-How sound travels-

Øyvind Torvund 2005-2006

Instrumentation:

Flute 1/ piccolo
Flute 2
Flute3/ alto flute
Oboe 1
Obe 2
Cor Anglais
Bb Clarinet 1 / Eb-Clarinet
Bb Clarinet 2
Bass Clarinet

Bassoon 1
Bassoon 2
Bassoon 3/Contrabassoon

Horns 1-4

Trumpet in Bb 1
Trumpet in Bb 2

Trombone 1
Trombone 2
Bass-trombone

Contrabasstuba

Percussion: 4 players:
Player 1: Bowed saw 1, bowed Marimba, Bassdrum 1
Player 2: Bowed Saw 2, Bowed crotales, Bassdrum 2
Player 3: Vibraphone 1
Player 4: Vibraphone 2

Piano with two E-bows.
Violin I desk 1-6 (13 players)
Violin II desk 1-6 (11 players)
Viola desk 1-5 (9 players)
Violincello desk 1-4 (7 players)
Double bass with low B-string (5 players)

The score is notated in C
Piccolo, Contrabasson and Contrabasses are notated in the usual octave tanspositions. (for the contrabassess this is also the case with harmonics)

Quartertones: 1/4 tone sharp
1/4 tone flat
Eight-tones: 3/4 tone sharp
1/8 tone sharp
1/8 tone flat

In general: this is a piece without any kind of attacks.

Clarinets
A differentiation is made between different types of vibrato: dynamic (which often is written out rythmically, with a marcato on each note), and pitch-vibrato, where the pitch is altered.

Brass:
1st Trumpet uses harmonmute on the first page.
Trumpets and Trombones uses Plungermute.

Percussion:
Sawplayers should sit next to the vibraphones to make it easyer to intonate. The quartertone-pitches in saw and whistling are approximate.
The intended result should be an interval smaller than a half-step that creates interference.

Bass-drums: two players plays one continous thumb-roll by alternating by playing phrases with a duration of 2-3 seconds.
For best friction use Fiberskyn or similar, tuned medium to low.

Piano: It is advicable to mark the notes that are used inside the piano. Place the e-bow directly on the string.
The pedal must be down in order to make the string resonate. Use the pedal to control dynamic changes.
The E-bow can be quite unpredictable, and it can be hard to predict when the string will start to resonate.
It is therefore advicable to start the tone some seconds before it is written, to make sure that the tone is going to be produced.
NB: It is important to have new batteries.

Strings:

In general:
Non vibrato, unless noted.

In the first section: glissando betwwen all notes, exept for notes marked with tenuto.

"Increased bow pressure" is valid only on the phrase it is written above, no complete "crush-tone" is wanted,
but a slightly raw tone quality should be the result. Let the amount of bow pressure follow the dynamic envelope.

Program note:
How sound travels
for orkester

Dette stykket er sterkt inspirert av måten gitarfeedback resonerer på. Det er basert på ein feedbackimprovisasjon som eg gjorde i 1999, og som eg seinare transkriberte.
Det karakteristiske med måten feedback oppfører seg på er at dersom ein frekvens blir sterk nok, slår den ut dei andre tonane.
Dette kan ein høyre i stykket i lengre parti der det bare er ein tone som står i rommet.
Eg har instrumentert ut dei forskjellige frekvensane i orkesteret, og kvar tone har sitt tempo som det beveger seg mellom instrumentgrupper på,
og som altså forandrar klangfargen og vibrasjonen til tonen.
Meir enn ein linjær utvikling kan ein tenke seg stykket som ei romleg utforsking av lyd og lydmasse.
Tittelen er henta i frå ei fysikkbok for barn, som forklarer korleis lyd vandrar igjennom forskjellige materiale.

Stykket er komponert til Trondheim Symfoniorkester med støtte frå Norsk Kulturråd.

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NB notes
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HOW SOUND TRAVELS

Øyvind Torvund 2005-2006

♩ = 64

Flute 1
Flute 2
Alto Flute
Oboe 1
Oboe 2
Cor Anglais
Clarinet in B♭ 1
Clarinet in B♭ 2
Bass Clarinet in B♭
Bassoon 1
Bassoon 2
Contrabassoon
Horn in F 1,2
Horn in F 3
Horn in F 4
Trumpet in B♭
Trombone 1
Trombone 2
Bass Trombone
Tuba
Perc. 1
Perc 2.
Perc 3.
Perc 4.
Piano
Violin I desk 1
Violin I dsk1pl2
Violin I desk 2
Violin 1 dsk2pl2
Violin I desk 3
Violin I dsk3pl2
Violin I desk 4
Violin I dsk4pl2
Violin I desk 5-6
divisi Violin I dsk56pl2
Violin II desk 1
Violin II desk 2
Violin II dsk2pl2
Violin II desk 3
Violin II dsk3pl2
Violin II desk 4-6
divisi Violin II dsk46pl2
Viola desk 1
Viola desk2
Viola desk 2 pl 2
Viola desk 3-5 divisi
Violoncello desk1
Vncl dsk1pl2
Violoncello desk 2
Violoncello desk 3-4
Double Bass desk 1
Double Bass desk 2-3

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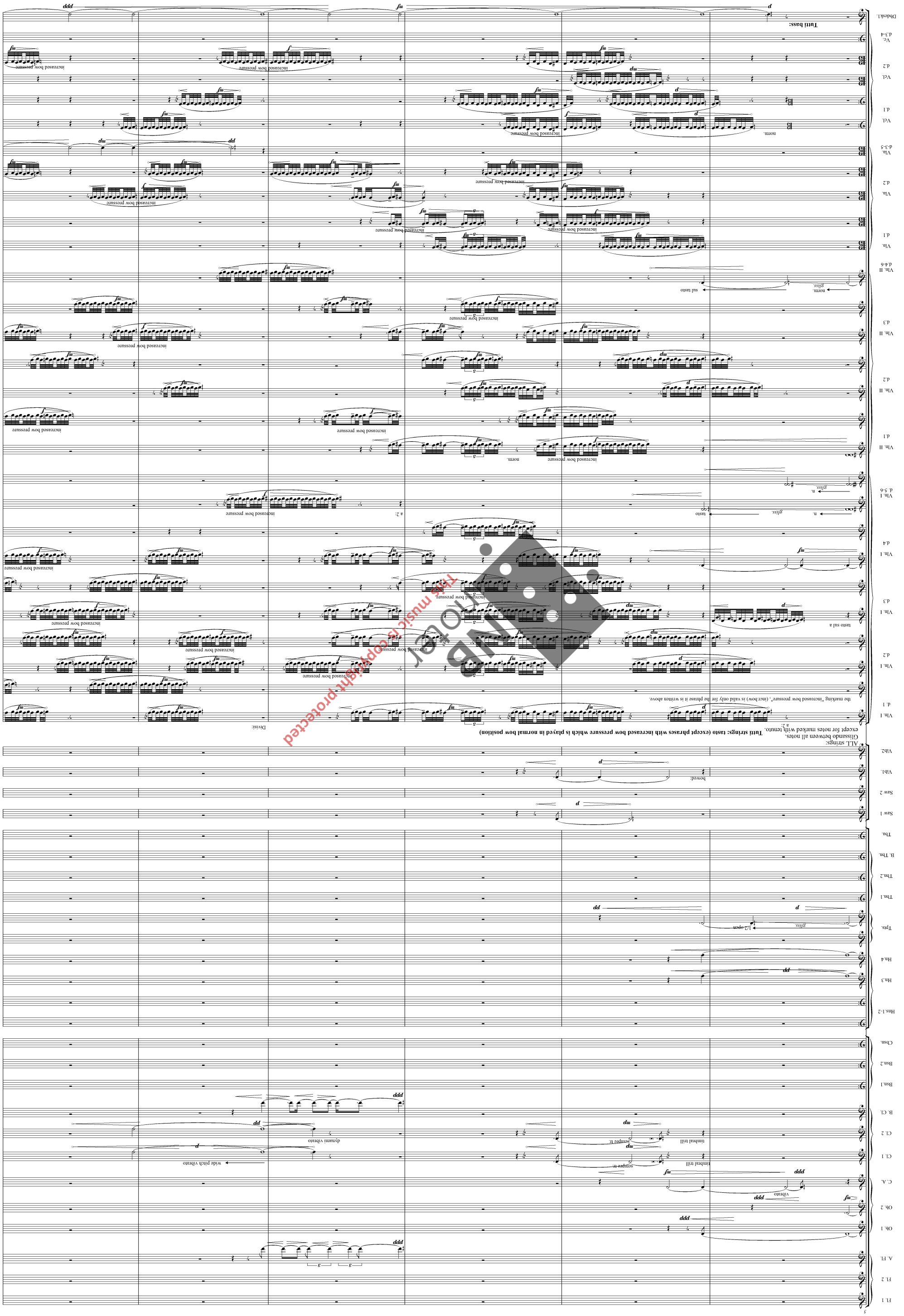

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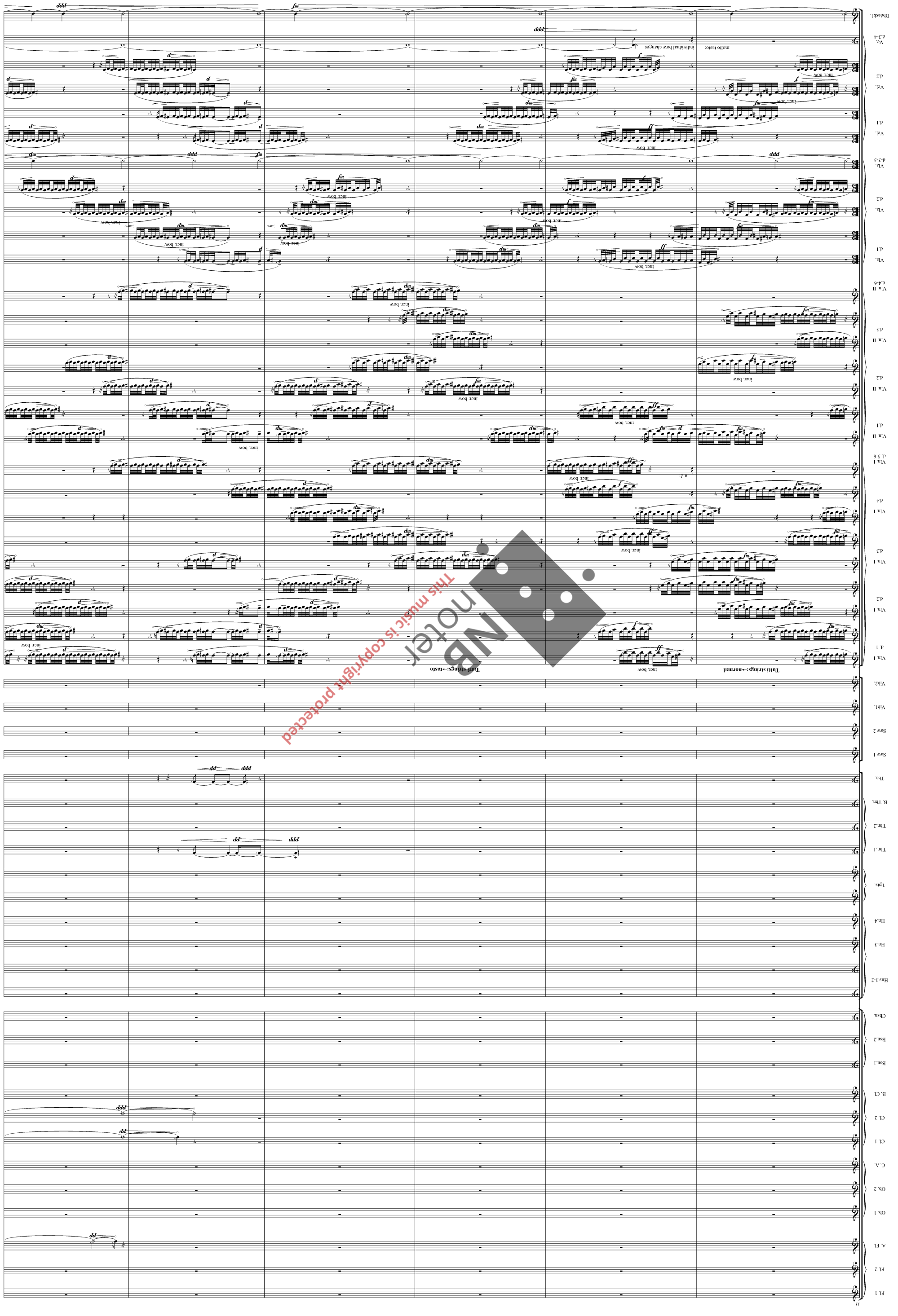

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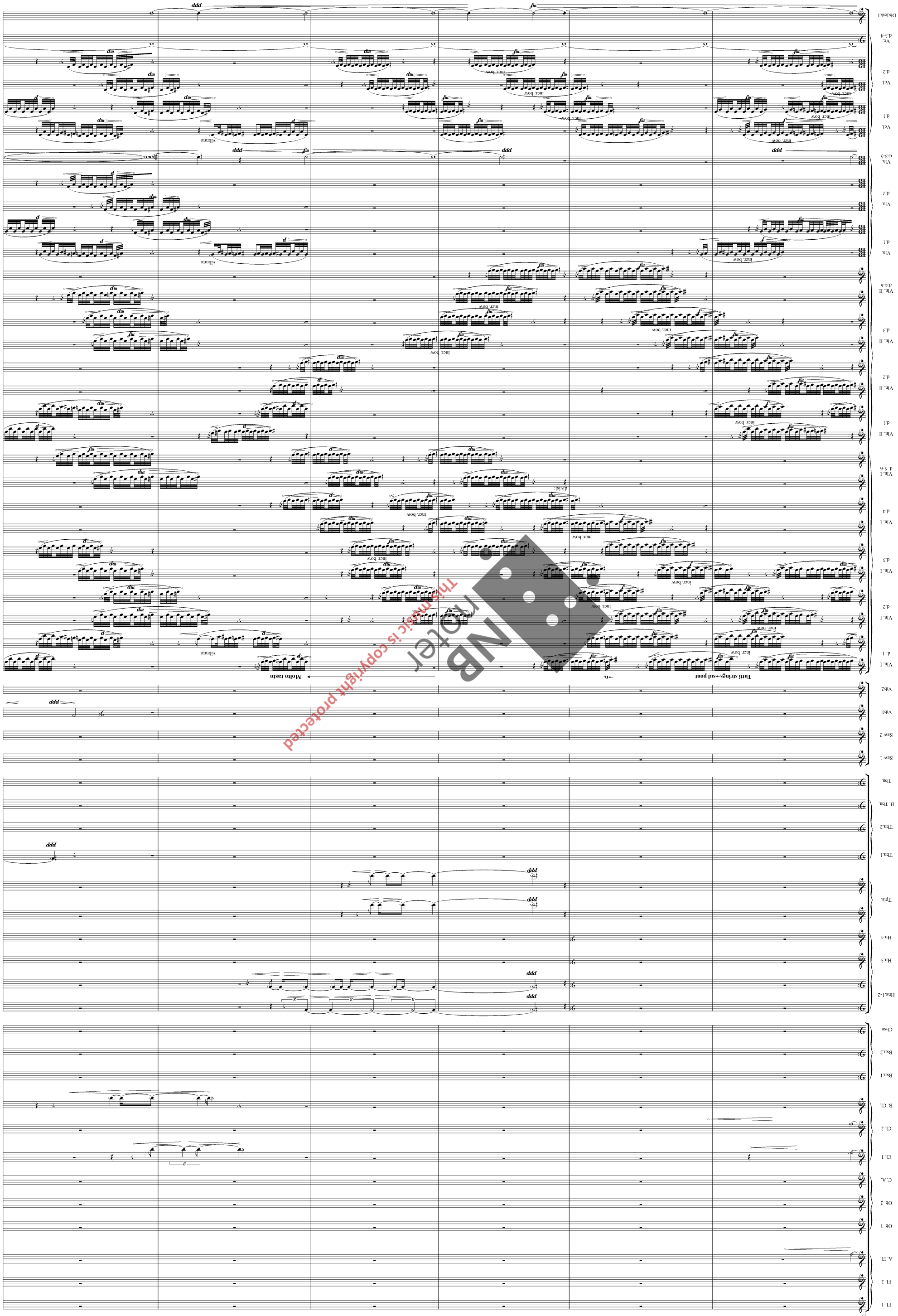

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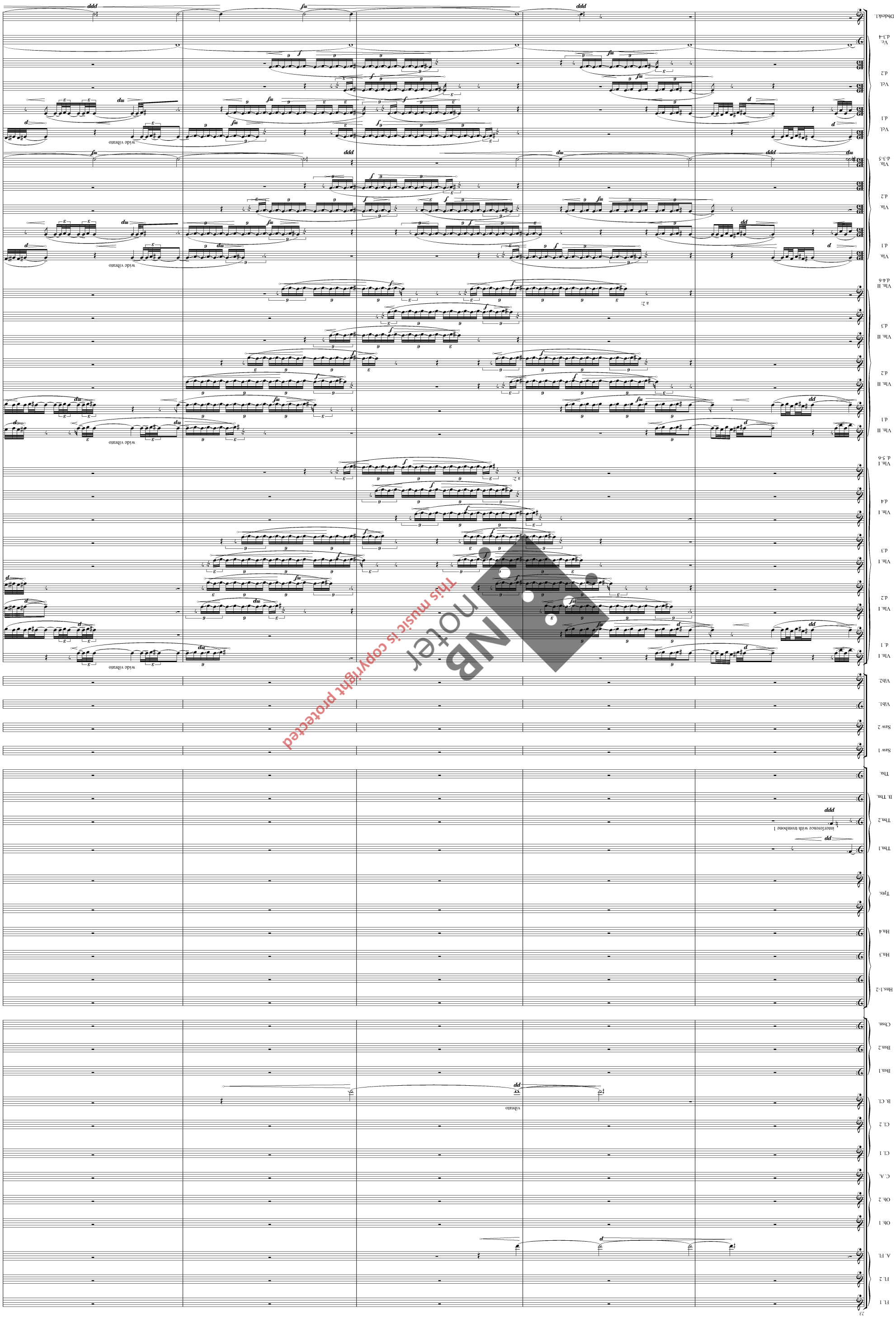

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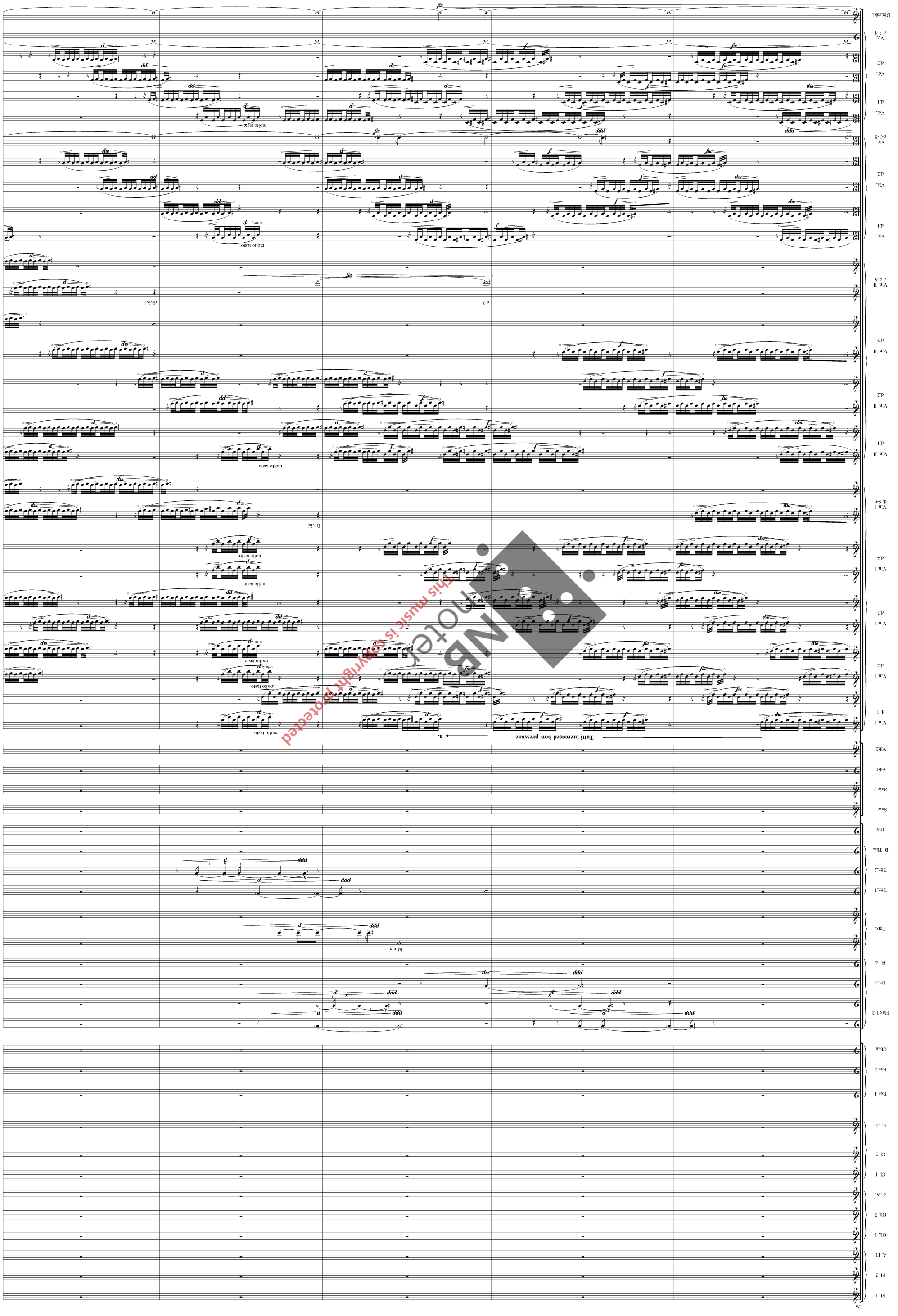

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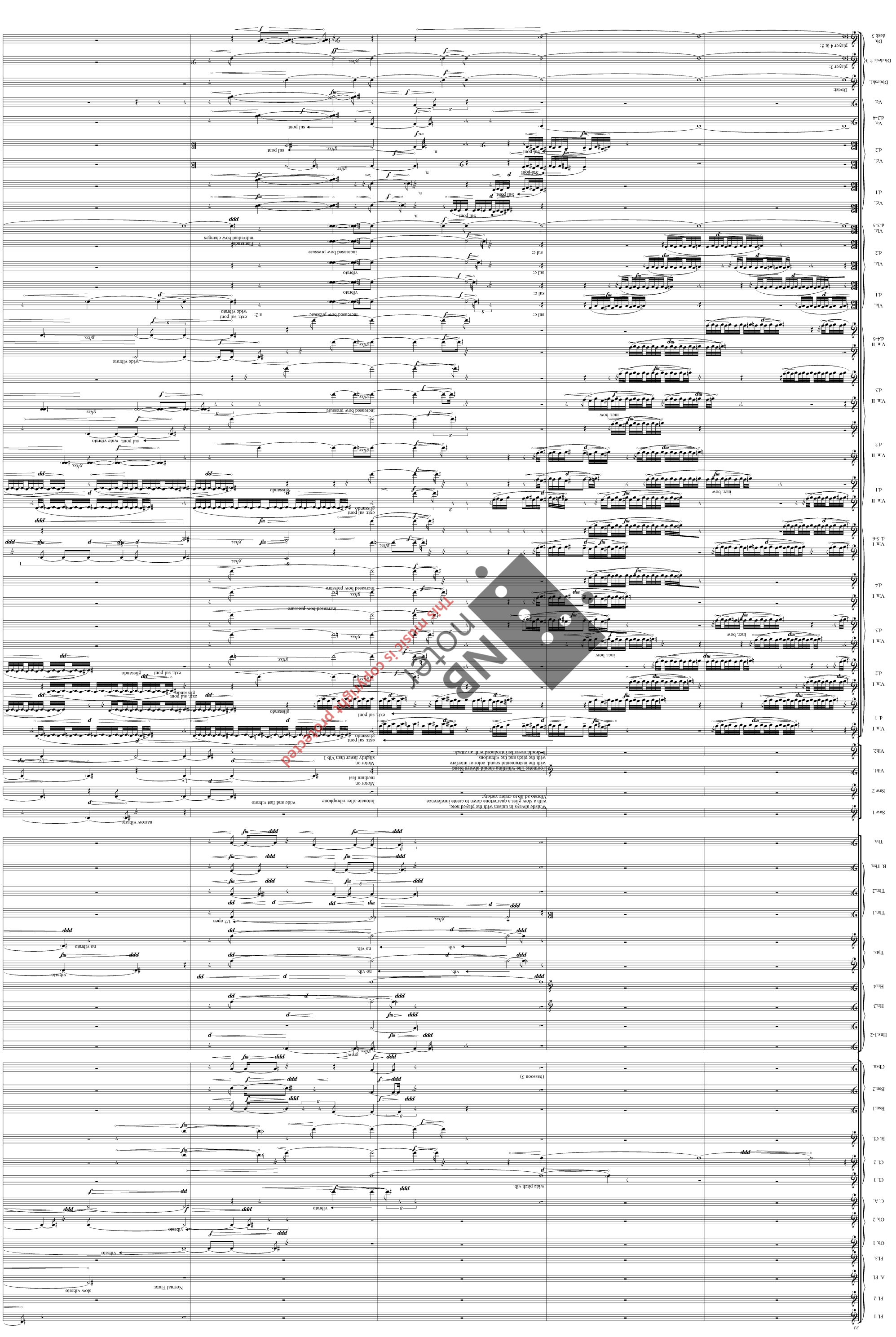

Note-Tester
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Fl. 1
Fl. 2
A. Fl.
Fl.3.
Ob. 1
Ob. 2
C. A.
Cl. 1
Cl. 2
B. Cl.
Bsn.1
Bsn.2
Cbsn.
Hns.1-2
Hn.3
Hn.4
Tpts.
Tbn.1
Tbn.2
B. Tbn.
Tba.
Saw 1
Saw 2
Vib1.
Vib2.
Vln. I d. 1
Vln. I d.2
Vln. I d.3
Vln. I d.4
Vln. I d. 5-6
Vln. II d.1
Vln. II d.2
Vln. II d.3
Vln. II d.4-6
Vla. d.1
Vla. d.2
Vla. d-3-5
Vcl. d.1
Vcl. d.2
Vc. d.3-4
Vc.
Dbdesk1.

vibrato
vibrato
etc.
vibrato
timbral trill on same pitch
sempre
fast vibrato
fast vibrato
fast vibrato
timbral trill
sempre tr.
fast vibrato
fast vibrato
timbral trill
sempre tr.
sempre trill
fast vibrato
Approximate pitches:
Whistle:
sim:
l.v.
whistle:
l.v.
wide vibrato
whistle
l.v.
Whistle:
l.v.
sim:
l.v.
Change tempo of vibration slightly faster
whistle:
sim:
whistle with vibrato
whistle:
l.v.
whistle:
l.v.
sul tasto
sul tasto

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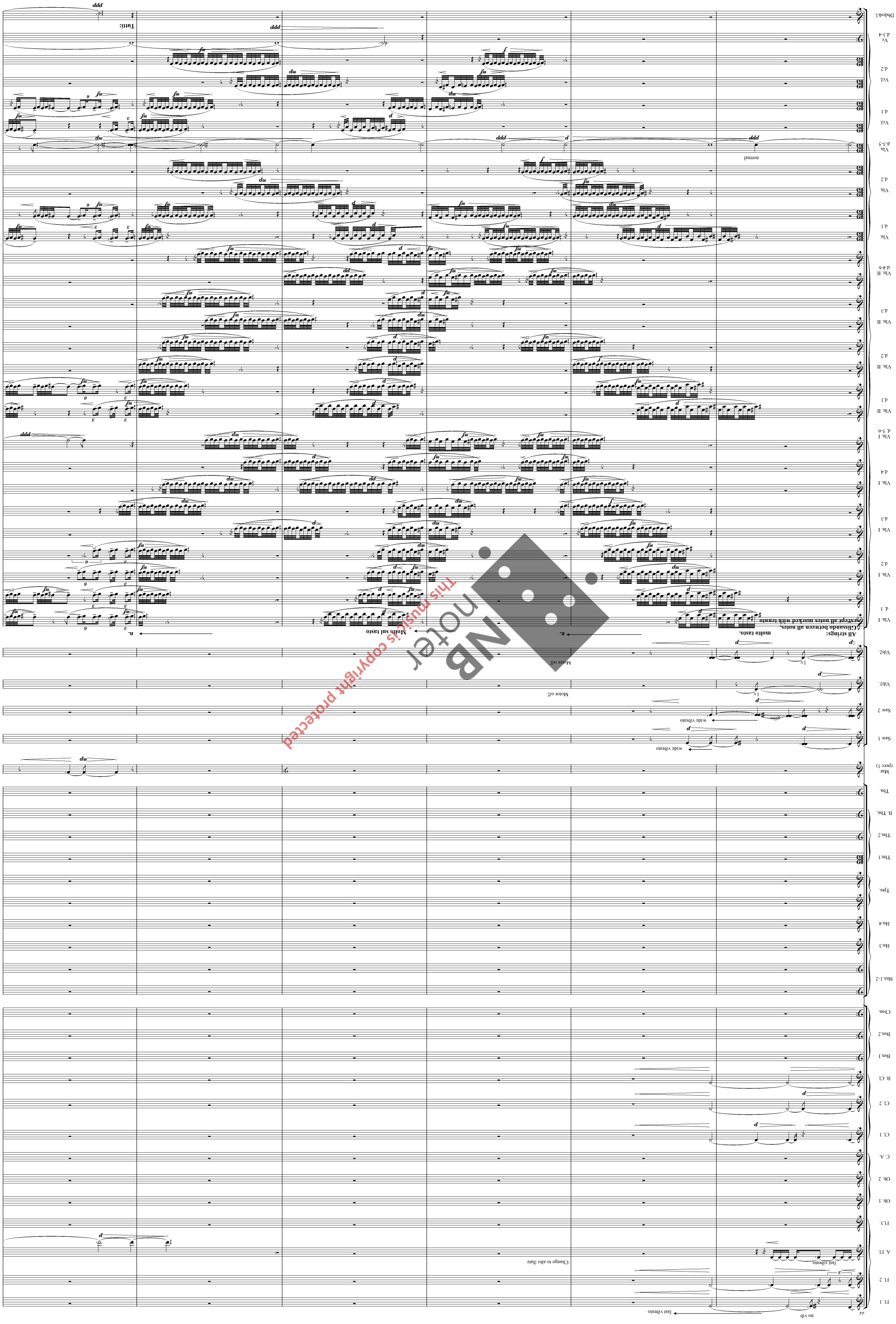

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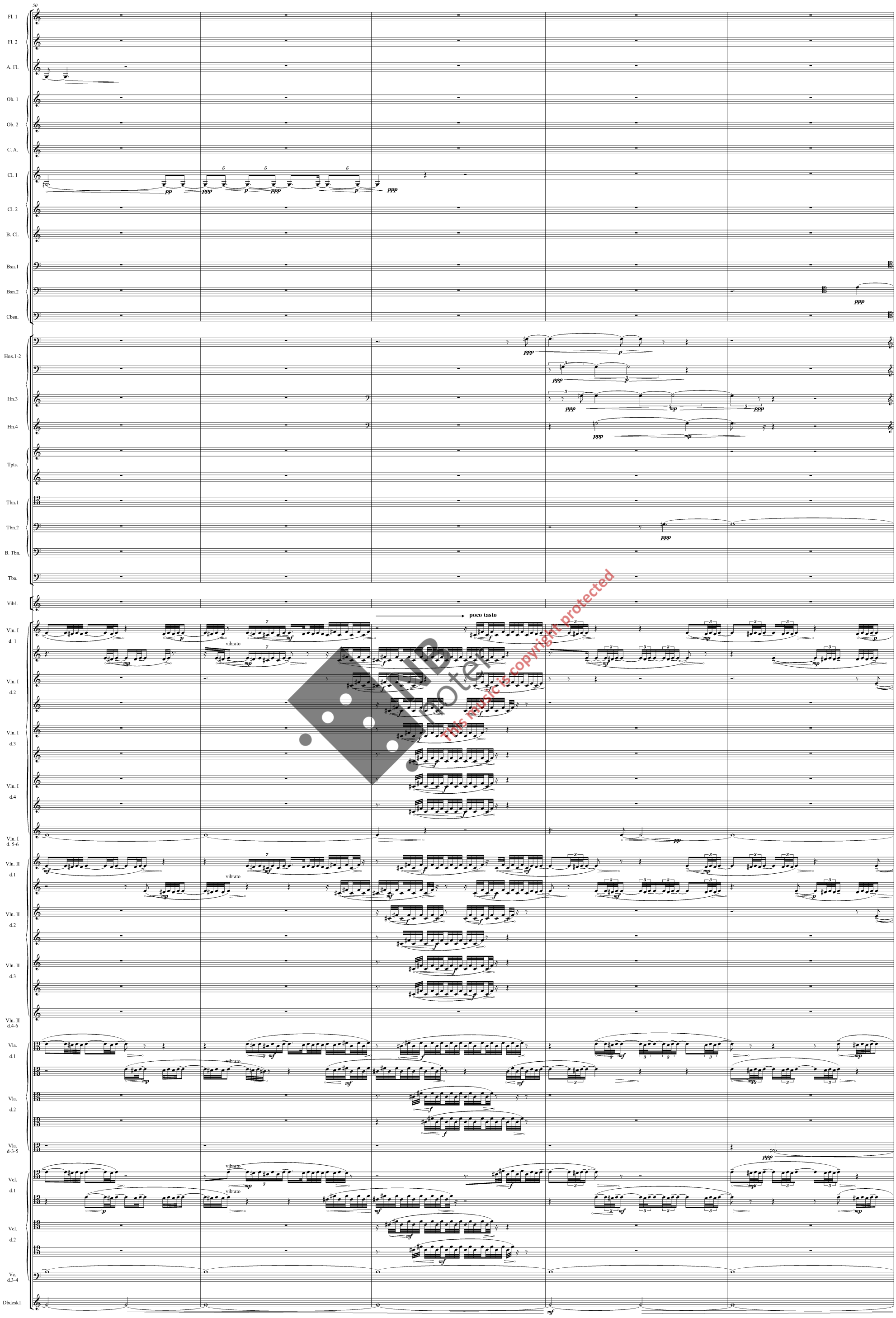

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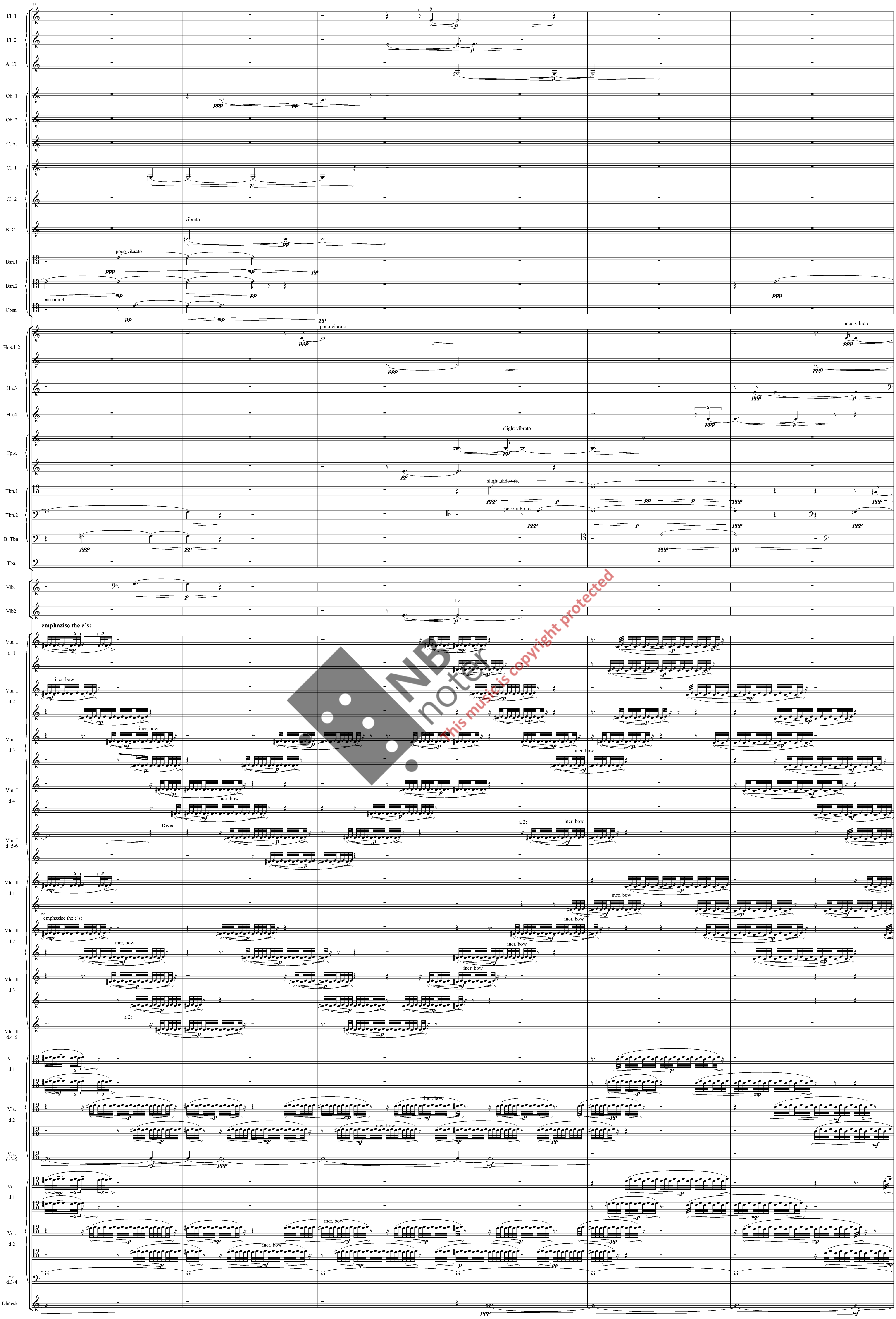
55
Fl. 1
Fl. 2
A. Fl.
Ob. 1
Ob. 2
C. A.
Cl. 1
Cl. 2
B. Cl.
vibrato
Bsn.1
Bsn.2
Cbsn.
poco vibrato
bassoon 3:
Hns.1-2
Hn.3
Hn.4
Tpts.
slight vibrato
Tbn.1
slight slide vib.
Tbn.2
poco vibrato
B. Tbn.
Tba.
Vib1.
Vib2.
l.v.
emphazise the e´s:
Vln. I
d. 1
Vln. I
d.2
incr. bow
Vln. I
d.3
Vln. I
d.4
Vln. I
d. 5-6
Divisi:
a 2:
Vln. II
d.1
Vln. II
d.2
emphazise the e´s:
Vln. II
d.3
Vln. II
d.4-6
Vla.
d.1
Vla.
d.2
Vla.
d-3-5
Vcl.
d.1
Vcl.
d.2
Vc.
d.3-4
Dbdesk1.

61

Fl. 1
Fl. 2
A. Fl.
Ob. 1
Ob. 2
C. A.
Cl. 1
Cl. 2
B. Cl.
Bsn.1
Bsn.2
Cbsn.
Hns.1-2
Hn.3
Hn.4
Tpts.
Tbn.1
Tbn.2
B. Tbn.
Tba.
Vib1.
Vln. I d. 1
Vln. I d.2
Vln. I d.3
Vln. I d.4
Vln. I d. 5-6
Vln. II d.1
Vln. II d.2
Vln. II d.3
Vln. II d.4-6
Vla. d.1
Vla. d.2
Vla. d-3-5
Vcl. d.1
Vcl. d.2
Vc. d.3-4
Dbdesk1.

NB noter
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Fl. 1
Fl. 2
A. Fl.
Ob. 1
Ob. 2
C. A.
Cl. 1
Cl. 2
B. Cl.
Bsn.1
Bsn.2
Cbsn.
Hns.1-2
Hn.3
Hn.4
Tpts.
Tbn.1
Tbn.2
B. Tbn.
Tba.
Mar. (perc 1)
Saw 1
Saw 2
Vib1.
Pno.
Vln. I d. 1
Vln. I d.2
Vln. I d.3
Vln. I d.4
Vln. I d. 5-6
Vln. II d.1
Vln. II d.2
Vln. II d.3
Vln. II d.4-6
Vla. d.1
Vla. d.2
Vla. d-3-5
Vcl. d.1
Vcl. d.2
Vc. d.3-4
Dbdesk1.

change to normal flute:

Tutti Strings
→n. increased bow pressure

slight accent

Molto tasto

incr. bow

a 2:

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Fl. 1
Fl. 2
A. Fl.
Ob. 1
Ob. 2
C. A.
Cl. 1
Cl. 2
B. Cl.
Bsn.1
Bsn.2
Cbsn.
Hns.1-2
Hn.3
Hn.4
Tbn.1
Tbn.2
B. Tbn.
Tba.
Vib1.
Pno.
Vln. I d. 1
Vln. I d.2
Vln. I d.3
Vln. I d.4
Vln. I d. 5-6
Vln. II d.1
Vln. II d.2
Vln. II d.3
Vln. II d.4-6
Vla. d.1
Vla. d.2
Vla. d-3-5
Vcl. d.1
Vcl. d.2
Vc. d.3-4
Dbdesk1.

piccolo:

interference with bassoon 1

Tutti Strings: → Sul pont

a 2:
divisi:
n.
vibrato
softly
sim.
gliss.

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Fl. 1

Fl. 2

A. Fl.

Change to normal flute

Cl. 1

Bright sound

Cl. 2

B. Cl.

as soft as possible

Vln. I d. 1

Divisi

sim.

Vln. I d.2

Vln. I d.3

gliss.

Vln. I d.4

Vln. I d. 5-6

Vln. II d.1

Vln. II d.2

Vln. II d.3

Vln. II d.4-6

Vla. d.1

tutti Vla:

individual bow changes

Vcl. d.1

a 2:

Vcl. d.2

Vc. d.3-4

NB noter
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Fl. 1
Fl. 2
A. Fl.
Cl. 1
Cl. 2
B. Cl.
Mar. (perc 1)
Saw 1
Saw 2
Vib1.
Vib2.
Vln. I d. 1
Vln. I d.2
Vln. I d.3
Vln. I d.4
Vln. I d. 5-6
Vln. II d.1
Vln. II d.2
Vln. II d.3
Vln. II d.4-6
Vla. d.1
Vcl. d.1
Vcl. d.2
Vc. d.3-4
Dbdesk1.

poco vibrato
n.v.
vibrato
l.v.
BOWED CROTALES:
gliss.
flautando
solo: vibrato
sim.
Divisi:
desk 1, player 1: Sul tasto
tutti:

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Fl. 1
Fl. 2
A. Fl.
change to alto flute
Ob. 1
Ob. 2
C. A.
Cl. 1
Cl. 2
B. Cl.
Bsn.1
Bsn.2
Cbsn.
Hns.1-2
Hn.3
Hn.4
Tpts.
Tbn.1
Tbn.2
B. Tbn.
Tba.
Mar. (perc 1)
Vib1.
Vln. I d. 1
Vln. I d.2
tasto
Vln. I d.3
Vln. I d.4
Vln. I d. 5-6
a 4: Individual bow changes
Vln. II d.1
Vln. II d.2
n.v.
Vln. II d.3
Vln. II d.4-6
Vla. d.1
Vla. d.2
Vla. d-3-5
Vcl. d.1
Sul tasto
Vcl. d.2
sim.
Vc. d.3-4
Vc.
Dbdesk1.
Db.desk 2-3

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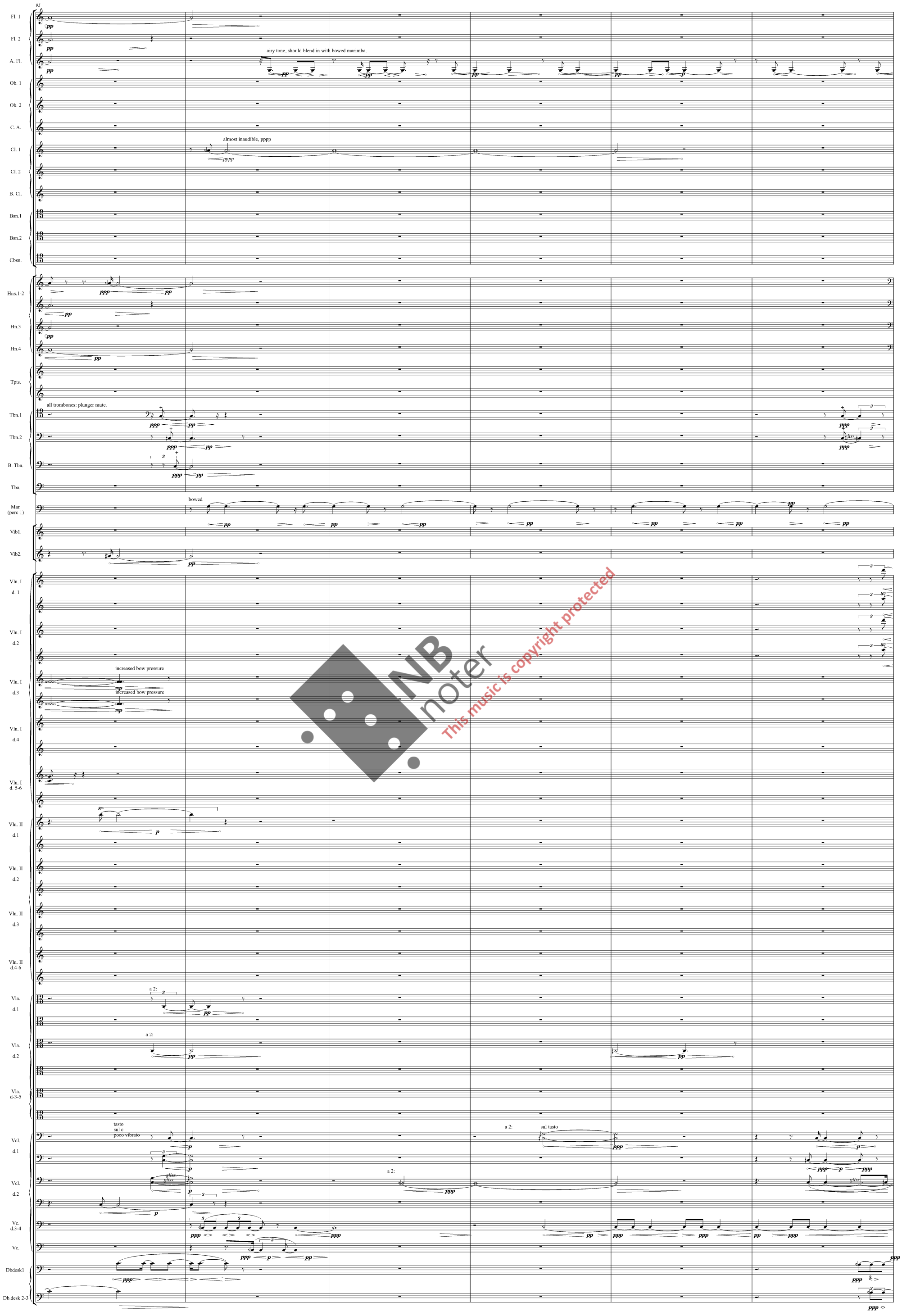

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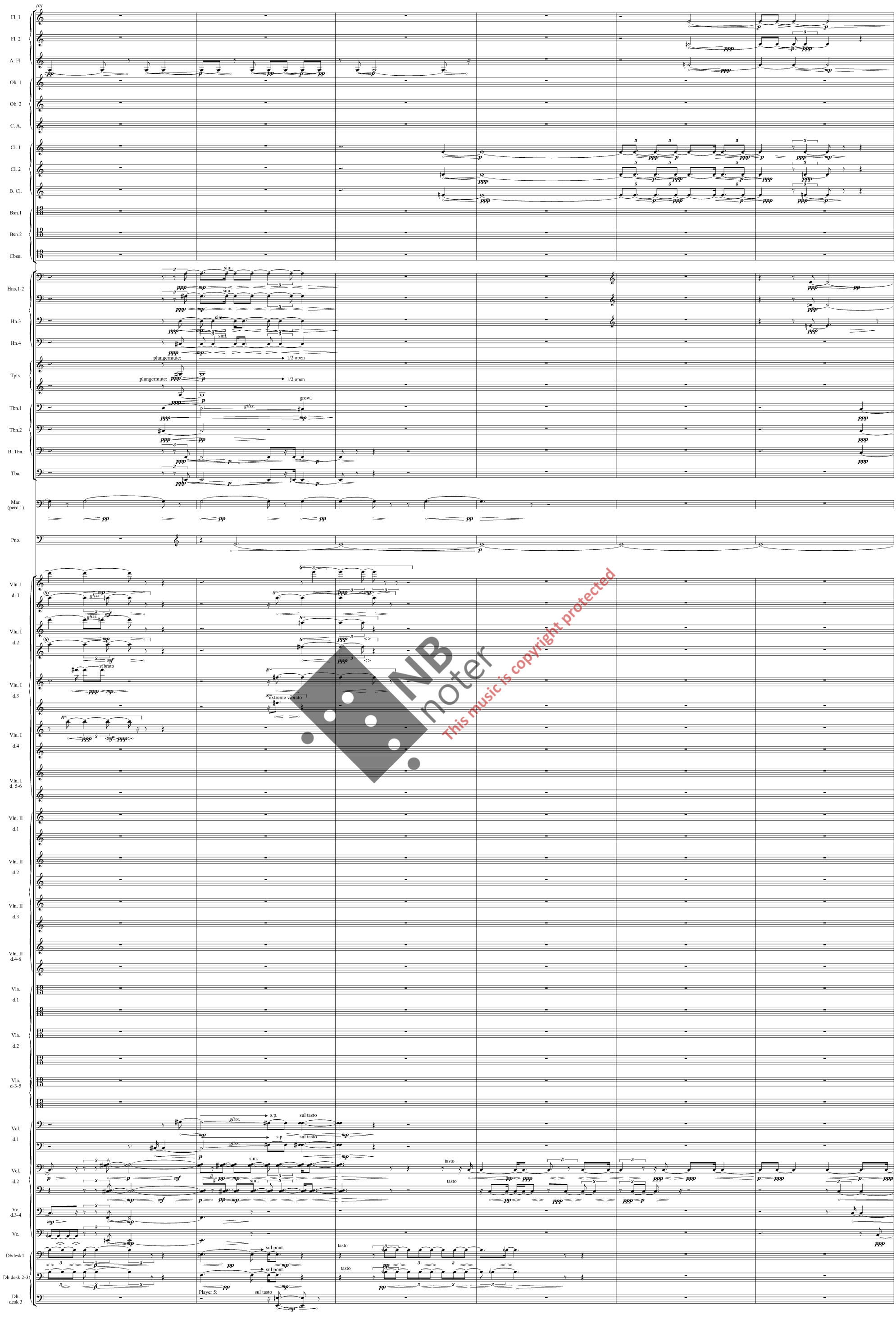

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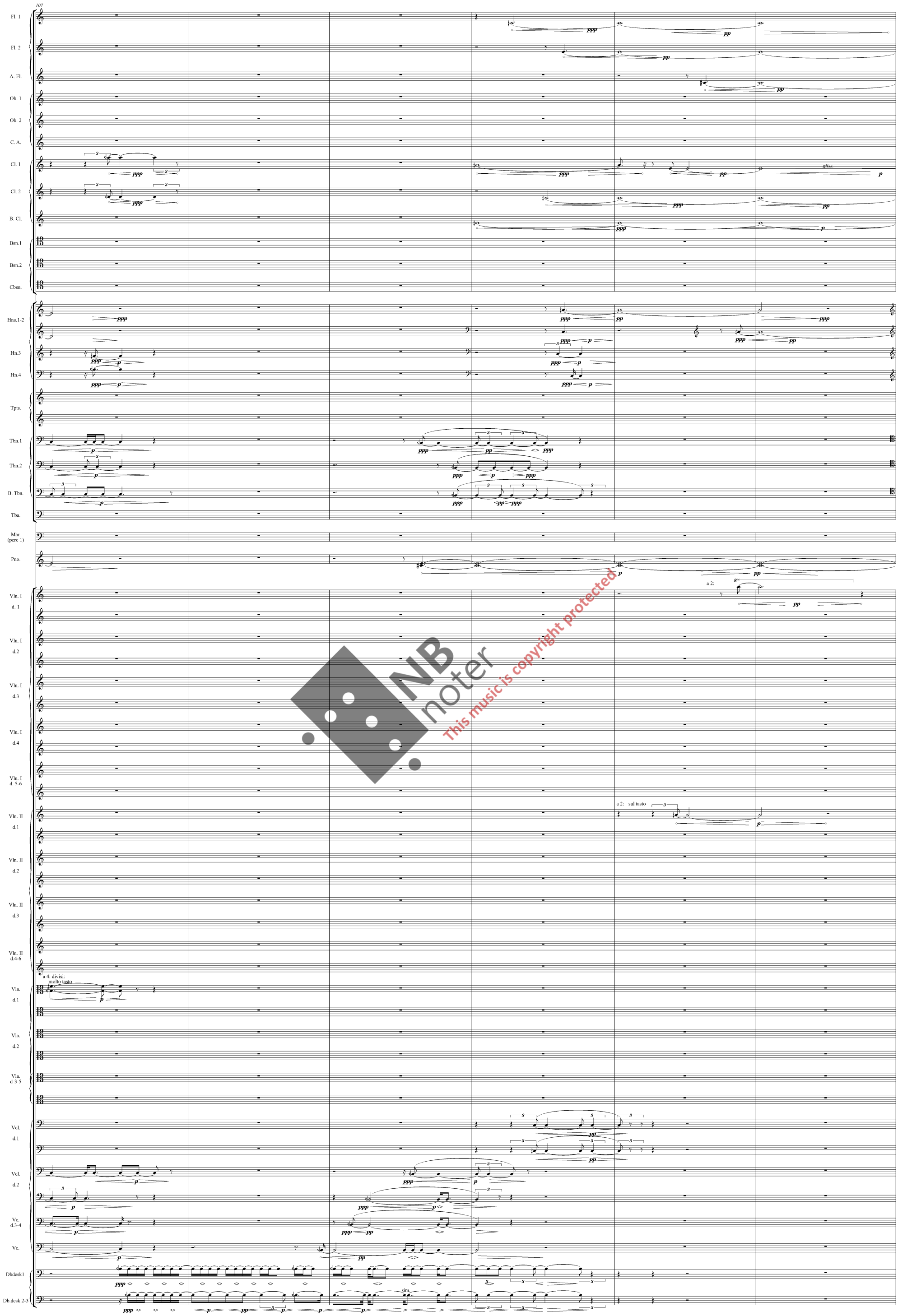

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Fl. 1
Fl. 2
A. Fl.
Ob. 1
Ob. 2
C. A.
Cl. 1
Cl. 2
B. Cl.
Bsn.1
Bsn.2
Cbsn.
Hns.1-2
Hn.3
Hn.4
Tpts.
Tbn.1
Tbn.2
B. Tbn.
Tba.
Pno.
Vln. I d. 1
Vln. I d.2
Vln. I d.3
Vln. I d.4
Vln. I d. 5-6
Vln. II d.1
Vln. II d.2
Vln. II d.3
Vln. II d.4-6
Vla. d.1
Vla. d.2
Vla. d-3-5
Vcl. d.1
Vcl. d.2
Vc. d.3-4
Vc.
Dbdesk1.
Db.desk 2-3

gliss.
vibrato
no vib.
w/plunger mute
a 2:
sul a/d
non divisi:
sul pont.
sul tasto
extr s.p.
slow vibrato
tasto
increased bow pressure
glissando

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Fl. 1
Fl. 2
A. Fl.
Ob. 1
Ob. 2
C. A.
Cl. 1
Cl. 2
B. Cl.
Bsn.1
Bsn.2
Cbsn.
Hns.1-2
Hn.3
Hn.4
Tpts.
Tbn.1
Tbn.2
B. Tbn.
Tba.
Vln. I d. 1
Vln. I d.2
Vln. I d.3
Vln. I d.4
Vln. I d. 5-6
Vln. II d.1
Vln. II d.2
Vln. II d.3
Vln. II d.4-6
Vla. d.1
Vla. d.2
Vla. d-3-5
Vcl. d.1
Vcl. d.2
Vc. d.3-4
Vc.
Dbdesk1.
Db.desk 2-3

mp
ppp
mp
softly
pp
softly
pp
ppp
a 2:
pp
tasto
pp
tasto
pp
tasto
pp
tasto
pp
tasto
pp
sim.
ppp
pp
p
ppp
pp
ppp
pp
ppp
sim.
pp
ppp
ppp

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Fl. 1
Fl. 2
A. Fl.
Ob. 1
Ob. 2
C. A.
Cl. 1
Cl. 2
B. Cl.
Bsn.1
Bsn.2
Cbsn.
Hns.1-2
Hn.3
Hn.4
Tpts.
Tbn.1
Tbn.2
B. Tbn.
Tba.
Mar. (perc 1)
Vln. I d. 1
Vln. I d.2
Vln. I d.3
Vln. I d.4
Vln. I d. 5-6
Vln. II d.1
Vln. II d.2
Vln. II d.3
Vln. II d.4-6
Vla. d.1
Vla. d.2
Vla. d-3-5
Vcl. d.1
Vcl. d.2
Vc. d.3-4
Vc.
Dbdesk1.
Db.desk 2-3

bowed
imperceptible bow changes
imperceptible bow changes
imperceptible bow changes
imperceptible bow changes
tasto:
sul tasto
sul tasto
sul tasto
sul tasto
sul tasto
sul tasto
sul tasto

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Fl. 1
Fl. 2
A. Fl.
Ob. 1
Ob. 2
C. A.
Cl. 1
Cl. 2
B. Cl.
Bsn.1
Bsn.2
Cbsn.
Hns.1-2
Tbn.1
Tbn.2
Mar. (perc 1)
Vib1.
Vib2.
Pno.
Vln. I d. 1
Vln. I d.2
Vln. I d.3
Vln. I d.4
Vln. I d. 5-6
Vln. II d.1
Vln. II d.2
Vln. II d.3
Vln. II d.4-6
Vla. d.1
Vla. d.2
Vcl. d.1
Vcl. d.2
Vc. d.3-4
Dbdesk1.
Db.desk 2-3

with e-bow:
poco vibrato
tasto
norm
increased bow-pressure
Individual bow change
a 2

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Fl. 1
Fl. 2
A. Fl.
Ob. 1
Ob. 2
C. A.
Cl. 1
Cl. 2
B. Cl.
Bsn.1
Bsn.2
Cbsn.

poco vibrato

(contrabassoon)

Hns.1-2
Tpts.
Tbn.1
Tbn.2

vibrato

Vib1.
Vib2.
Pno.

Vln. I d. 1
Vln. I d.2
Vln. I d.3
Vln. I d.4
Vln. I d. 5-6
Vln. II d.1
Vln. II d.2
Vln. II d.3
Vln. II d.4-6
Vla. d.1
Vla. d.2
Vla. d-3-5
Vcl. d.1
Vcl. d.2
Vc. d.3-4
Vc.
Dbdesk1.
Db.desk 2-3

a 2:

flautando

slightly increased bow-pressure

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Picc.
Fl. 2
A. Fl.
Ob. 1
Ob. 2
C. A.
Cl. 1
Cl. 2
B. Cl.
Bsn.1
Bsn.2
Cbsn.
Hns.1-2
Hn.3
Hn.4
Tbn.1
Tbn.2
Vib1.
Vib2.
Pno.
Vln. I d. 1
Vln. I d.2
Vln. I d.3
Vln. I d.4
Vln. I d. 5-6
Vln. II d.1
Vln. II d.2
Vln. II d.3
Vln. II d.4-6
Vla. d.1
Vla. d.2
Vla. d-3-5
Vcl. d.1
Vcl. d.2
Vc. d.3-4
Vc.
Dbdesk1.

molto vibrato
poco vibrato
Bowed
Bowed
plungermute
flautando
divisi:
divisi:
divisi:
Players 1, 2 & 3:

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Picc.
Fl. 2
A. Fl.
Ob. 1
Ob. 2
C. A.
Cl. 1
Cl. 2
B. Cl.
Bsn.1
Bsn.2
Cbsn.

vibrato
vibrato
vibrato
flutter
flutter
flutter
change to norm. flute
change to basssoon 3

Hns.1-2
Hn.3
Hn.4
Tpts.
Tbn.1
Tbn.2
B. Tbn.
Tba.

1/2 open
mute off
growl
gliss.
with plungermute

Bdr.1 (perc 1)
Bdr.2 (perc 2)

thumb roll
thumb roll

Vib1.
Vib2.
Pno.

Vln. I d. 1
Vln. I d.2
Vln. I d.3
Vln. I d.4
Vln. I d. 5-6
Vln. II d.1
Vln. II d.2
Vln. II d.3
Vln. II d.4-6
Vla. d.1
Vla. d.2
Vla. d-3-5
Vcl. d.1
Vcl. d.2
Vc. d.3-4
Vc.
Dbdesk1.
Db.desk 2-3
Db. desk 3

gliss.
sul pont.
sul pont
sul tasto
normal
increased bow pressure
tutti vcl:
molto tasto
player 4: sul tasto
player 5: sul tasto

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NB notes

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Fl. 1
Fl. 2
A. Fl.
Ob. 1
Ob. 2
C. A.
Cl. 1
Cl. 2
B. Cl.
Bsn.1
Bsn.2
Cbsn.
Hns.1-2
Hn.3
Hn.4
Tpts.
Tbn.1
Tbn.2
B. Tbn.
Tba.
Vib1.
Vib2.
Pno.
Vln. I d. 1
Vln. I d.2
Vln. I d.3
Vln. I d.4
Vln. I d. 5-6
Vln. II d.1
Vln. II d.2
Vln. II d.3
Vln. II d.4-6
Vla. d.1
Vla. d.2
Vla. d-3-5
Vcl. d.1
Vcl. d.2
Vc. d.3-4
Vc.
Dbdesk1.

gliss.
with plungermute
molto sul tasto
divisi: a 2:
sim:
tutti:
molto tasto

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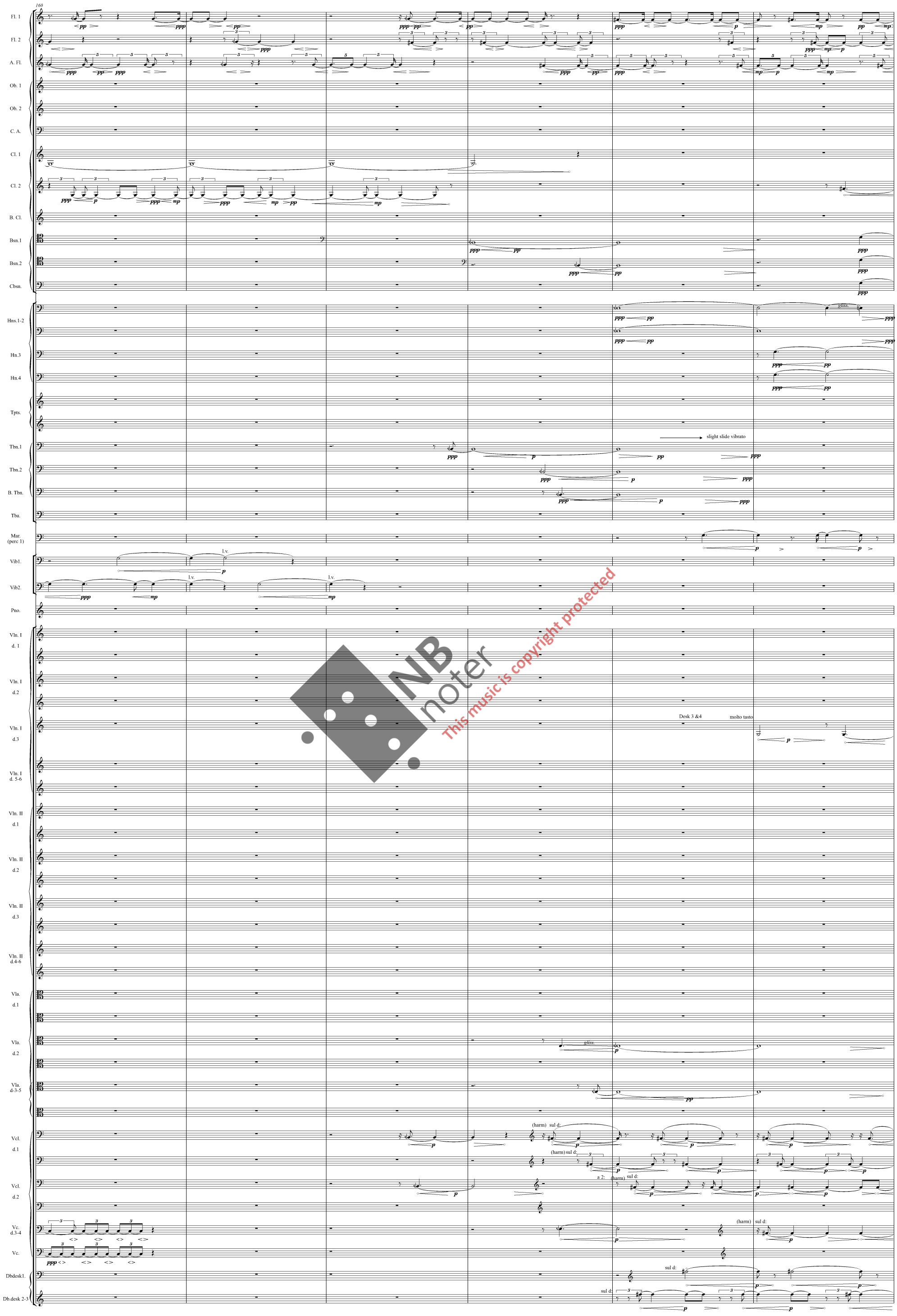

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Fl. 1
Fl. 2
A. Fl.
Ob. 1
Ob. 2
C. A.
Cl. 1
Cl. 2
B. Cl.
Bsn.1
Bsn.2
Cbsn.
Hns.1-2
Hn.3
Hn.4
Tpts.
Tbn.1
Tbn.2
B. Tbn.
Tba.
Mar. (perc 1)
Vib1.
Vib2.
Pno.
Vln. I d. 1
Vln. I d.3
Vln. I d. 5-6
Vln. II d.1
Vla. d.1
Vcl. d.1
Vcl. d.2
Vc. d.3-4
Dbdesk1.
Db.desk 2-3

vibrato
vibrato n.v. vib. n.v. vib. n.v. vib.
gliss.
no vibrato
vibrato
vibrato
with plungermute
with plungermute
with plungermute
l.v.
desk 1 &2
tasto:
imperceptible bow changes
tutti vn II:
tasto, individual bow change
tutti vla:
tasto, individual bow change
norm
slightly increased bow pressure
a 4:
tasto:
tutti:

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Fl. 1 — change to piccolo

Fl. 2

A. Fl.

Ob. 1

Ob. 2

C. A. — vibrato

Cl. 1 — n.v. vib. n.v. — Eb klarinett:

Cl. 2

B. Cl.

Bsn.1

Bsn.2 — vibrato

Cbsn. — (bassoon 3) vibrato

Hns.1-2

Hn.3

Hn.4

Tpts. — with plungermute — vibrato n.v. mute:

with plungermute — vibrato

Tbn.1 — vibrato

Tbn.2 — growl

B. Tbn.

Tba.

Vib1. — l.v.

Vib2. — l.v.

Pno.

Vln. I d. 1 — divisi:

Vln. I d.2

Vln. I d.3 — tasto gliss. norm.

Vln. I d. 5-6 — gliss.

Vln. II d.1 — gliss.

Vla. d.1 — gliss. sul pont.

Vcl. d.1

Vc. d.3-4 — gliss.

Dbdesk1.

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Fl. 1
Normal Flute
Fl. 2
A. Fl.
Ob. 1
vibrato
Ob. 2
vibrato
C. A.
vibrato
Cl. 1
Cl. 2
B. Cl.
Bsn.1
Bsn.2
vibrato
Cbsn.

Hns.1-2
Hn.3
Hn.4
Tpts.
1/2 open
(sempre 1/2 open)
vibrato
n.v.
mute:
Tbn.1
Tbn.2
B. Tbn.
Mute:
Tba.

Vib1.
Vib2.
l.v.
Pno.

Vln. I d. 1
sul pont
Violin I desk 1-4:
flautando
imperceptible bow changes
Vln. I d.2
Vln. I d.3
gliss.
Vln. I d.4
non divisi
Vln. I d. 5-6
Vln. II d.1
Vla. d.1
Vla. d.2
Vla. d-3-5
Vcl. d.1
solo:
tasto
extr. sul pont
vibrato
n.v.
Tutti Celli:
Dbdesk1.

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Fl. 1

Fl. 2

A. Fl.

change to normal flute

Ob. 1

gliss.

Ob. 2

C. A.

Cl. 1

Cl. 2

B. Cl.

Bsn.1

Bsn.2

vibrato

n.v.

vibrato

n.v.

Cbsn.

vibrato

Hns.1-2

Hn.3

Hn.4

Tpts.

Tbn.1

Tbn.2

B. Tbn.

1/2 open

Tba.

Saw 1

slight vibrato

l.v.

Vib1.

Vib2.

l.v.

Pno.

Vln. I d. 1

violin I desk 1-3:

Vln. I d.4

violin I desk 4:

divisi

gliss.

s.p.

Vln. I d. 5-6

Vln. II d.1

flautando

imperceptible bow changes

Vln. II d.2

Vln. II d.3

Vln. II d.4-6

Vla. d.1

Vla. d.2

Vla. d-3-5

Vcl. d.1

Dbdesk1.

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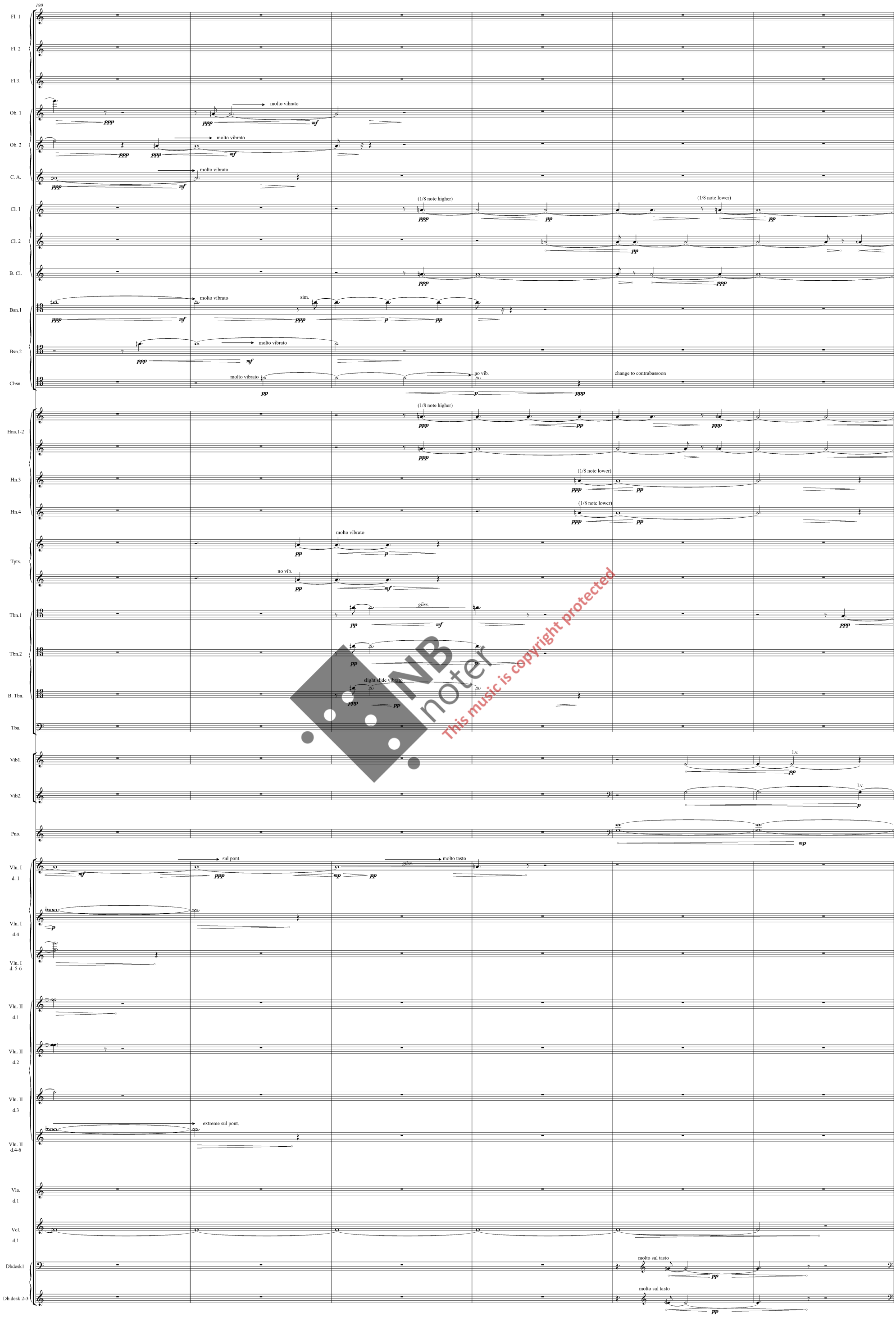

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Picc.
Fl. 2
Fl.3.
Ob. 1
Cl. 1
Cl. 2
B. Cl.
Bsn.1
Bsn.2
Cbsn.
Hns.1-2
Hn.3
Hn.4
Tpts.
Tbn.1
Tbn.2
B. Tbn.
Tba.
Saw 1
Saw 2
Vib1.
Vib2.
Pno.
Vln. I d. 1
Vln. I d.2
Vln. I d.3
Vln. I d.4
Vln. I d. 5-6
Vln. II d.1
Vln. II d.2
Vln. II d.4-6
Vla. d.1
Vla. d.2
Vla. d-3-5
Vcl. d.1
Vcl. d.2
Vc. d.3-4
Vc.
Dbdesk1.
Db.desk 2-3

wide vib.
narrow fast vib.
wide vib.
n.v.
gliss.
wide vib.
no vib.
narrow fast pitch vibrato
no vib.
wide pitch vibrato
no vib.
no vib.
narrow fast pitch vibrato
no vib.
gliss:
narrow fast pitch vibrato
Whistle always in unison with the played note,
with a slow gliss a quartertone down to create inreference.
Vibrato ad lib to create variety:
wide vibrato
l.v.
whistle:
wide vib.
whistle:
sim.
Motor on, medium fast.
(keep motor off)
whistle:
gliss between all notes
a 2:
flautando
gliss, slight accent
a 2:
no vib.
molto vib.
sim.
no vib.
molto vib.
sim.
molto vib.
sim.
no vib.
molto vib.
sim.
sul d & a
a 2:
no vib.
flautando
Violin I desk 2-3:
a 4: flautando, individual bow changes
molto vibrato, sempre flautando
gliss.
sul d & a
a 2:
sul pont.
molto sul tasto
wide fast vibrato
a 2:
sul pont.
sul pont.
molto tasto
sul pont.
wide vibrato
sul pont.
sul pont.
extr. sul pont.
extr. sul pont.
sul pont.
sul pont.

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Picc.
gliss.
wide vib.
wide vibrato

Fl. 2
no vib.
wide vib.
no vib.

Fl.3.
no vib.
no vib.

Ob. 1

Cl. 1
narrow fast pitch vibrato
no vib.
wide vib.
wide pitch-vib.

Cl. 2
no vib.
fast narrow vib.
wide vib.
no vib.

B. Cl.
no vib.
wide vib.
no vib.
no vib.

Tbn.1

Tbn.2

B. Tbn.

Saw 1
static
no vib.
wide vib.

Saw 2
no vib.
wide vib.

Vib1.
l.v.
change speed of motor slightly faster

Vib2.
static

Pno.

Vln. I d. 1
a 2:
softly

Vln. I d.2
a 2:

Vln. I d.3
a 2:
molto vib.

Vln. I d.4
a 2:
molto vib.
no vib.

Vln. I d. 5-6
a 4:
n.
sul pont.
n.
s.p.

Vln. II d.1
molto vib.
no vib.
a 2:
sul pont.
n.
sul pont.
n.
sul pont.
softly

Vln. II d.2
gliss.
a 2:
sul pont.
imperceptible bow changes

Vln. II d.3
a 2:
vibrato
n.
sul pont.
molto vib.

Vln. II d.4-6
a 4:

Vla. d.1
a 2:
no vib.
vibrato
fast vibrato

Vla. d.2
a 2:
n.
s.p.
n.

Vla. d-3-5
a 4:
n.
s.p.
n.

Vcl. d.1
a 2: non divisi
molto sul tasto

Vcl. d.2
a 2:

Vc. d.3-4
extr. sul pont

Dbdesk1.
molto tasto

Db.desk 2-3
molto tasto

NB notes
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207

Picc.
wide vib. narrow wide wide vib. narrow vib. wide vib. wide vib.

Fl. 2
wide vib. narrow vib. sim. no vib. wide vib.

Fl.3.
narrow vibrato timbral trill narrow vibrato timbral trill narrow vib. wide vib. narrow vib. wide vib.

Ob. 1

Cl. 1
narrow pitch vib. wide vib. wide vib. narrow no vib. gliss. narrow wide vib.

Cl. 2
wide vib. narrow

B. Cl.
wide vib. wide vib. narrow wide vib. no vib. wide vib.

Bsn.1
Breath inconspicuously when necessary, re-enter imperceptibly
a 2:

Cbsn.

Hns.1-2
Breath inconspicuously when necessary, re-enter imperceptibly
a 4:

Tbn.1
plunger

Tbn.2
plunger

B. Tbn.

Tba.

Saw 1
whistle sim. extr. wide vib.

Saw 2
whistle whistle sim. extr. wide vib.

Vib1.
whistle: whistle with a lot of vibrato sim.

Vib2.
l.v. whistle with vibrato sim. whistle wide vib (on whistle-tone.)

Pno.

Vln. I d. 1
a 2: gliss

Vln. I d.2
molto vib. no vib.

Vln. I d.3
softly molto vib. sim. divisi: molto vib. no vib.
molto vib.

Vln. I d.4
sul a tasto molto vib. divisi: molto vib. no vib.
molto vib.

Vln. I d. 5-6
n.
divisi:
sul d & a

Vln. II d.1
a 2: gliss

Vln. II d.2
molto vib.
sul tasto imperceptible bow changes no vib.

Vln. II d.3
imperceptible bow changes molto vib.
sul tasto imperceptible bow changes no vib.
sul tasto imperceptible bow changes no vib.

Vln. II d.4-6
imperceptible bow changes molto vib.
sul d & a

Vla. d.1
Tutti vla:

Vcl. d.1
molto tasto. molto tasto

Vcl. d.2
molto tasto

Vc. d.3-4
a 3:
molto tasto

Dbdesk1.
molto tasto

Db.desk 2-3

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Fl. 1
Fl. 2
Fl.3.
Ob. 1
Ob. 2
C. A.
Cl. 1
Cl. 2
B. Cl.
Bsn.1
Cbsn.
Hns.1-2
Tpts.
Tbn.1
Tbn.2
B. Tbn.
Tba.
Vib1.
Vib2.
Pno.
Vln. I d. 1
Vln. I d.2
Vln. I d.3
Vln. I d.4
Vln. II d.1
Vln. II d.2
Vln. II d.3
Vln. II d.4-6
Vla. d.1
Vcl. d.1
Vc. d.3-4
Dbdesk1.
Db.desk 2-3

p
mp
mf
vibrato
pp
a 2:
ppp
f
(motor off)
sul pont.
Tutti violins I:
divisi:
gliss.
sul tasto
imperceptible bow changes
no vib.
Desk 1-2
sempre tasto
molto tasto

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Picc.
Fl. 2
Fl.3.
Ob. 1
with vibrato
Ob. 2
with vibrato
C. A.
with vibrato
Cl. 1
a 3:
Bsn.1
vibrato
Cbsn.

Hns.1-2
Tpts.
Tbn.1
gliss.
slight slide vibrato
Tbn.2
B. Tbn.
plunger
Tba.

Vib1.
Vib2.

Pno.

Vln. I d. 1
sul pont.
Divisi:
Vln. I d.2
divisi:
Vln. I d.3
a 2: sul d:
Vln. I d.4
a 2: sul d:
Vln. I d. 5-6
a 4: sul tasto
Vln. II d.1
sul pont.
desk 1-3
gliss.
Vln. II d.2
Vln. II d.3
Vln. II d.4-6
a 4:
sul tasto
Vla. d.1
Vcl. d.1
poco tasto
divisi:
Vc. d.3-4
Dbdesk1.
Db.desk 2-3

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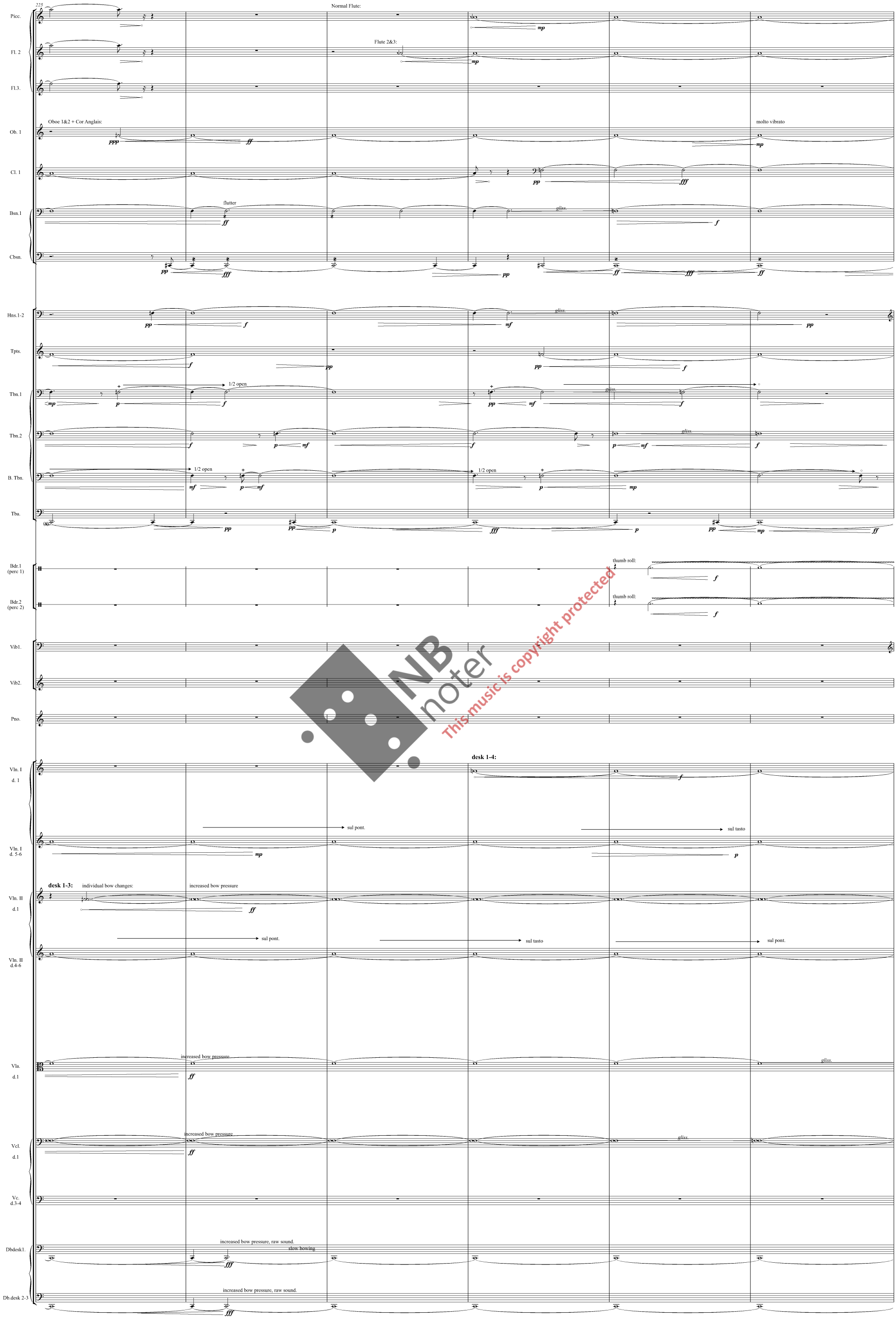

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231

Picc.

Fl. 2

Ob. 1

Divisi:

Cl. 1

Cl. 2

B. Cl.

Breathe when necessary.

molto vib

no vib

gliss.

flutter

Bsn.1

Cbsn.

Divisi:

Hns.1-2

Hn.3

Tpts.

mute off:

Tbn.1

Tbn.2

B. Tbn.

Tba.

Bdr.1 (perc 1)

Bdr.2 (perc 2)

Vib1.

Vib2.

Pno.

Tutti vnI

Vln. I d. 1

sul pont.

sul tasto

Vln. I d. 5-6

Vln. II d.1

sul tasto

sul pont.

Vln. II d.4-6

increased bow pressure

Vla. d.1

Vcl. d.1

molto tasto

sul pont.

Vc. d.3-4

Dbdesk1.

Db.desk 2-3

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237

Fl. 1

Ob. 1

gliss. gliss. gliss. gliss.

molto vib. no vib.

Cl. 1

Cl. 2

B. Cl.

Bsn.1

Cbsn.

Breathe when necessary.

a 4:

Hns.1-2

Tpts.

Tbn.1

flutter

trombones 1&2: a 2:

plungermute

Tbn.2

B. Tbn.

gliss.

Tba.

Vib1.

Vib2.

Pno.

sul pont. n. poco vibrato no vibrato sul pont. n.

Vln. I

d. 1

sul pont. n. poco vibrato no vibrato sul pont. n.

Vln. II

d.1

Vla.

d.1

norm

Vcl.

d.1

Vc.

d.3-4

gliss.

Dbdesk1.

Db.desk 2-3

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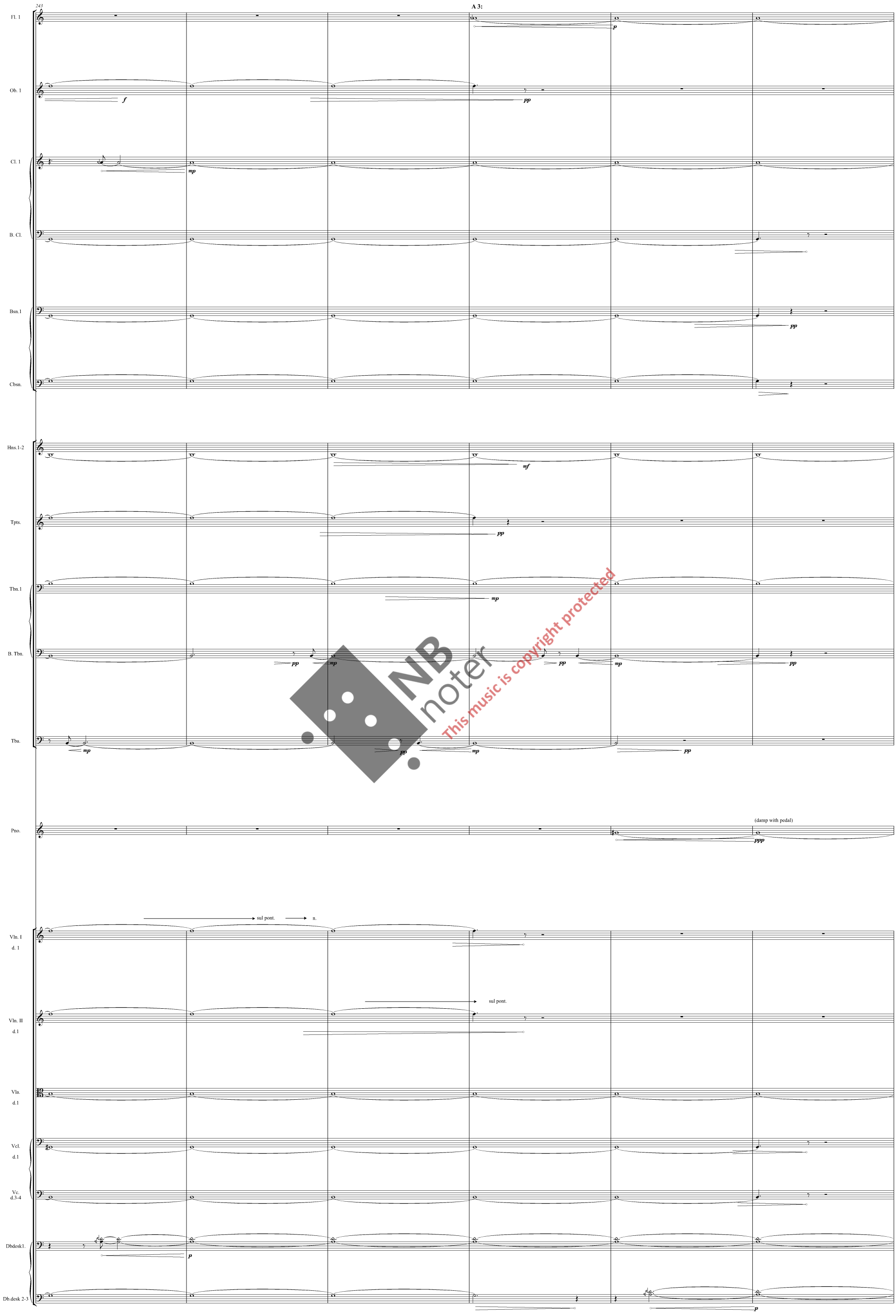

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Fl. 1

Ob. 1

Cl. 1

B. Cl.

Bsn.1

Cbsn.

Hns.1-2

ppp

Tpts.

Tbn.1

ppp

Pno.

mp

sul tasto

Vla.
d.1

Vcl.
d.1

Dbdesk1.

gliss.
gliss.

Db.desk 2-3

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