

Knut Vaage:

multiMORF remix 2.0

for

5 amplified brass instruments* and computer

(*2 Trumpets in C, Horn in F, Trombone, Tuba)

2025

(version 9th of November 2025)

to NyNorsk Messingkvintett

Programming and processing by Thorolf Thuestad

ACKNOWLEDGMENT:

multiMORF remix, started on initiative from NyNorsk Messingkvintett. *multiMORF remix* contents of *multiMORF V*, *VI* and *VII*. *multiMORF remix 2.0* is made from shorter versions of the 3 pieces edited and mixed together into one piece, starting with material from *VI*, morphed into *VII*, morphed into *V*

ABOUT THE NOTATION OF THE SCORE:

Score is transposed (Horn in F is the only transposing instrument)

There are no parts for this piece, the musicians perform from the score

The first part is based on *multiMORF VI* pages 1, 6,7,8, and 10.

The middle part is based on *multiMORF VII* using titles like "Fragment 3" or "Morf 5" which are not chronologically numbered, but refers to a workshop process to generate the material. For detailed info, see explanations in the score of *multiMORF VII* on page 1-3 and at page 27-29

The last part ask for playback of the original soundfiles from *multiMORF V* in following order: 6, 5, 3, 2, 9. They are marked in the computer part of the score.

DURATION: ca 21 min

Commissioned by NyNorsk Messingkvintett

First performed at Sentralen, Oslo 2025 by NyNorsk Messingkvintett

Financed by

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More info: www.knutvaage.com

EXPLANATION:

General instruction:

This piece gives all the involved performers freedom to improvise inside the “rules” given in score.

There are no parts available. All the players must get a copy of the score.

The length of senza misura bars (between 5 and 30 sec.) is from choice.

SIGNS AND ABBREVIATIONS:

REP————> repeat the previous action

—GRAD. TO—> gradually changed into (e.g. transform by little by little mixing next action more and more into previous action. The performer may vary the way of mixing or “morphing”)

————>FADE keep note until “FADE”, and fade from that point during next cue

PERS————> playback of personal field recording through instrument

DM:0-AW: distance to microphone from zero to away from mic, e.g:

DM:0 as close as poss. (brass: optional inside bell)

DM:2 distance to mic. 2 cm

DM:10 distance to mic. 10 cm

DM:AW away from mic. (outside mic. range)

Very soft sounds can be rich and full because of microphones. It is important to follow the score instructions for distance to microphones.

The given material indicates what and how to play. When GRAD. TO, arrow is used, change the material from the first to the second phrase - before and after the arrow

The technical informations are always connected to the notated cell, so that the player must switch back and forth the different settings while morphing.

TECHNICAL NEEDS

Surround PA with sub (extra: 1 central small speakers), 7 microphones, a computer running the electronics, and a eight channel sound card is required.

The tubaist is asked to handle a loop pedal, and play an egg slicer

ABBREVIATIONS:

Sosu: soft sub sound (less vibration in lips, extremely slow air stream)
1,2,3... notated w. dotted bows, optional repeat of phrase according to bow instructions
Cm: cup mute (on Horn if available, if not, use Harmon)
Cmc: cup mute closed
Fm: f ibre mute
Fmc: fibre mute closed
Hm: harmon mute (on Horn in F, use a harmon for Bass Trombone)
Wah: harmon mute, tube in
Pr.m: practicing mute
blA: blow air
Lscr: lip scratch: lips firmly pressed and slow air stream to make sound similar to Vln. scratch
LflzA: lip flutter w.air: flutter w. lips (softly pressed), small distance to mouthpiece to avoid tone
TflzA: tongue flutter w. air
1/2: half valve gliss: press all valves half way down to make it poss. with full range gliss.
Hp: hand pop: pop on mouthpiece (on instrument) w. inside of flat hand
Tp: tongue pop: make "popping" sound by rapidly/firmly "releasing" tongue from palate (resonance into instr., but no normal sound)
Lp: lip pop: make "popping" sound by rapidly/firmly "releasing" lips from each other (resonance into instr., but no normal sound)
Lsm: lip smack: make sharp, very short kissing sound 1mm from mouthpiece
SLt: slap tongue
vS: valve sound: the sound from pressing and lifting the valve, listen to both
MP: mouthpiece only
Msm: mouthpiece smack: make sharp, very short kissing sound directly on mouthpiece (possible with or without instrument connected)
Kss: kissing sustained sound: very slow "kissing" of mouthpiece, slow air stream
PFs: blow as pan flute into tuning slide (if greasy, lips can have 1 mm distance)

multiMORF remix 2.0 allows the sound designer to work freely, and improvise the elctronics based on previous ideas and methods

multiMORF remix 2.0 part II is based on material from multiMORF VII. The audio processing for the first version of multiMORF VII was implemented using a combination of audio processes such as reverbs, delays, modulation effects, spectral processing, granulation effects, harmonic synthesis, live and offline sampling, glitch effects (scratch, stutter, filter and granular) and resonator effects. Several of the processes are tempo synced with the live musicians and most effects were diffused over a surround sound system.

About the trombone solo part III:

Accidentals apply for each note only. The performer must intonate partials without adaption to the tempered scale.

(In the score this kind of microtonality is not indicatet, but comes with the positions on the instrument)

Part III of multiMORF remix 2.0 is based on multiMORF V is a spinoff from multiMORF 3 that was premiered and commisioned by John Arild Suther in the BIT20 Ensemble
More info in the score of multiMORF V book 1 and 2.



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multiMORF remix 2.0

Suite - Part I from multiMORF VI

(version 21st of October 2025)

Knut Vaage

ROUTING:
I

Solo C Tpt

D.M:10

Fmc
hi. s. ad lib.

improvise on highest partials (quasi "seljefløyte": trad. folk flute w. partials only)

pp

(b̄)

(b̄)

(b̄)

Fm off

one long note
small notes: alt. pitches w. rep.
2 off reach fund.

optional TACET or reduce high pitched impro gradually

before next page
ELECTR. ONLY

Solo technic

SOLO ALT 1: DELAY AD LIB. (OPT. RING BUFFER)

SOLO ALT 1: GRAD. DISTURBED, FREQ. SHIFTER

SOLO ALT 2: RING BUFFER

Technical

SOLOIST (optional): CONCAT SYNTHESIS

EFFECT 1: GENERATE HARMONIC SPECTRE FROM HN/TBN/TUBA FUNDAMENTALS

EFFECT 2: OUTPUT BRASS 8vb

EFFECT 3: SURROUND DELAY ON SMALL BELLS/HARMON-NAILS

LOOP Bb FROM TUBA

GRAD. TO

HIGH SPECTRUM (high partials only)

fb10

BRASS INTO DELAY

BELLS: DELAY OFF

fb90

BELLS INTO SUSTAINER

FADE E. 2 (20 sec.)

LOOP GRAD. INTO GENERATOR

Trumpet 2

II

①

TUTTI BRASS:
D.M:5

2 off reach fund.

pp

②

in sync (Trpt 2, Hn, Tu)

bend

mp

REP

(TACET)

③

④

D.M:10

2 on Fm

improvise on highest partials (quasi "seljefløyte": trad. folk flute w. partials only)

hi. s. ad lib.

Fm

(TACET)

⑤

⑥

ens. TACET

Horn in F

III

fund.

8vb

pp

bend

mp

REP

(TACET)

D.M:10

Fm

improvise on highest partials (quasi "seljefløyte": trad. folk flute w. partials only)

hi. s. ad lib.

Fm

(TACET)

Fm off

Trombone

IV

sB

improvise w. soloist, silent meditation, long rests

pp

(TACET)

Tuba

V

bend

pp

mp

REP

(TACET)

D.M:10

Fm

improvise on highest partials (quasi "seljefløyte": trad. folk flute w. partials only)

hi. s. ad lib.

Fm

(TACET)

Fm off

1,2,3... Cmc (tight closed)
long notes (fermatas) may be done short in repetitions

before next page
SUST. ONLY

Solo Tpt

D.M:10

S.tech.

SOLO: RING BUFFER

Techn.

6 (from page 6 in multiMORF VI score)

D.D: fb20
GRAN: high sep./slowly
EACH CHORD

GRAD. TO

DELAY GRANULATE (CONTINUE)

GRAD. TO

(TUNE GRAD. UP)

D.D: fb90
GRAN: low sep./fast/pitched
ORG. PITCHED TBN. SAMPL.

FADE

before next page
SUST. ONLY

BRASS CHORD
INTO SUST.

① ② ③ ④ ⑤ ⑥

Tutti Brass: D.M:AW

TACET

D.M:5 Trpt 2

Hm

ppp

GRAD. TO

LTflzH (TACET)

Hm off

D.M:5 Hn

Hm

ppp

GRAD. TO

LTflzH (TACET)

Hm off

D.M:5 Tbn.

Hm

ppp

GRAD. TO

LTflzH (TACET)

Hm off

D.M:2 Tu

loop

blA

sho

Lp

REP

GRAD. TO

blA

Msm (put on mute)

fa

D.M:5 Prm

GRAD. TO

LTflzH (TACET)

Prm off

ppp

Sosu
1,2,3...

D.M.:2

Solo Tpt

impro.
variate

REP

opt. cont.

before next page
ELECTR. ONLY

S.tech.

SOLO ALT 1: SUSTAINER

SOLO ALT 2: GRAD. DISTURBED, FREQ. SHIFTER

7

GRADUALLY OBSCURED
(E.G. ADD SURROUND DELAY,
GRANULATION, PITCH SHIFTER
RING MODULATOR, FREQ. SHIFTER)

before next page
ELECTR. ONLY

Techn.

SECONDARY TREATMENT OF BRASS PITCH HIGH BY GRAN.
SAMPLE SEPARATELY LOOPS, TUNE DOWN EGG SLICER

GRAD. TO

CUT SUSTAINER INPUT
FADE BRASS SAMPLE/SUSTAINER
LOW PITCHED EGG SLICER

PLAYBACK LOOP (whistle tones)

1

2

3

4

TACET

TUTTI:
D.M.:2

Trpt 2

PFs

(TACET)

Hn

PFs

(TACET)

Tbn.

PFs

MP (low as poss)

n.

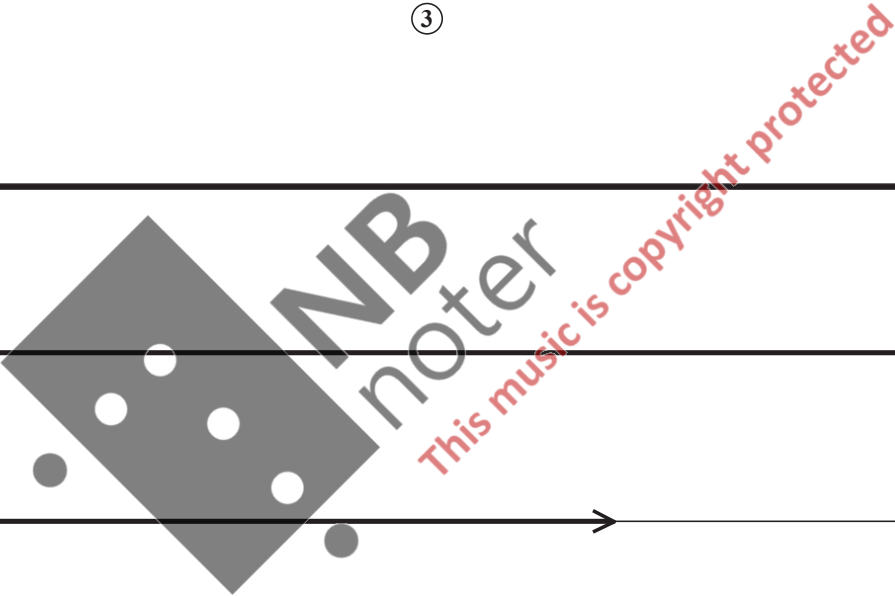
p

Egg Slicer

Tu

pizz. w nails on "strings"

REP



3

before next page
ELECTR. ONLY

before next page
ELECTR. ONLY

3

pp

pp

mf

FADE

FADE

FADE

Sound material 1 (blow air)

Senz a misura

Trumpet in C 1: open D.M: 0 --- 5 --- 0 sim. REP

Trumpet in C 2: open D.M: 0 --- 5 --- 0 sim. REP

Horn in F: open Sing D.M: 5 --- D.M: 8 --- D.M: 5 sim. Play

Trombone: D.M: 0 --- 5 --- 0 sim. REP

Tuba: open bl A open D.M: 0 --- 5 --- 0 sim. REP

Fragment 2

* Tempo ad lib.

Trumpet in C 1: 4/4

Trumpet in C 2: 4/4

Horn in F: 4/4

Trombone: 4/4

Tuba: 4/4

Electronics: Optional: Sound material experiment 1 enforce soundmorphing

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Senza misura

C Tpt. 1 $\frac{1}{2}$

C Tpt. 2 $\frac{1}{2}$

Hn.

Tbn.

Tuba D.M: 8 D.M: 5 sim.

Electr. SF: Sound material experiment 3

* po - a - o - a - o - a - o - a

* po - a - o - a - o - a - o - a

* po - a - o - a - o - a - o - a

* sing/play unis. (like digeridoo)
adapt octave for voice

Fragment 3
Senza misura (lento)

C Tpt. 1 D.M: 3 Cmc

C Tpt. 2 D.M: 3 Cmc

Hn. D.M: 3 * Cmc

Tbn. a - o - a - o - a

Tuba D.M: 3 Cmc

Electr. Effect ad lib Tutti

lunga

lunga

lunga

lunga

SUSTAINER

* Horn: use a Bass Tbn Harmon mute

C Tpt. 1 (CONT.)
 (morph.)
 (time to prepare)

C Tpt. 2 (CONT.)
 (morph.)
 (time to prepare)

Hn. (CONT.)
 (morph.)
 (time to prepare)

Tbn. (CONT.)
 (morph.)
 (time to prepare)

Tuba
 8va
 (CONT.)
 (rhythms from Morph 1)
 Effect ad lib --->

Electr. (CONT.)
 (rhythms from Morph 1)
 Effect ad lib --->

TUTTI: if needed to breathe, skip a few single notes by own choice

D.M.: 5 Hm 3 6
p leggiero
 CONT. PATTERN

D.M.: 5 Hm 3 3 3 6 3
p leggiero
 sim.
 CONT. PATTERN

D.M.: 5 Hm 3 6 3 6 3
p leggiero
 sim.
 CONT. PATTERN

soft articulation w. tongue to match valve-phrasing

D.M.: 5 Hm 3 6 3 6 3
p leggiero
 sim.
 CONT. PATTERN

D.M.: 5 Hm 3 6 3 6 3
p leggiero
 sim.
 CONT. PATTERN

C Tpt. 1

C Tpt. 2

Hn.

Tbn.

Tuba

Electr.

D.M: 5

3

3

3

6

3

rep 1 x

CONT. PATTERN

p leggiero

sim.

D.M: 3

(Hm)

mf secco

D.M: 3

(Hm)

mf secco

D.M: 3

(Hm)

mf secco

D.M: 3

(Cmc)

mf secco

(8va)

(rhythms from Morph 1)

(CONT.)

reverberation

C Tpt. 1

C Tpt. 2

(Hm)

Hn.

Tbn.

Tuba

Electr.

p

p

(Hm)

Solo

p espress. ma dolce

bend

Abstract background

Fragment 5

♩ = c. 100

C Tpt. 1

Wah (stagger breathing)

mp

bend

C Tpt. 2

Wah (stagger breathing)

mp

bend

Hn.

Wah (stagger breathing)

mp

bend

Tbn.

Wah (stagger breathing)

mp

Tuba

Electr.

Formant/overtone boost



C Tpt. 1

C Tpt. 2

Hn.

Tbn.

Tuba

Electr.

(CONT.)

D.M.: 5

Cm

8va - - - - -

pp

8va - - - - -

p leggero

8va - - - - -

mp leggero

REP



Rhythmically (♩ = 76)

CONT. PATTERN
Morph continually, opt. changed, but in sync (Groovy ♩ = c. 76)

First system of the musical score. The staves are for C Tpt. 1, C Tpt. 2, Hn., Tbn., Tuba, and Electr. The key signature is one sharp (F#). The tempo is marked 'mod.' (moderato). The score includes various musical notations such as notes, rests, slurs, and dynamic markings like *mf* (mezzo-forte) and *p* (piano). A large watermark 'NME' is visible across the score.

Senza misura



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Abstract soft delicate soundlandscape



C Tpt. 1

C Tpt. 2

Hn.

Tbn.

Tuba

Electr.

flz. bend

ord. bend bend

Senza misura

reverberation
Reflections
Echo og material

p

pp

pp

pp

pp

(CONT.)

pp >



Morph 1

Strictly (♩ = c. 80)

rep. X

C Tpt. 1: bl A, sah, fh, GRAD. TO, REP, D.M: 3

C Tpt. 2: bl A, sah, fh, GRAD. TO, REP, D.M: 3

Hn.: bl A, sah, fh, GRAD. TO, REP, D.M: 3

Tbn.: bl A, fh, sah, GRAD. TO, REP, D.M: 3

Tuba: bl A, fh, sah, GRAD. TO, REP, D.M: 3 Solo

Electr.: Build rhythms, Morph echoes and reverberations, FADE, CONT. PATTERN (rhythms from Morph 1)

Strictly (♩ = c. 80)

Hm: mp secco

Sing: mf espr.

C Tpt. 1: p

C Tpt. 2: p

Hn.: p

Tbn.: p

Tuba: p

Electr.: (CONT.) (rhythms from Morph 1)

C Tpt. 1

C Tpt. 2

Hn.

Tbn.

Tuba

Electr.

(CONT.)

(rhythms from Morph 1)

to bucket

FADE



Part III - from multiMORF V
trombone-solo og foss med ekko messingkvartett

(Trpts and Hn: tempo from bar before. Tu, Tbn, senza misura)

Trumpet in C 1

Trumpet in C 2

Horn in F

Tuba

Trombone Solo

Bucket

polyphonic w.f.
filtered sound open/close random

(central small speakers)

Computer

front PA/sub

Live electronics

low pass/high cut filter, octaver (8va basso)

Mics OFF: Trumpets, Horn and Tuba

(opt. keep only to add some reverb in dry accoustics)

* numbers are referencen to soundfiles used in the original multiMORF V score

Cup Intonate like 11th parital on fund. Bb

C Tpt. 1

Cup Intonate like 9th parital on fund. Bb

C Tpt. 2

Cup Intonate like 7th parital on fund. Bb

Hn.

Cup Intonate like 5th parital on fund. Bb

Tuba

mp dolce

Tbn.

polyphonic w.f.
filtered sound open/close random

(central small speakers)

Cmp.

front PA/sub

low pass/high cut filter, octaver (8va basso)

L.E.

surround

grad. to "space"

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C Tpt. 1

C Tpt. 2

Hn.

Tuba

Tbn.

Cmp.

L.E.

opt. con sord.

dolce

Open

dolce

8vb

rep. ad lib.

back speakers
full spectre w.f. completely filtered/transformed morph by gradually opening filters

0 %

5 central small speakers

(short straight mute, sampling of the whole 1, line 1 in multiMORF V)

(old radio effect)

sustainer
surround
spatialize

gradually add "bubble" effect, surround sweep

front speakers

* ensure irregularity in rhythm

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Open

dolce

Open

dolce

dolce

(echo Trpt 1)

(echo Trpt 2)

(echo Hn)

dolce

Cmp. (short straight mute, sampling of the whole 1, line 1 in multiMORF V) central small speakers (reduce)

front speakers

back speakers

output

50%

0%

0%

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TACET quartet

Tbn.

front speakers

close up big w.f.
volume 100 %

(morph gradually to surround)

0 %

3 Open

8va - - -

7 sec.

7 sec.

7 sec.

E spectrum. Col ped. notes
surround delay

add G^b spectrum

0 %

add A^b spectrum

L.E.

C Tpt. 1

C Tpt. 2

Hn.

Tbn.

Cmp.

L.E.

Straight

mf

Straight

mf

Con. sord.

mf

(echo Trpt 1)

(echo Trpt 2)

sim.

(echo Hn)

7 sec.

3 sec.

3 sec.

add B^b spectrum
(keep until end of part)

add F spectrum

add G spectrum

C Tpt. 1

C Tpt. 2

Hn.

Tbn.

surround "pleasant" medium calm w.f.

50%

100%

Cmp.

7 sec.

3 sec.

3 sec.

3 sec.

3 sec.

add A spectrum (tutti)
optional: gradually less surround delay

L.E.

presto

8va-

cut E spectrum

cut F spectrum

cut G^b spectrum

C Tpt. 1

C Tpt. 2

Hn.

Tbn.

Cmp.

3 sec.

3 sec.

7 sec.

2 sec.

5 sec.

3 sec.

3 sec.

5 sec.

2 sec.

7 sec.

∞

cut G spectrum

cut A^b spectrum

cut A spectrum (B^b solo)

add A^b

B^b solo (cut A^b)

add A

B^b solo (cut A)

add A[♯]

B^b solo (cut A[♯])

add A[♯]

B^b solo (cut A[♯])

Harmon

C Tpt. 1

C Tpt. 2

Hn.

Tuba

(optional: wait, listen to morphing of backgrounds)

(echo Trpts)

(semi legato sim.)

Tbn.

f espr.

central small speakers
distant w.f.

grad. to

Cmp.

0 %

2 straight/back speakers

100%

8va

Col pedal notes sempre

morph to

optional
spectrums in/out

L.E.

0 % effect gradually to surround delay

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Score for Part III - from multiMORF V, page 25.

Instrument parts shown:

- C Tpt. 1
- C Tpt. 2
- Hn.
- Tuba
- Tbn.
- Cmp.
- L.E.

Key musical markings and annotations:

- Dynamic markings:** *p* (piano) for C Tpt. 1 and C Tpt. 2; *f dolce* (forte dolce) for Hn. and Tuba.
- Articulation/Performance markings:** *Open* for Hn. and Tuba; *50%* for Cmp.
- Rehearsal Markers:** I (above Tbn.) and II (below Tbn.).
- Echo/Repeat markings:** (echo Trpts), (echo Tu/Hn), and (echo Tu/Hn).

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Score for Part III - from multiMORF V, featuring Hn., Tuba, Tbn., and Cmp. (Compressor).

Top System:

- Hn. (Horn):** Treble clef. Rest, then a melodic line starting with a half note G4, followed by quarter notes A4, Bb4, A4, G4, and a half note F#4.
- Tuba:** Bass clef. Rest, then a melodic line starting with a half note G2, followed by quarter notes A2, Bb2, A2, G2, and a half note F#2.
- Tbn. (Trombone):** Bass clef. *f espr.* (forte, expressive). Melodic line starting with a half note G2, followed by quarter notes A2, Bb2, A2, G2, and a half note F#2. A bracket labeled "I" and "(echo Tu/Hn)" spans the final two measures.
- Cmp. (Compressor):** Two staves. Top staff shows a "closer w.f." (closer waveform) with a 0% to 100% scale. Bottom staff shows "Harmon open" with a 0% to 100% scale. A box labeled "morph to" and "optional spectrums in/out" is present.

Bottom System:

- Hn. (Horn):** Treble clef. Rest, then a melodic line starting with a half note G4, followed by quarter notes A4, Bb4, A4, G4, and a half note F#4.
- Tuba:** Bass clef. Rest, then a melodic line starting with a half note G2, followed by quarter notes A2, Bb2, A2, G2, and a half note F#2.
- Tbn. (Trombone):** Bass clef. Melodic line starting with a half note G2, followed by quarter notes A2, Bb2, A2, G2, and a half note F#2. A bracket labeled "II" spans the final two measures.
- Cmp. (Compressor):** Two staves. Top staff is empty. Bottom staff shows a "back speakers" section with a 0% to 100% scale.

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Hn.

Tuba

Tbn.

Cmp.

even closer w.f.

close up, full w.f.

0%

50%

100%

Harmon closed

8va

Bucket

morph (crossfade spectrums)

(echo Tu/Hn)

I

II

Hn.

Tuba

Tbn.

Cmp.

front speakers

100%

0%

morph

central small speakers

8va

E spectrum solo

if repeated, choose block ad lib.

(echo Tu/Hn)

I

TACET quartet

Harmon   

Tbn. 

p dolce (into sustainer - make chord)

most intimate, subtile water sounds

Cmp.         

gradually enforce overtones

9 harmon 11 sec.   

 sim. 

20%  50%

L.E. 

enforce harmonic spectrum gradually into sustainer/spectral enforcer

no input sustainer, gradually fade

(harmonic row - chords and bass line)

Cup 10th 11th 10th 11th 10th 11th 11th 10th 11th 10th

C Tpt. 1          

dolce e lento molto (each whole note or legato bow - one breathe)

Cup 10th 7th 7th 7th 7th 10th 10th 11th

C Tpt. 2          

dolce e lento molto (each whole note or legato bow - one breathe)

Con sord. 7th 5th 11th 7th 7th 7th 7th 11th

Hn.          

dolce e lento molto (each whole note or legato bow - one breathe)

Cup 11th

Tuba          

dolce e lento molto (each whole note or legato bow - one breathe)

8^{vb}

Cup ad lib. (make rhythm and frases ad lib., but lento molto)

Tbn.          

p dolce

n

Harmon 11 sec.   

Cmp.          

0 %          

0 %          