tone/noise (emergence patterns)
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for 9 bowed, string instruments
notes

the score indicates a mixed string ensemble tuned relative to 50 Hz

However, there are 6 possible variations (3 for each region):

50 Hz regions:
- 9 mixed (3 violins, 2 violas, 2 cellos, 1 double bass)
- 9 violins
- 9 double basses

60 Hz regions:
- 9 mixed (3 violins, 3 violas, 1 cello, 2 double basses)
- 9 violins
- 9 double basses

there may also be carefully selected mixtures between cello and double basses for 50 Hz
and between viola and double basses for 60 Hz
the tuning is precise and relative to the regional electrical cycle
(either 50 or 60 Hz)

there are 3 variations of instrumentation for each region, each instrument
assigned a tone

cents as \(1000 \) of an equal-tempered semi-tone are given (calculated to an A440)
accidentals are shown to represent prime relationships

\[
\frac{1}{8} = 5 \text{ limit} / \frac{1}{4} = 7 \text{ limit}
\]

exact frequency is also shown

each musician should tune their string and harmonic as indicated

where \(IV^1\) = open IV string and \(III^9\) = 2nd partial of III string

musicians may also adjust their coinciding strings in a manner allowing for
sympathetic resonances to occur (such as pure 4ths/5ths or other simple intervals)
mixed strings

violin 1
-3\,\text{Hz}
300\,\text{Hz}

violin 2
-3\,\text{Hz}
300\,\text{Hz}

violin 3
-3\,\text{Hz}
400\,\text{Hz}

viola 1
-\text{Hz}
133.33\,\text{Hz}

viola 2
-\text{Hz}
266.66\,\text{Hz}

viola 3
-\text{Hz}
266.66\,\text{Hz}

violoncello 1
-\text{Hz}
225\,\text{Hz}

violoncello 2
-\text{Hz}
466.66\,\text{Hz}

double bass
-\text{Hz}
350\,\text{Hz}

violin 1
-\text{Hz}
156.25\,\text{Hz}

violin 2
-\text{Hz}
200\,\text{Hz}

violin 3
-\text{Hz}
225\,\text{Hz}

viola 1
-\text{Hz}
133.33\,\text{Hz}

viola 2
-\text{Hz}
266.66\,\text{Hz}

viola 3
-\text{Hz}
266.66\,\text{Hz}

violoncello 1
-\text{Hz}
225\,\text{Hz}

violoncello 2
-\text{Hz}
466.66\,\text{Hz}

double bass
-\text{Hz}
350\,\text{Hz}

cello 1
-\text{Hz}
156.25\,\text{Hz}

cello 2
-\text{Hz}
200\,\text{Hz}

cello 3
-\text{Hz}
225\,\text{Hz}

cello 4
-\text{Hz}
333.33\,\text{Hz}

cello 5
-\text{Hz}
466.66\,\text{Hz}

cello 6
-\text{Hz}
300\,\text{Hz}

cello 7
-\text{Hz}
350\,\text{Hz}

cello 8
-\text{Hz}
400\,\text{Hz}

cello 9
-\text{Hz}
466.66\,\text{Hz}

d.bass 1
-\text{Hz}
156.25\,\text{Hz}

d.bass 2
-\text{Hz}
200\,\text{Hz}

d.bass 3
-\text{Hz}
225\,\text{Hz}

d.bass 4
-\text{Hz}
333.33\,\text{Hz}

d.bass 5
-\text{Hz}
466.66\,\text{Hz}

d.bass 6
-\text{Hz}
300\,\text{Hz}

d.bass 7
-\text{Hz}
350\,\text{Hz}

d.bass 8
-\text{Hz}
400\,\text{Hz}

d.bass 9
-\text{Hz}
466.66\,\text{Hz}
mixed strings

cello

d. bass

violas

viola

d. bass

double basses

d. bass

violin


d. bass

60 Hz

electrical regions
very gradually moving the bow from the bridge to a normal tone position with very slow and long bows (unforced)

allowing emerging timbres and harmonic movements to direct the sound, as though following what is occurring rather than directing it amplitude is light and subtle, allowing the mixture of instruments to interact in an unforced manner (highlight/expand/contract)

always becoming/emerging
Violin 1
Violin 2
Violin 3
Viola 1
Viola 2
Viola 3
Cello 1
Cello 2
Bass

Noise/dispersed
Silbered noise
Spectrum/noise
Spectrum/damage

Bow directly on bridge, medium/heavy pressure
Bow touches bridge and string, pressure lightens
Bow near/away from bridge, pressure lightens
Bow towards mid-point, very light/near pressure
Normal bow/very clear/unforced