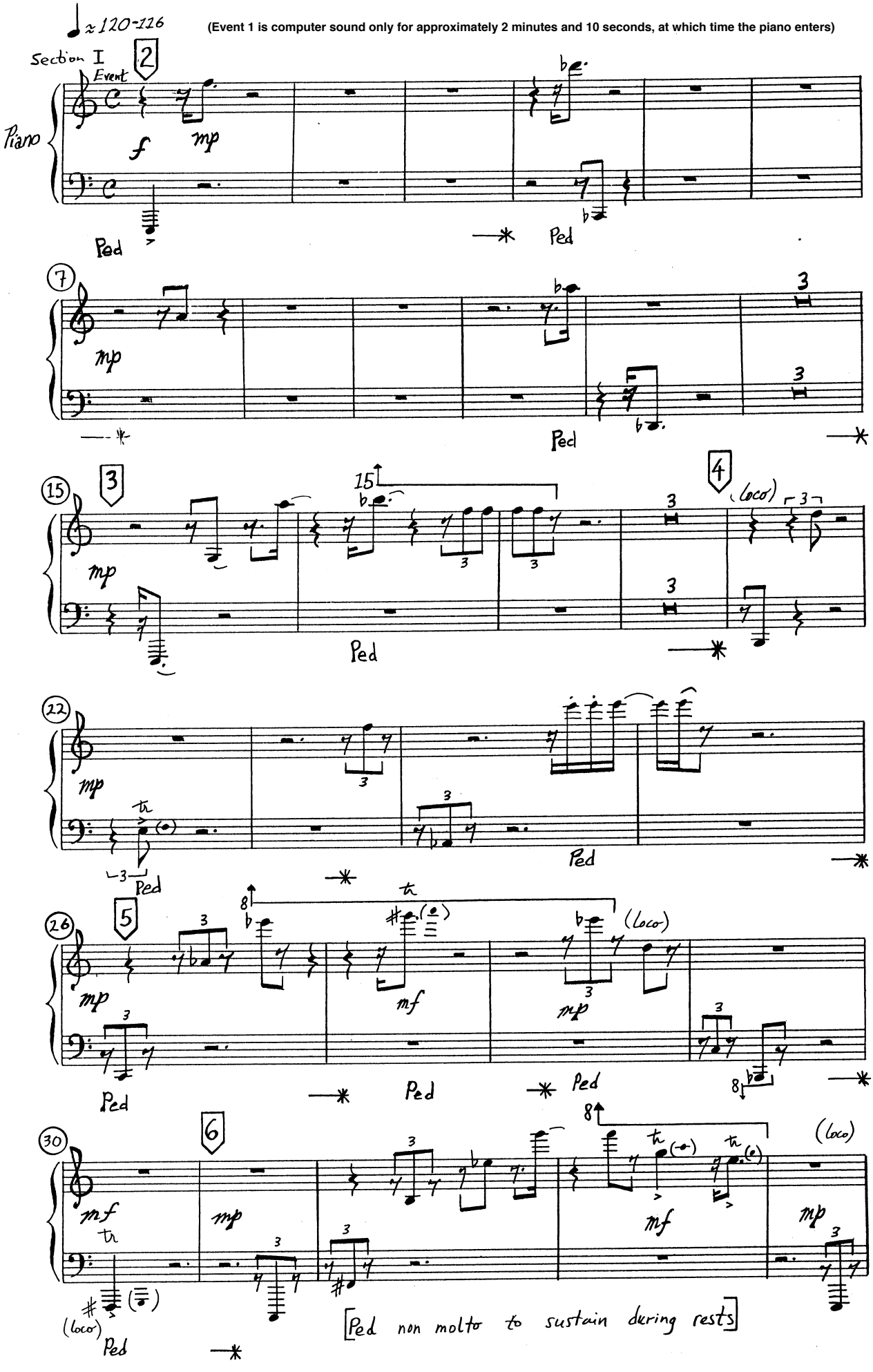
Music for Piano and Computer (1996) was commissioned by the Japanese pianist Yoshiko Shibuya and premiered by her in Tokyo in Ocotober of 1996. The electronic part was created at the Hiller Computer Music Studios of the University at Buffalo, New York using the IRCAM Signal Processing Workstation, (a real-time digital signal processor), and the program *Max* which was developed by Miller Puckette and whose technical support helped make this piece possible.

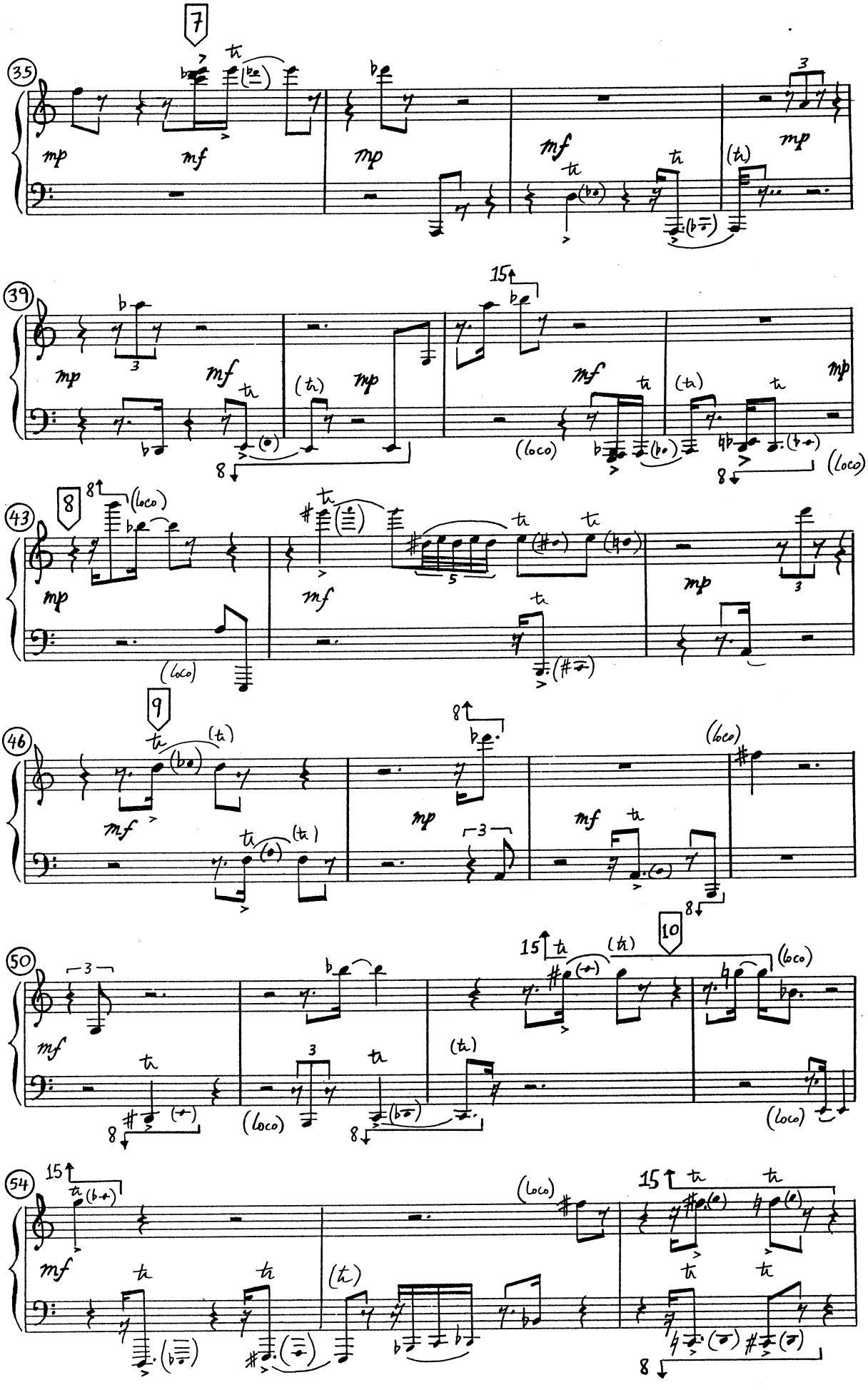
Technically, the computer tracks parameters of the piano, such as pitch, amplitude, spectrum, density, rests, articulation, tempi, etc., and uses this information to trigger specific electronic events, and to continuously control all the computer sound output by directly controlling the digital synthesis algorithms. Thus, the performer is expected to "interact" with the computer triggering and continously shaping all of the computer output.

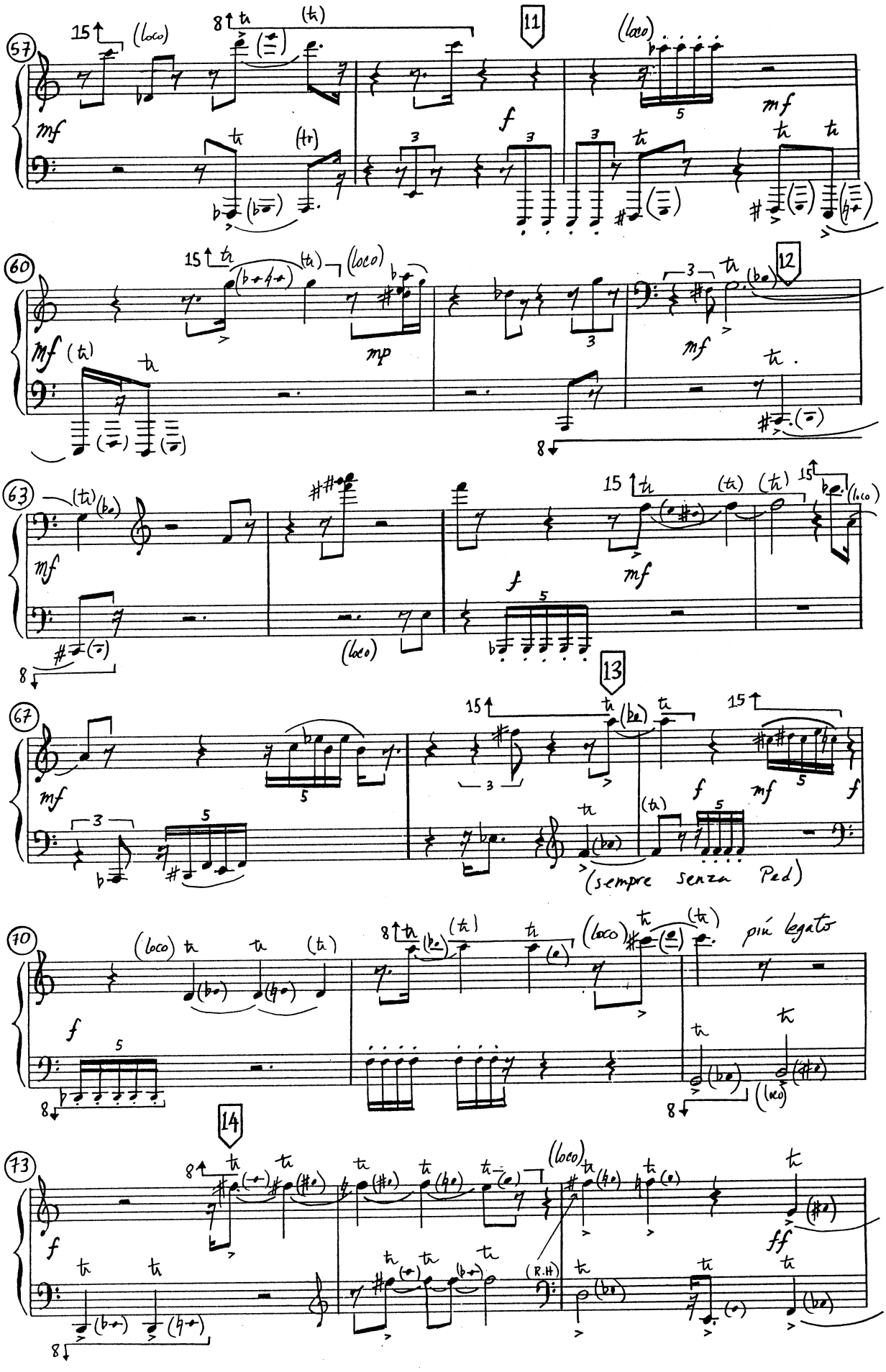
Some of the sounds in the electronic part come directly from the composed piano part, so that certain aspects of the musical and sound material for the instrumental and electronic parts are one and the same. Sound material other than the piano is also manipulated in the time domain via time-stretching and granular sampling. Frequency domain FFT-based cross-synthesis and analysis/resynthesis using an oscillator bank, as well as more standard signal processing such as harmonizing, frequency shifting, phasing, spatialization, etc. are all employed. The instrument/machine relationship moves constantly on a continuum between the poles of an "extended" solo and a duo. Musically, the computer part is, at times, not separate from the piano part, but serves rather to "amplify" the piano in many dimensions and directions; while at the other extreme of the continuum, the computer part has its own independent "voice".

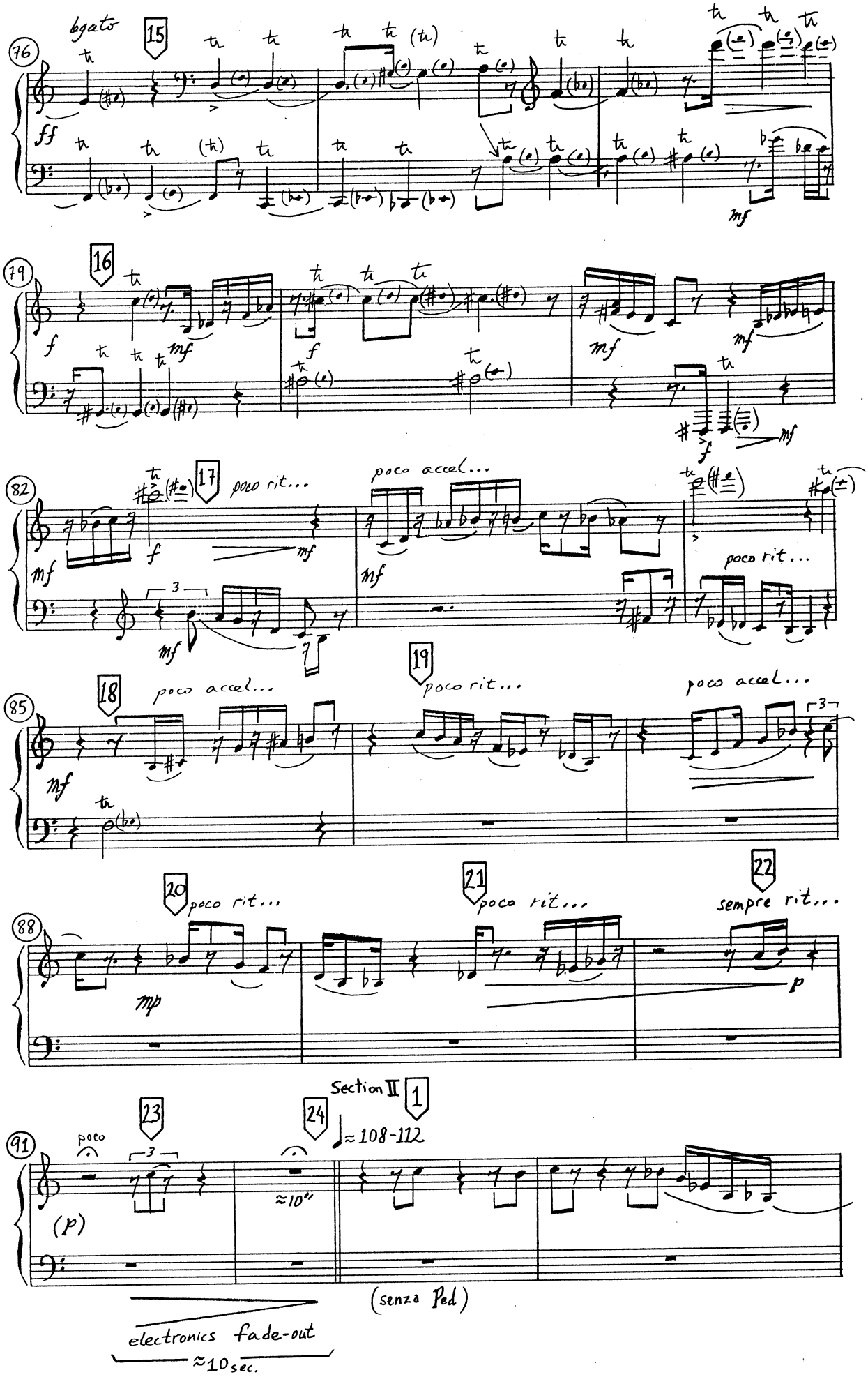
This piece has five sections, and is dedicated to my son Dimitrios, who kindly waited until the piece was completed to be born...

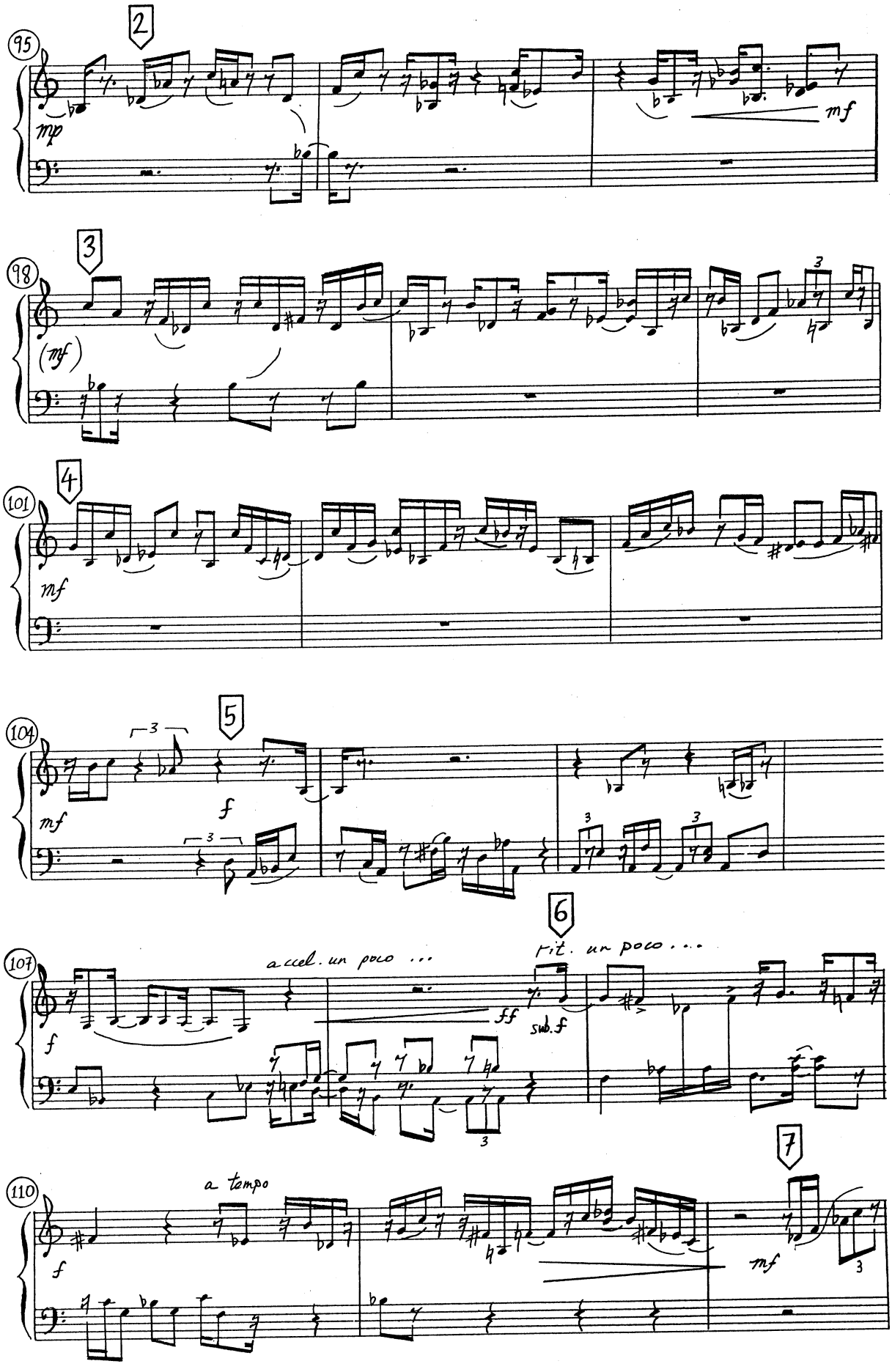
Duration: 16 minutes.

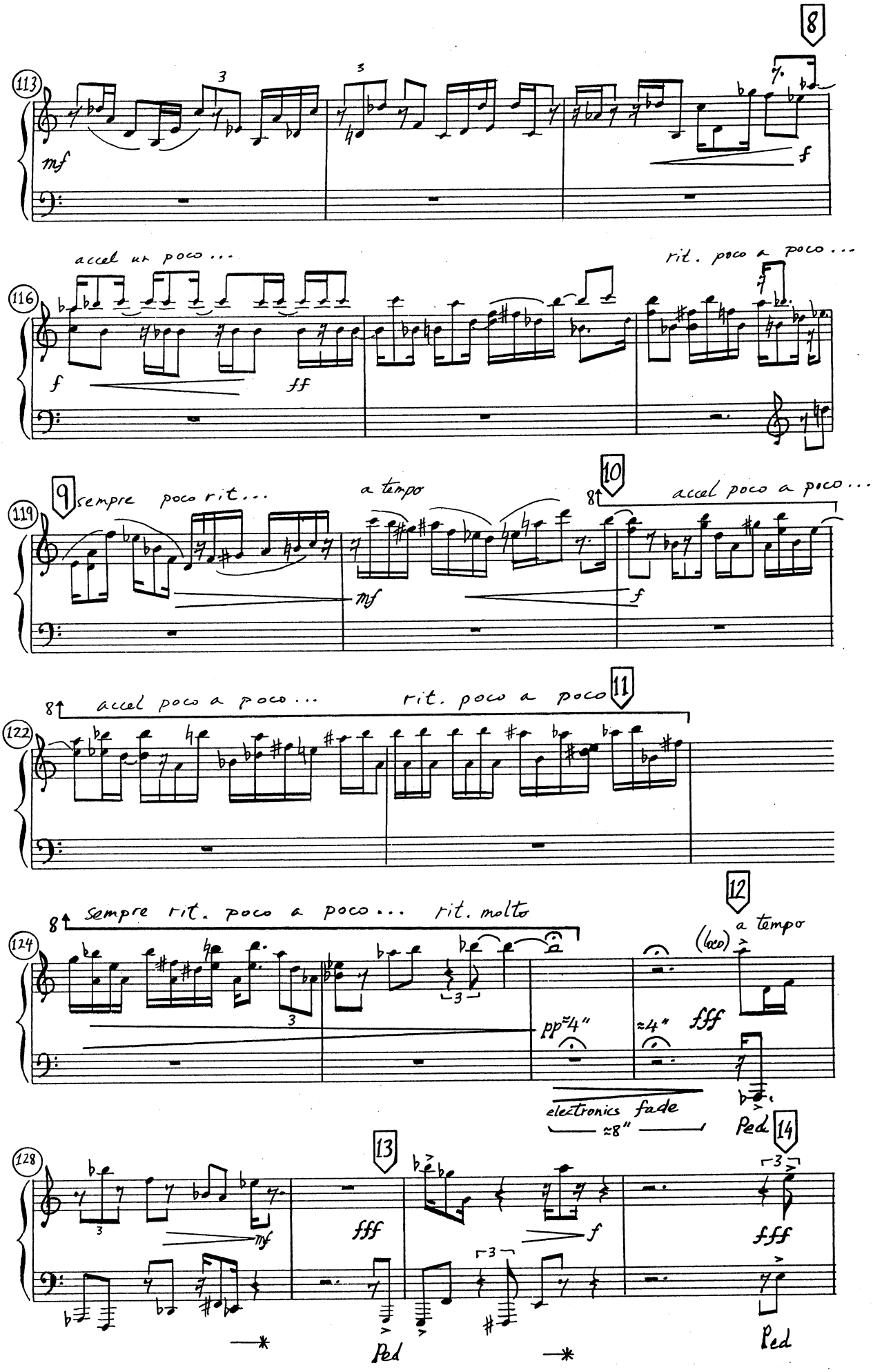

♩ ≈ 120-126
(Event 1 is computer sound only for approximately 2 minutes and 10 seconds, at which time the piano enters)
Section I
Event
Piano
f
mp
Ped
(loco)
mf
[Ped non molto to sustain during rests]

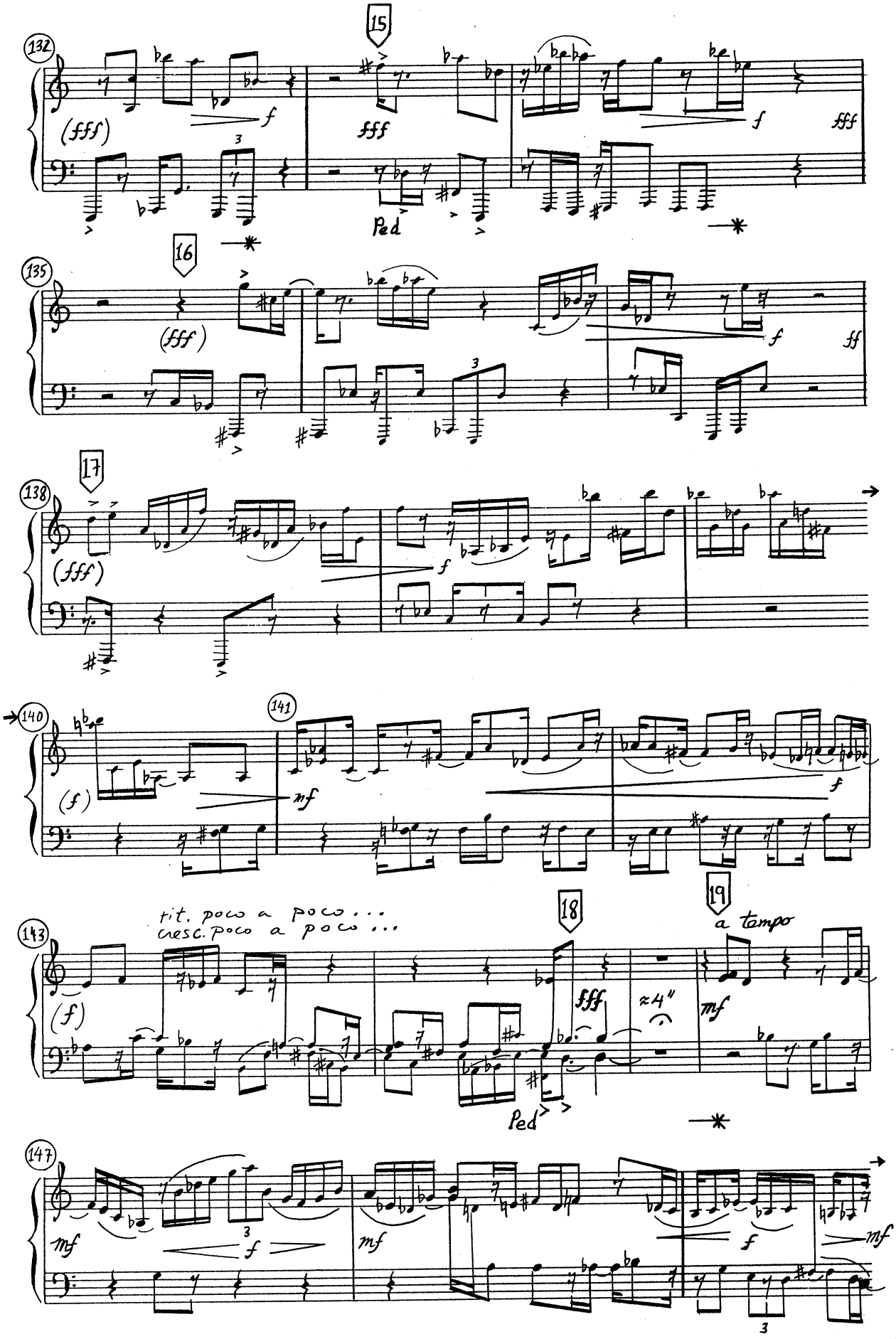

7
35
mp
mf
mp
mf
mp
39
mp
mf
mp
mf
mp
(loco)
(loco)
43
8
(loco)
mp
mf
mp
(loco)
46
9
mf
mp
mf
(loco)
50
mf
10
(loco)
(loco)
(loco)
54
mf
(loco)

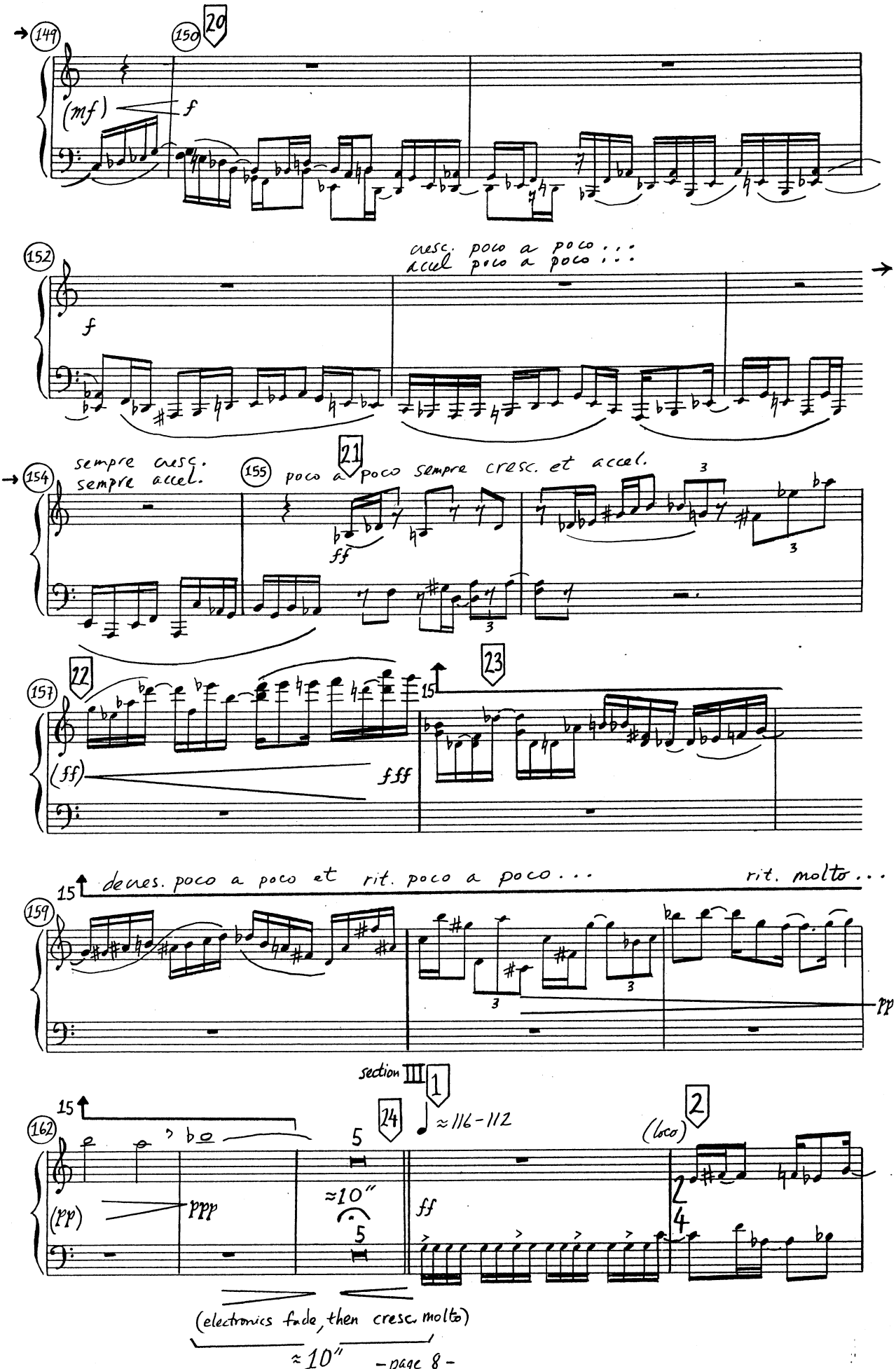

57
11
60
12
63
13
67
(sempre senza Ped)
70
più legato
14
73
(R.H)

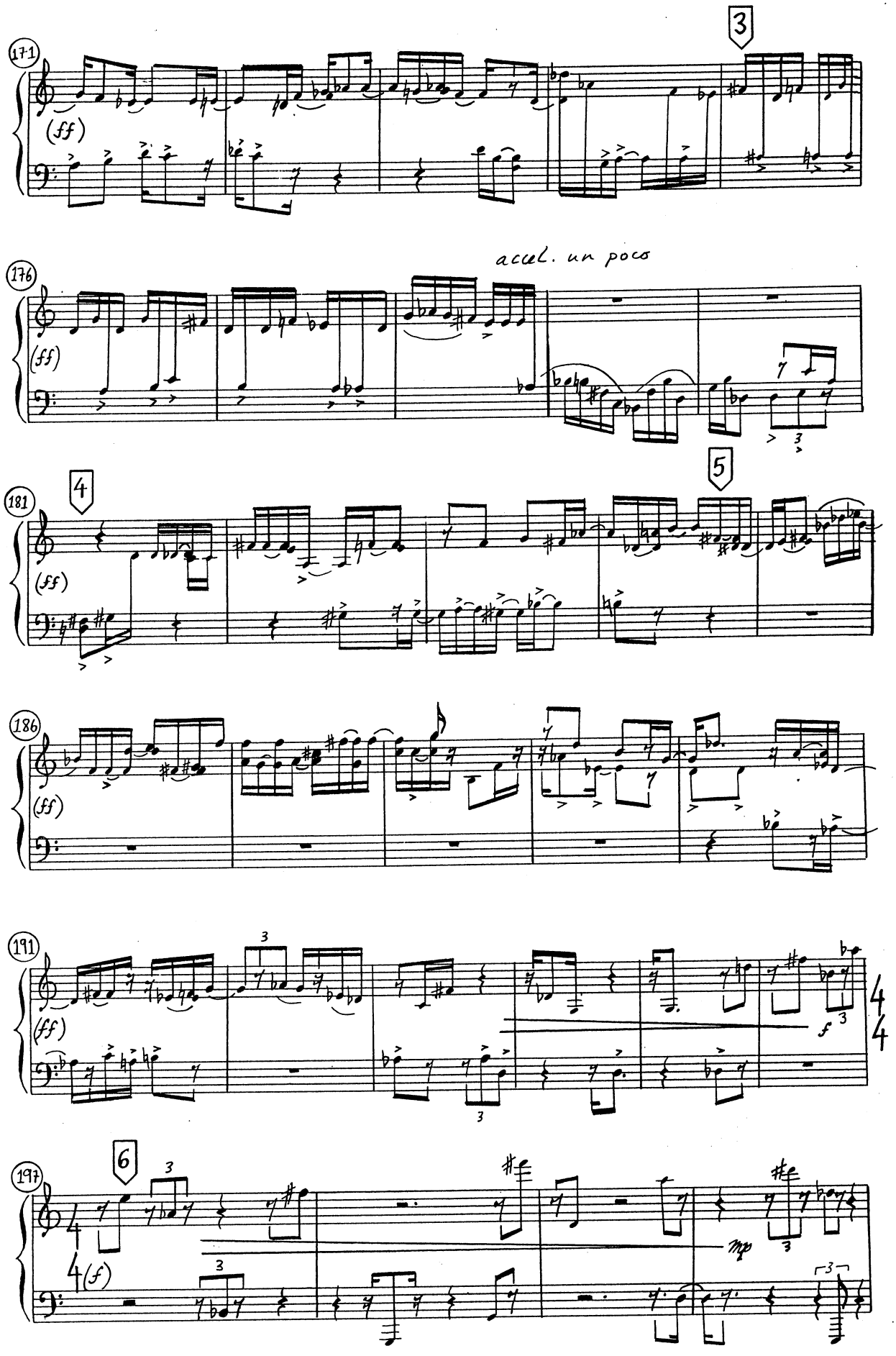

legato
15
16
17
poco rit...
poco accel...
poco rit...
18
poco accel...
19
poco rit...
poco accel...
20
poco rit...
21
poco rit...
22
sempre rit...
Section II
1
23
24
poco
≈108-112
≈10"
(senza Ped)
electronics fade-out
≈10 sec.

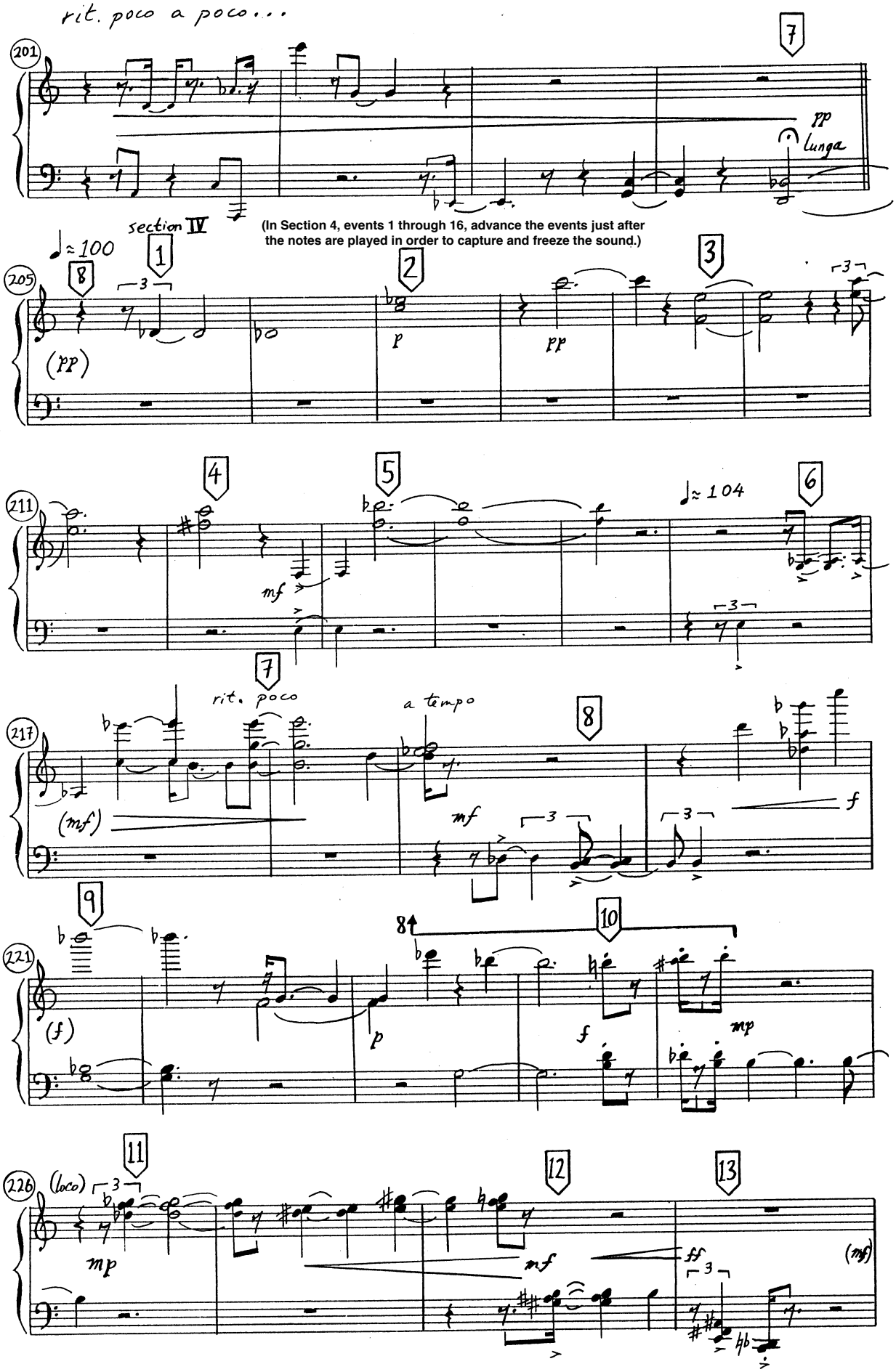

95
2
mp
mf
98
3
(mf)
101
4
mf
104
5
mf
f
107
6
accel. un poco ...
ff
rit. un poco ...
sub. f
f
110
7
a tempo
f
mf

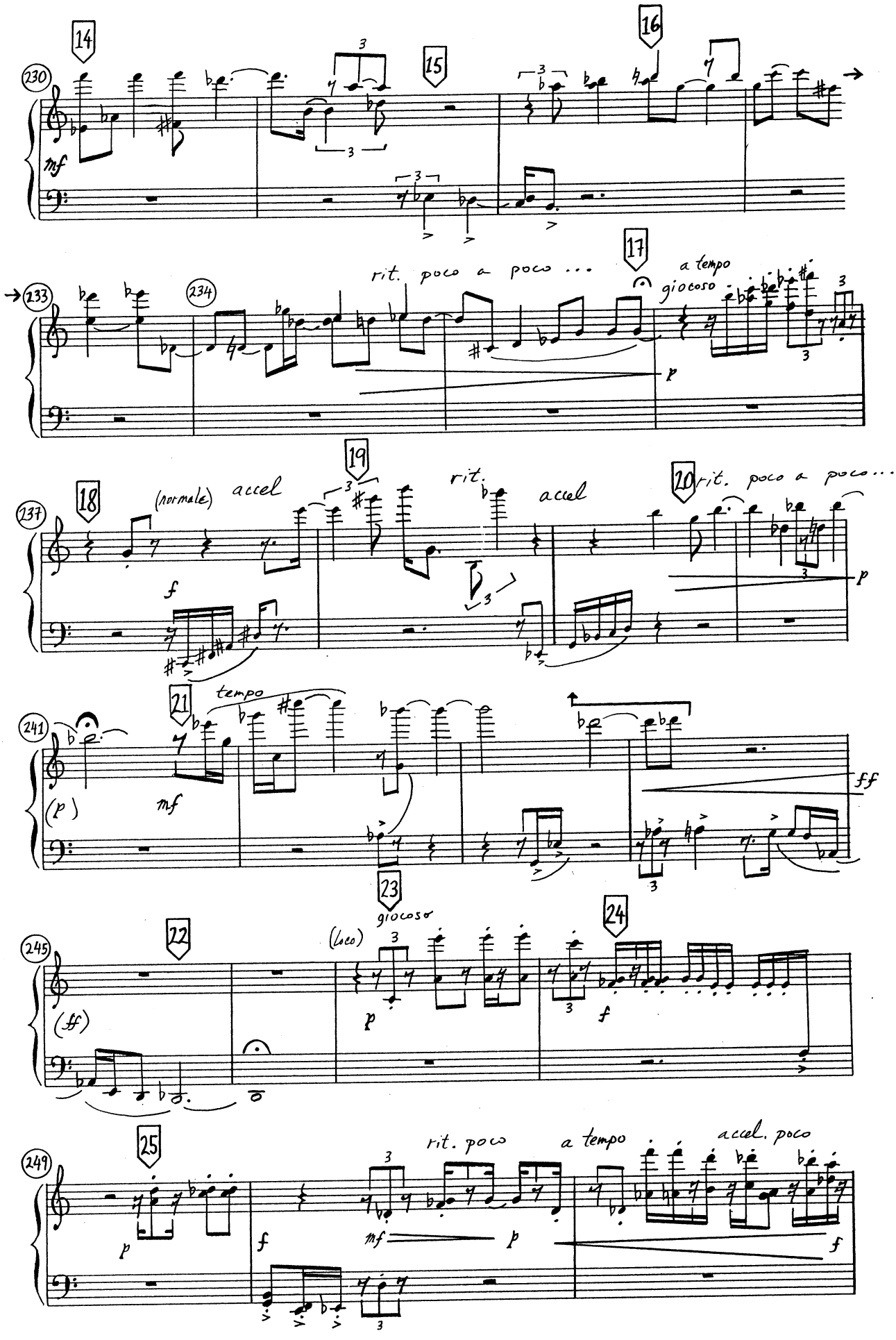

8
113
mf
f
accel un poco...
116
f
ff
rit. poco a poco...
9
sempre poco rit...
119
mf
a tempo
10
8
accel poco a poco...
f
11
8
accel poco a poco...
122
rit. poco a poco
12
8
sempre rit. poco a poco... rit. molto
124
pp ≈4"
≈4"
fff
(loco)
a tempo
electronics fade
≈8"
Ped
14
128
mf
13
fff
f
fff
Ped
Ped

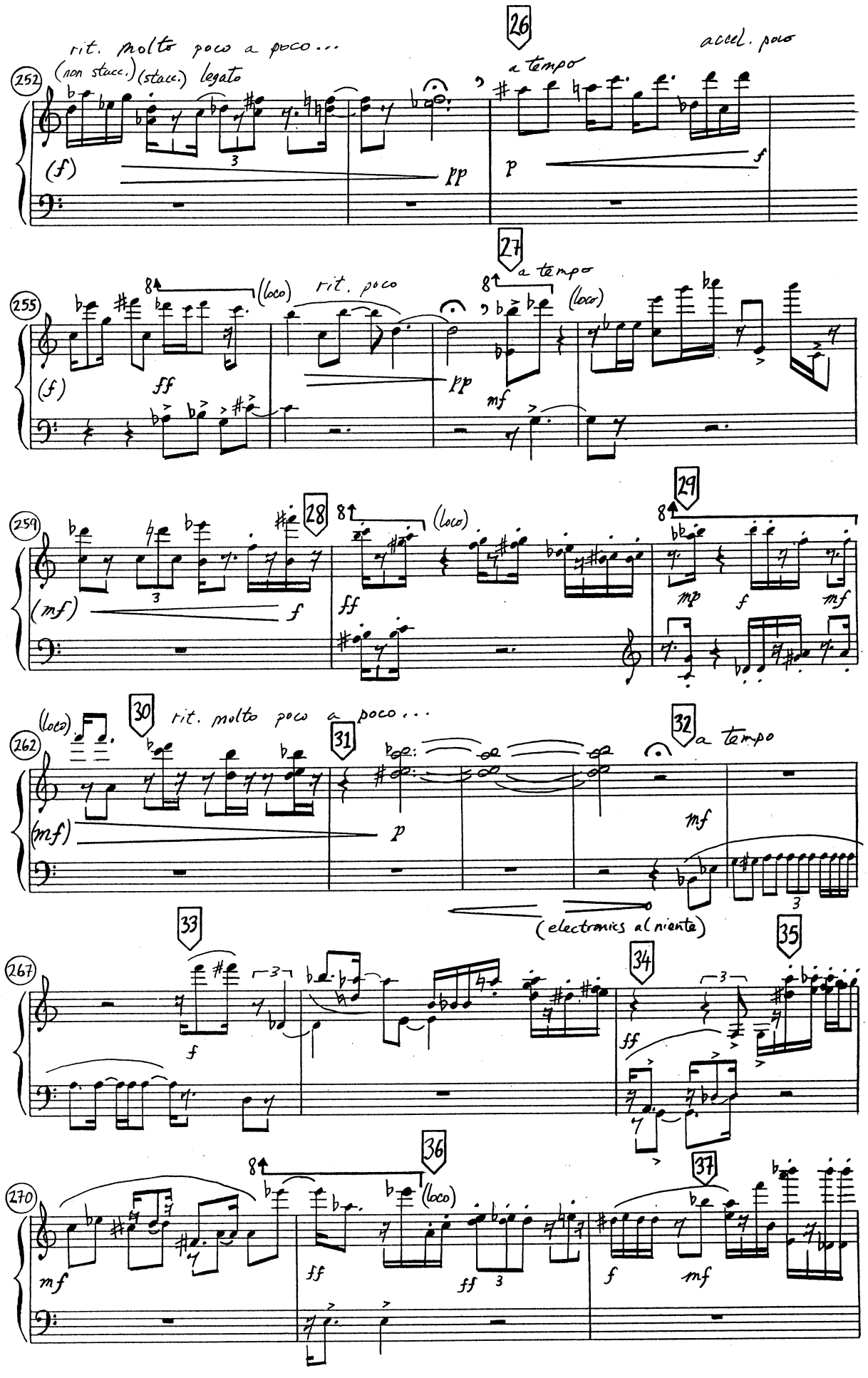

132
15
(fff)
f
fff
Ped
f
fff
135
16
(fff)
f
ff
138
17
(fff)
f
140
141
(f)
mf
f
143
18
19
rit. poco a poco...
cresc. poco a poco...
(f)
fff
≈4"
a tempo
mf
Ped
147
mf
f
mf
f
mf
3

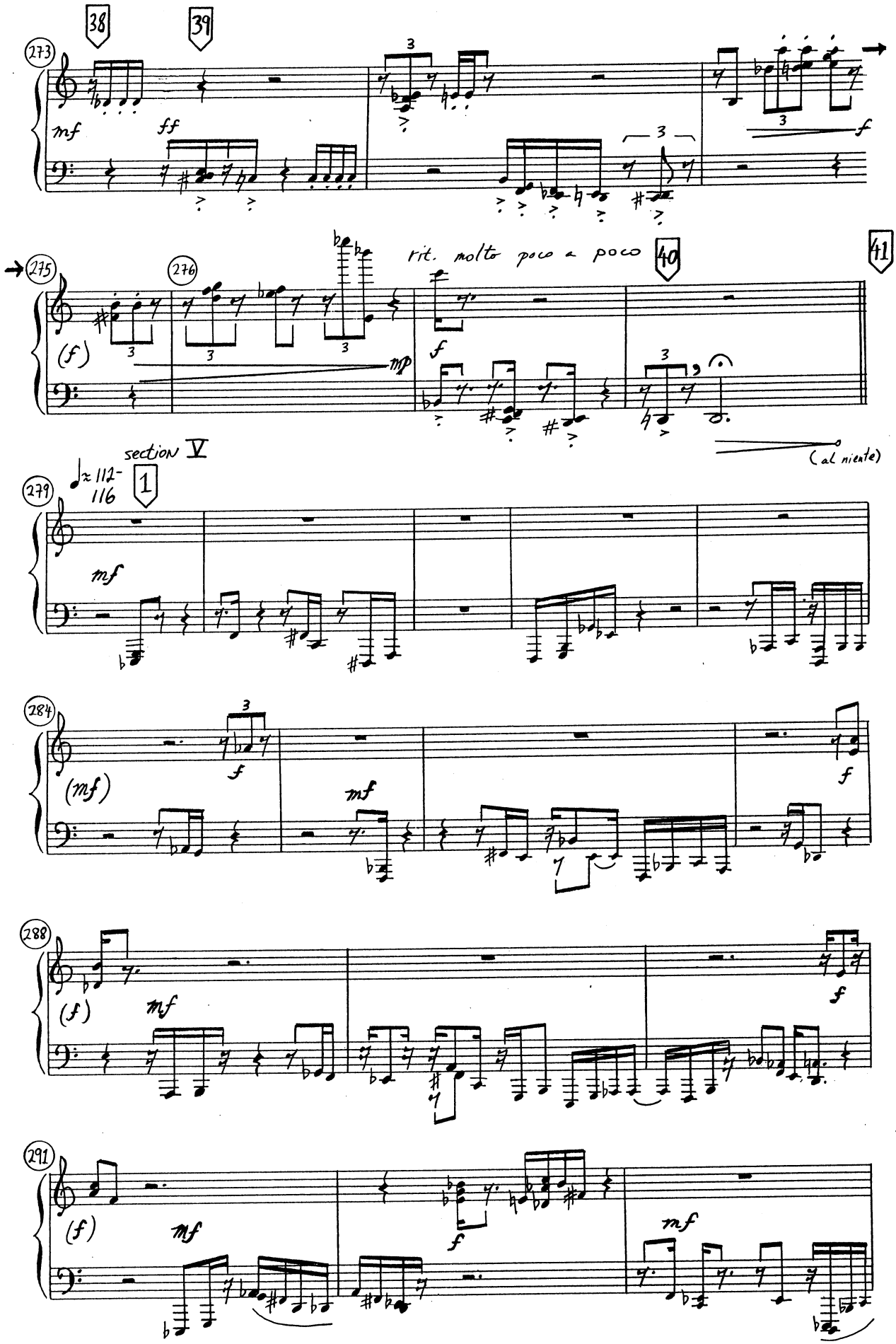

149
150
20
(mf)
f
152
cresc. poco a poco : : :
accel poco a poco : : :
f
154
sempre cresc.
sempre accel.
155
21
poco a poco sempre cresc. et accel.
ff
157
22
23
15
(ff)
fff
15
decres. poco a poco et rit. poco a poco . . .
rit. molto . . .
159
pp
section III
1
15
162
24
≈116-112
5
(loco)
2
(pp)
ppp
≈10"
5
ff
(electronics fade, then cresc. molto)
≈10"

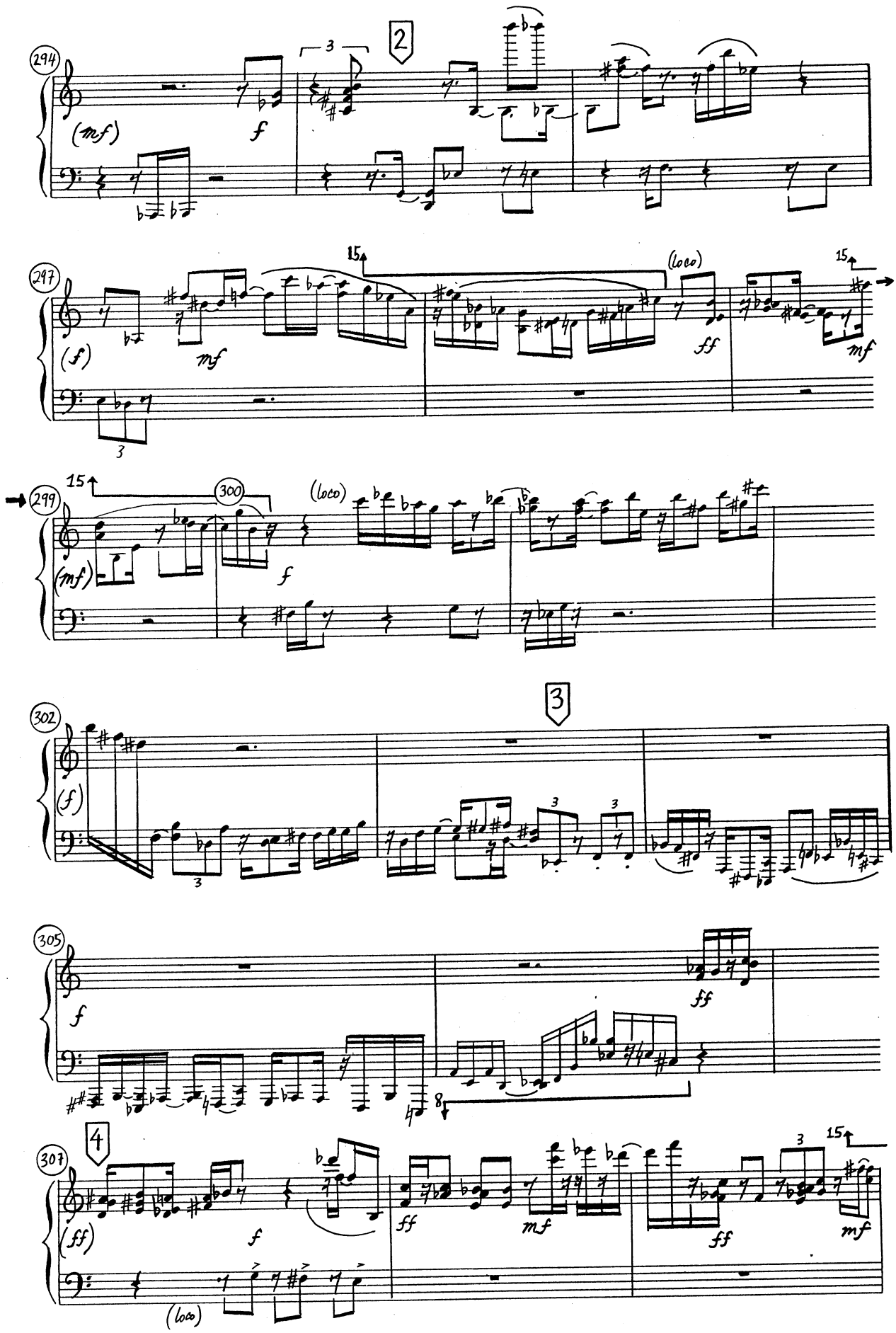

171
3
(ff)
176
accel. un poco
(ff)
181
4
5
(ff)
186
(ff)
191
(ff)
f
4
4
197
6
4
(f)
mp

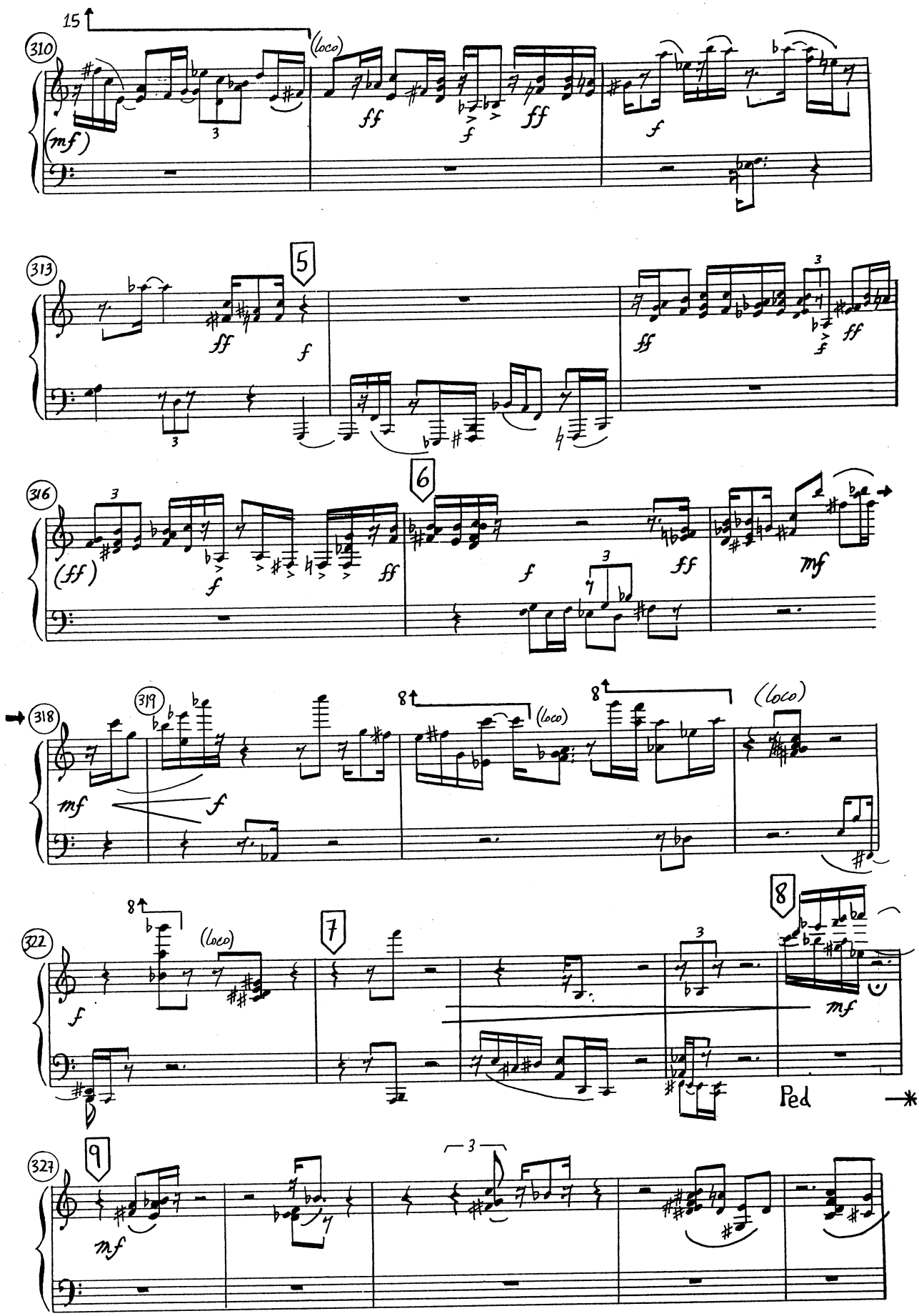

rit. poco a poco...
201
7
pp
lunga
section IV
(In Section 4, events 1 through 16, advance the events just after the notes are played in order to capture and freeze the sound.)
♩≈100
205
8
1
2
3
(pp)
p
pp
211
4
5
6
mf
♩≈104
217
7
rit. poco
a tempo
8
(mf)
mf
f
221
9
10
(f)
p
f
mp
226
11
12
13
(loco)
mp
mf
ff
(mf)

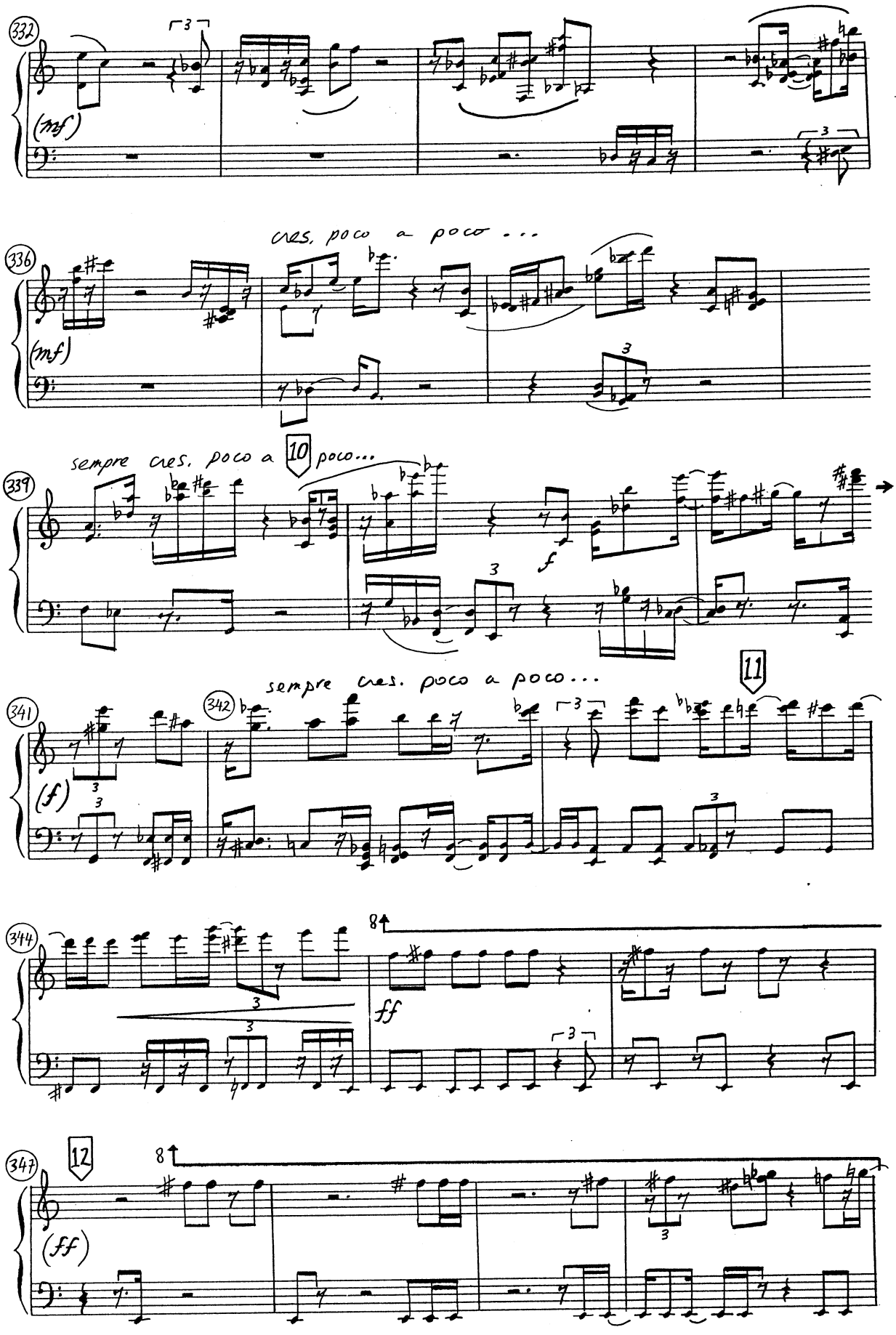

14
15
16
230
mf
17
rit. poco a poco ...
a tempo
giocoso
233
234
p
18
19
20
237
(normale)
accel
rit.
accel
rit. poco a poco...
f
p
21
tempo
241
(p)
mf
ff
23
giocoso
22
24
245
(ff)
(loco)
p
f
25
249
rit. poco
a tempo
accel. poco
p
f
mf
p
f

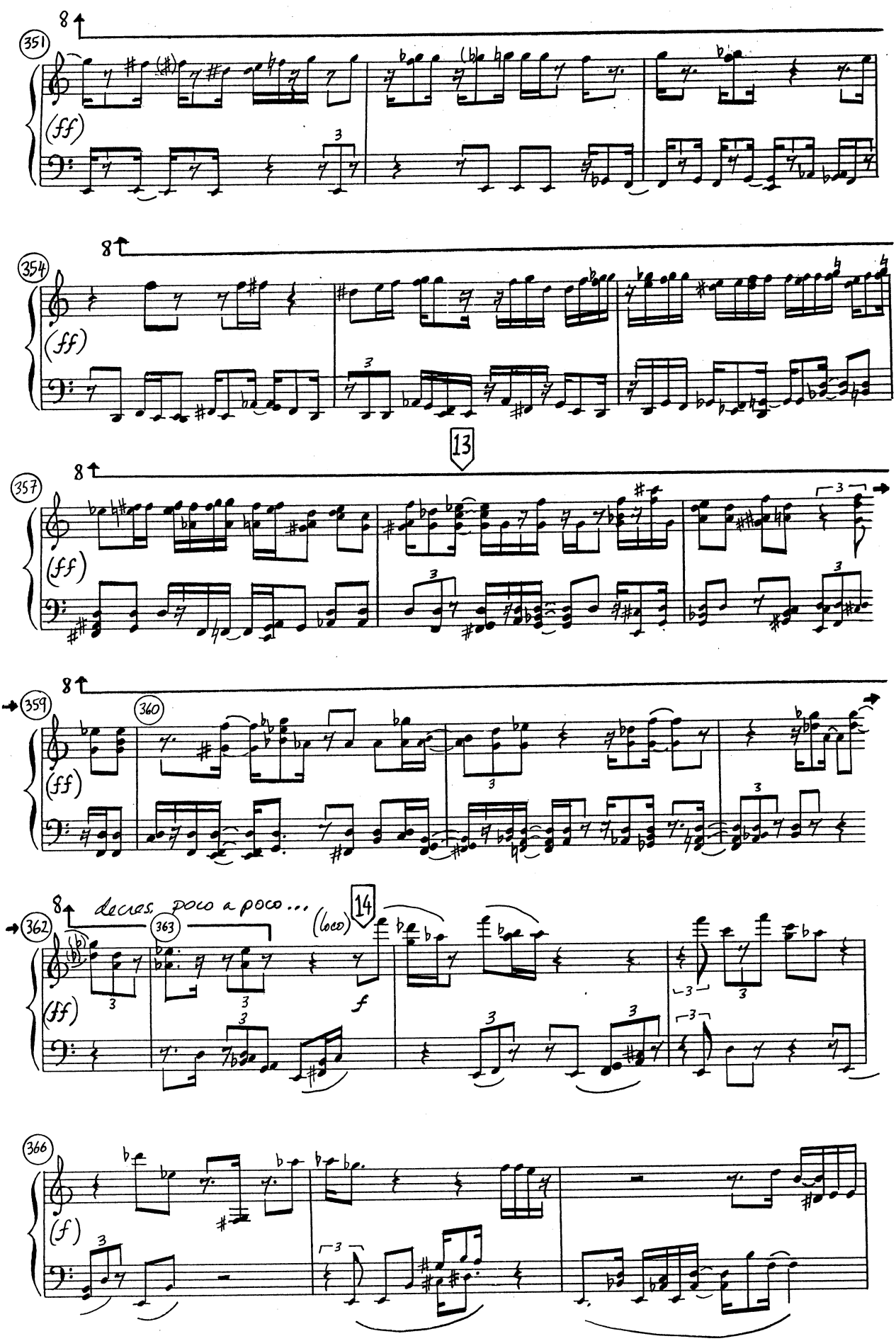

rit. molto poco a poco...
(non stacc.) (stacc.) legato
26
a tempo
accel. poco
252
(f)
pp
p
f
27
a tempo
255
8
(loco)
rit. poco
(f)
ff
pp
mf
28
29
259
(mf)
f
ff
mp
f
mf
30
rit. molto poco a poco...
31
32
a tempo
262
(mf)
p
mf
(electronics al niente)
33
35
267
f
34
ff
36
37
270
mf
ff
ff
f
mf

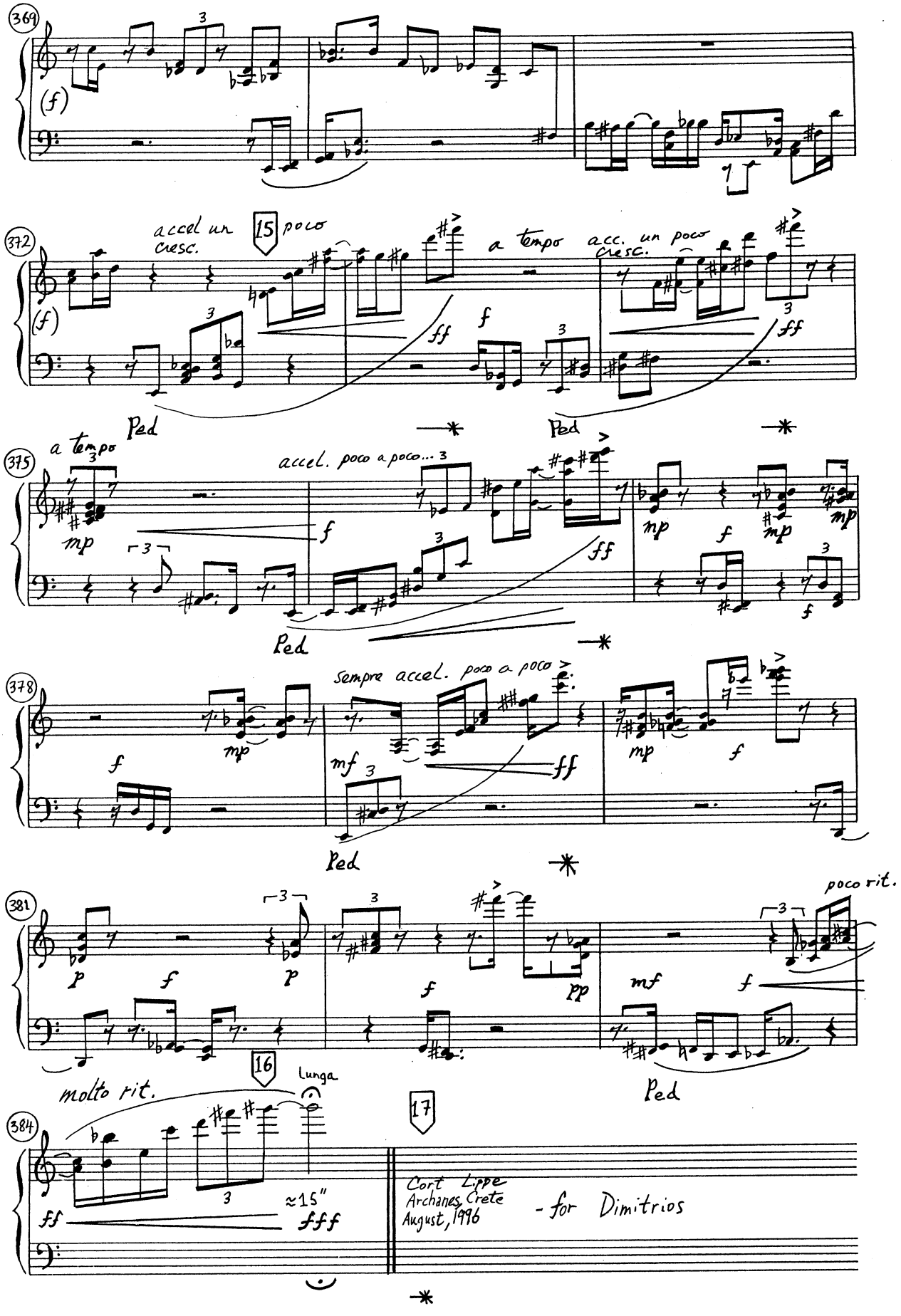

38
39
273
mf
ff
f
275
276
(f)
mp
rit. molto poco a poco
40
41
f
(al niente)
section V
♩= 112-116
1
279
mf
284
(mf)
f
mf
f
288
(f)
mf
f
291
(f)
mf
f
mf


294
(mf)
f
2
3
297
(f)
mf
15
(loco)
ff
15
mf
299
(mf)
15
300
(loco)
f
302
(f)
3
3
3
305
f
ff
8
307
4
(ff)
f
(loco)
ff
mf
ff
3
15
mf


15
310
(loco)
(mf)
ff
f
313
5
316
6
(ff)
mf
318
319
8
322
7
Ped
327
9


332
(mf)
336
cres. poco a poco ...
(mf)
339
sempre cres. poco a 10 poco...
f
341
(f)
342
sempre cres. poco a poco...
11
344
8
ff
347
12
8
(ff)


351
354
357
13
359
360
362
363
decres. poco a poco...
(loco)
14
366


369
(f)
372
accel un poco
cresc.
15
a tempo
acc. un poco
cresc.
(f)
ff
f
ff
Ped
Ped
375
a tempo
mp
accel. poco a poco...
f
ff
mp
f
mp
mp
f
Ped
378
Sempre accel. poco a poco
f
mp
mf
ff
mp
f
Ped
381
poco rit.
p
f
p
f
pp
mf
f
16
Lunga
molto rit.
Ped
384
17
ff
≈15"
fff
Cort Lippe
Archanes, Crete
August, 1996
- for Dimitrios