Reticulations

for Percussion and Live Electronics

Eric Lemmon

December 2024, rev. Feb 2025

Table of Contents

01 Front Matter

Technical Rider

4	PA Speakers
4	PA Speaker Stands
1	Subwoofer
9-10	Microphone Stands
10	Condenser Microphones
2	Cortado MKIII Contact Microphones (or similar)
1	Stereo Microphone Adapter (ORTF or X/Y)
N	XLR and TRS Cables
3	Pedestals
3	7'x3' Tables
3	Black Table Cloths
2	Percussion Trap Tables
4	Cymbal Stands
1	6" Clear Glass Singing Bowl
1	11" Metal Singing Bowl
1	8" Frosted Glass Singing Bowl
1	6" Frosted Glass Singing Bowl
1	>12" Rough Ceramic Pot
N	Singing Bowl Beaters
N	Percussion Sticks/Beaters/Implements
2	Percussion Rack or Gong Stands
1	Tascam Model 2400 (or similar analog/digital mixer)
1	PreSonus StudioLive 24R (or similar digital mixer)
N	Metal Plates (steel, aluminum, copper, all undrilled)
3-4	Bell Plates (steel, drilled for suspension)
3	Large Metal Wind Chimes
1	Glass Wind Chime
N	Glass and Stained Glass Plates (cut to varying sizes)
N	Ceramic Tiles (cut to varying sizes)
2	3'x3' (at least) Thin Sheet Metal
1	3'x3' Piece of Egg Carton Foam (cut to varying sizes)
2-3	Furman SS6B-PRO AC Surge Protector Strips (or like)
1	Furman M-8X2 Power Conditioner (or like)
2	40W Tactile Exciters (Dayton Audio EX32EP2 or like)
2	20W Tactile Exciters (Dayton Audio EX25HRDS or like)
12	1' TRS Cables
N	Hose Clamps
4	18' 24AWG Speaker Wire
N	MIDI Controllers as Needed
1	Laptop with Ableton Live Installed

Program Notes

Reticulations was commissioned by the percussion duo lowpass for an initial set of performances at the Pulitzer Arts Foundation in St. Louis, Missouri and Valley City State University in Valley City North Dakota in early 2025. The work and these preliminary performances were created in part through the support of a Regional Arts Commission of St. Louis Artist Support Grant, Knox College's Committee on Faculty Resources Creative Project Grant, a Bridges Arts Council Grant, and a North Dakota Council on the Arts Special Projects Grant.

Reticulations is the sonic exploration of three material types: glass, ceramics, and metals all mediated through live electronics. Each material is featured over the course of a movement. Throughout the work, a mixing board is used as the lynchpin for a reactive system where the percussion and electronics parts mingle through no-input mixing and feedback chains

Movements:

// Glass
// Ceramic
// Metal

Duration:

ca. 45-60'

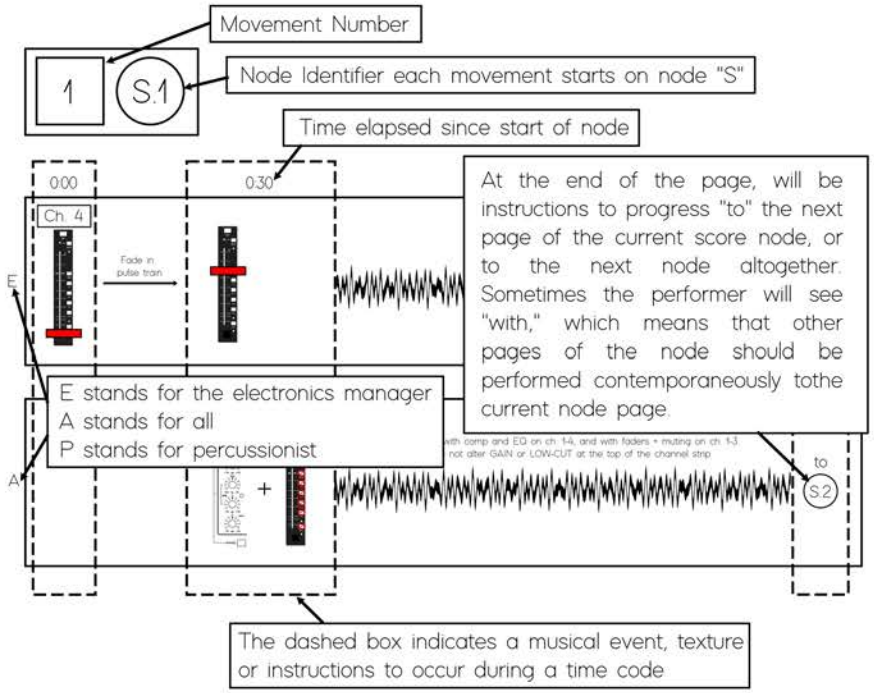
Instrumentation:

// Two Percussionists
// Electronics

Performance Notes

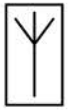
All performance notes and commentary on individual techniques are generally located on the pages of the score. Shorthand on how to progress through the score as well as unique identifiers on the page are given below.

Score Progression



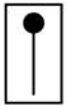
Before the beginning of the rehearsal process, the electronics manager and the percussionists should discuss and assemble the order of the individual score nodes in a way that coherently reflects a musical arc, always begin each movement with the start node indicated by S.1. The order of the nodes need not occur in the numbered order that is provided.

Unique Identifiers



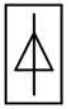
Wire Brush

Drum Stick

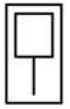


Hard Rubber Mallet

Soft Yarn Mallet

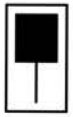


Triangle Beater



Felt Singing Bowl Beater

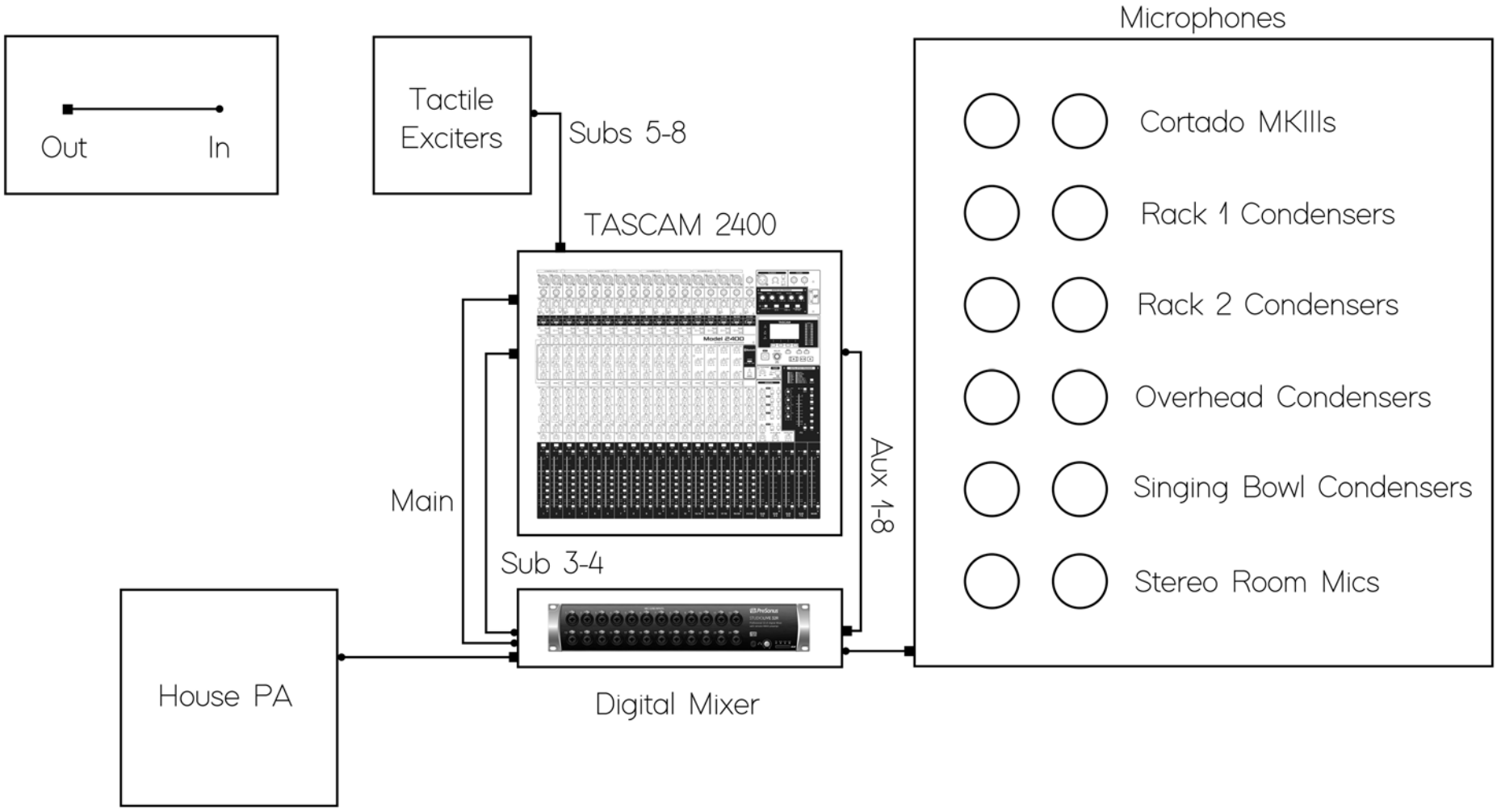
Chopsticks



Hard Singing Bowl Beater

02 Technical Diagrams

Electronics Routing Diagram



03 Stage Setup

Stage Setup

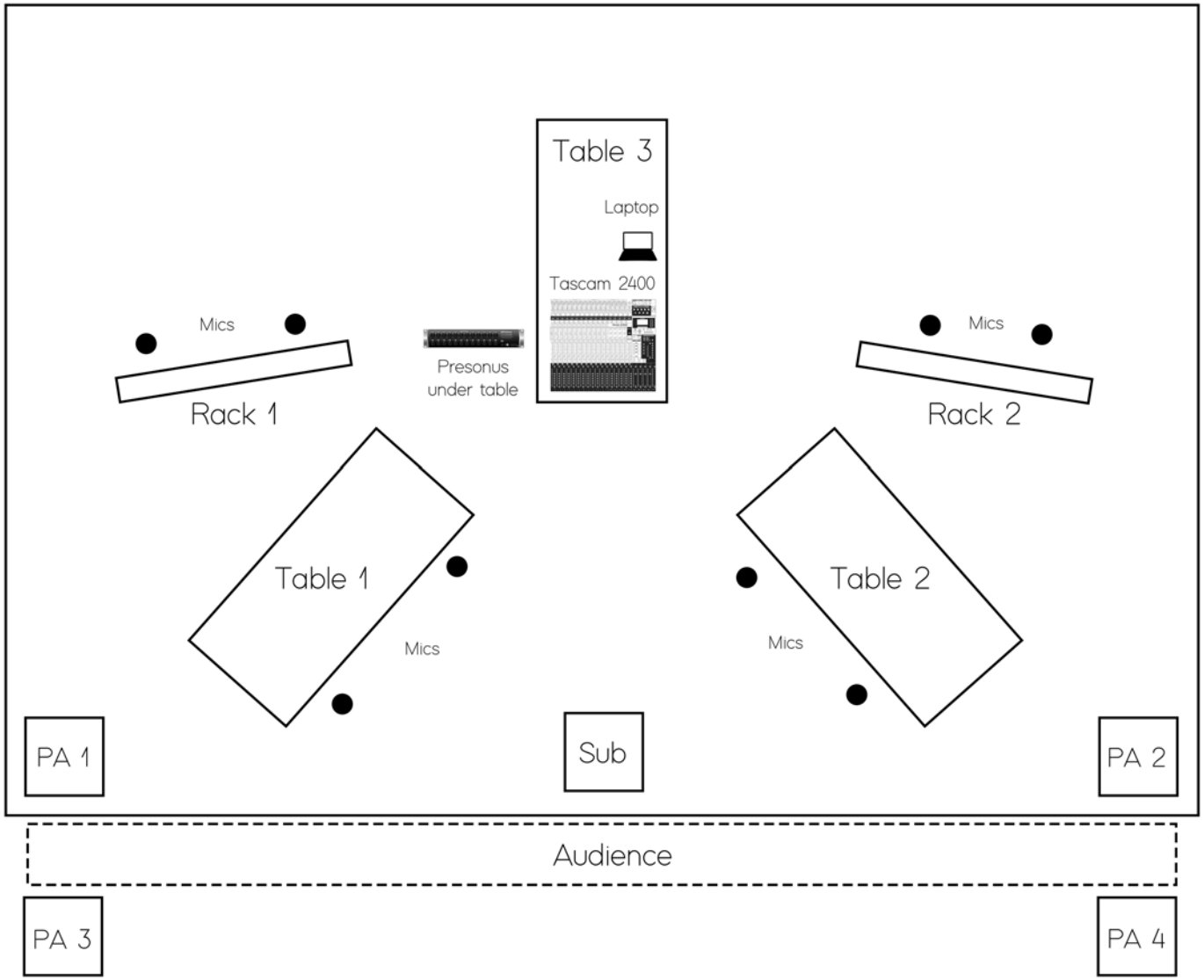
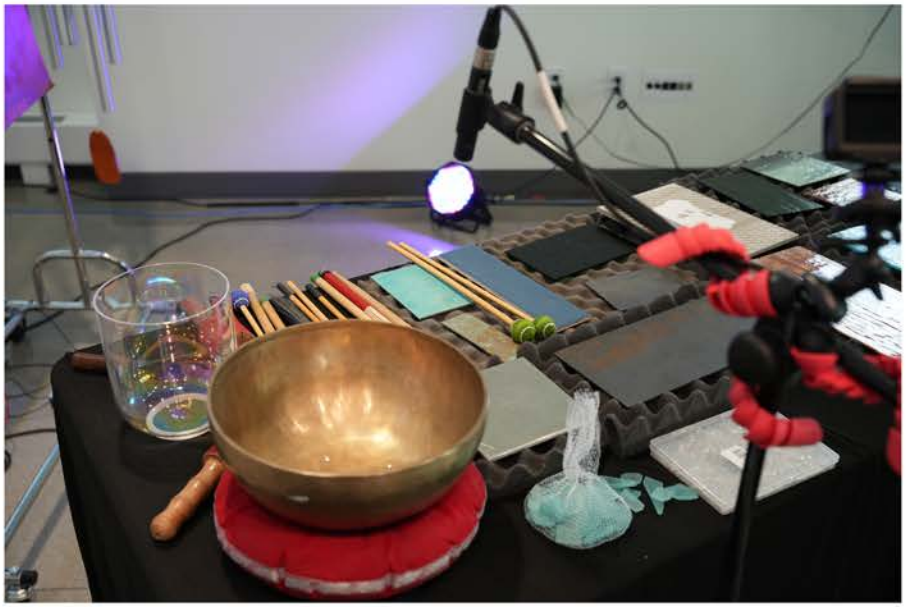
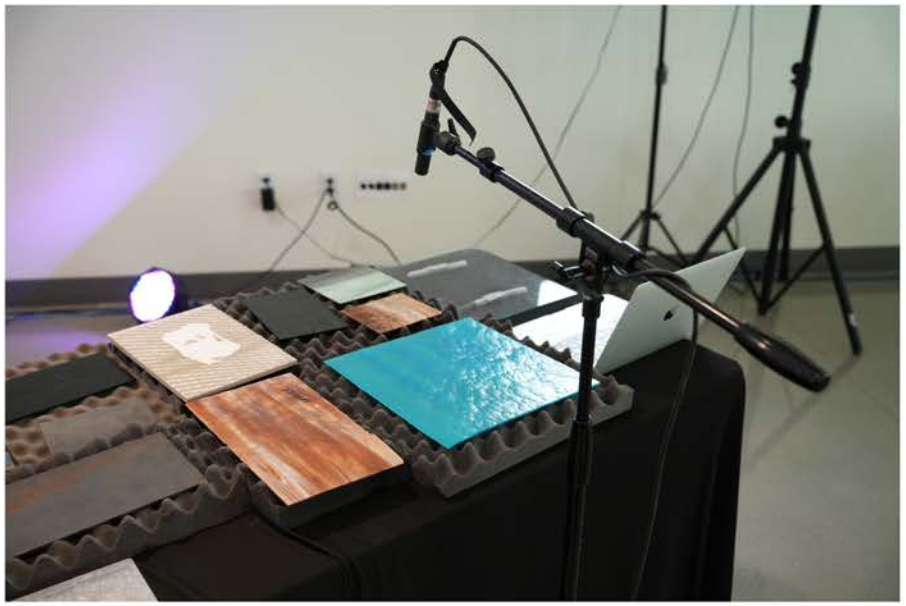


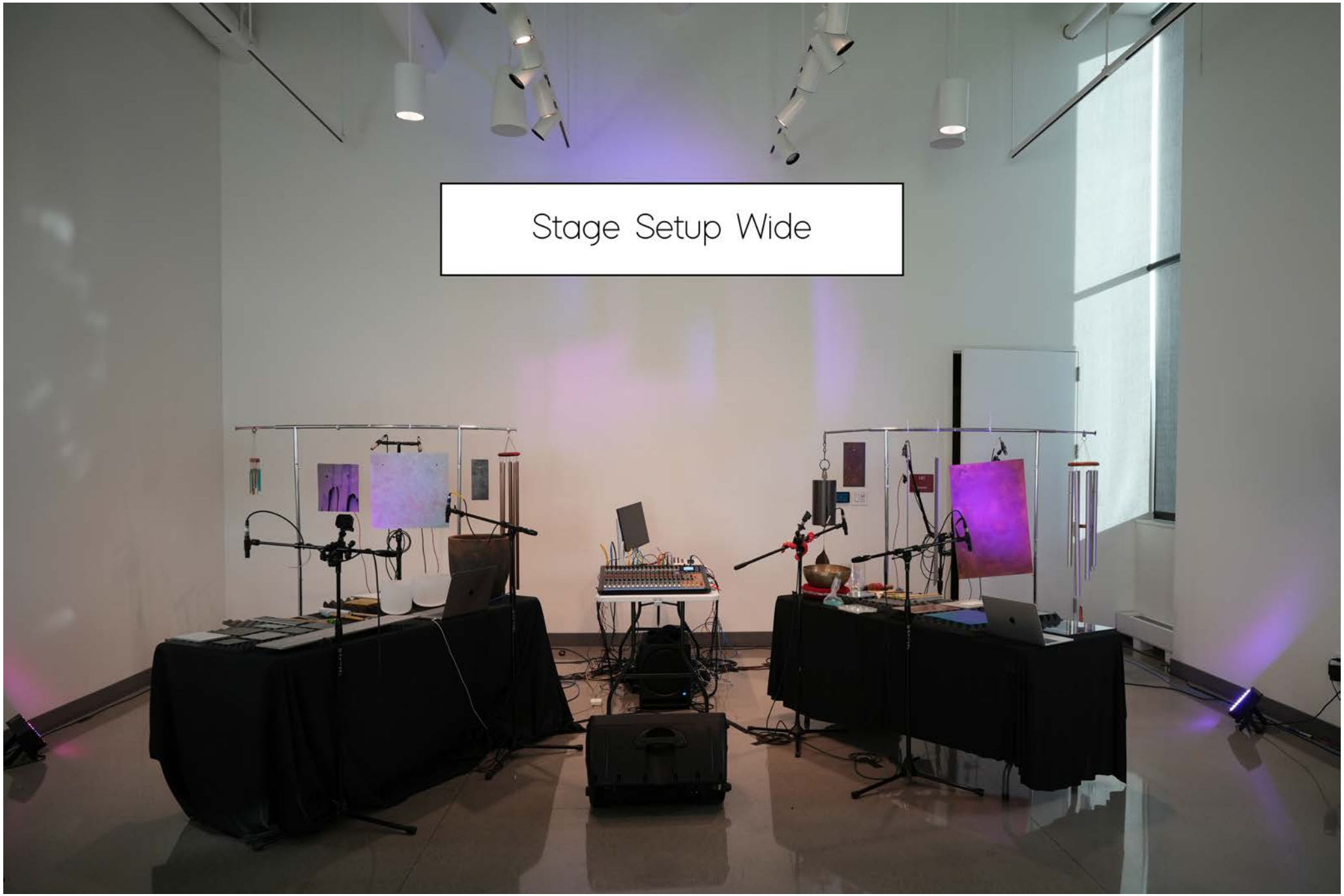
Table 3
Laptop
Tascam 2400
Mics
Rack 1
Presonus
under table
Mics
Rack 2
Table 1
Mics
Table 2
Mics
PA 1
Sub
PA 2
Audience
PA 3
PA 4


Stage Setup Table 1

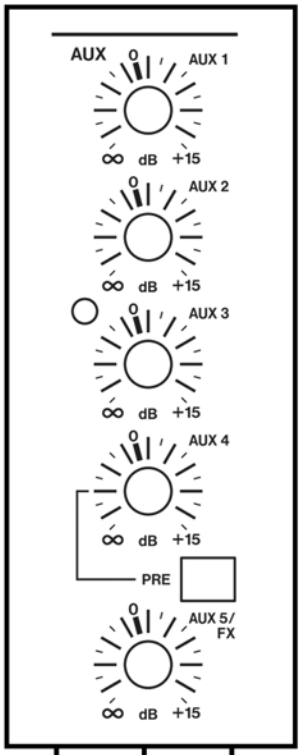
Stage Setup Table 2

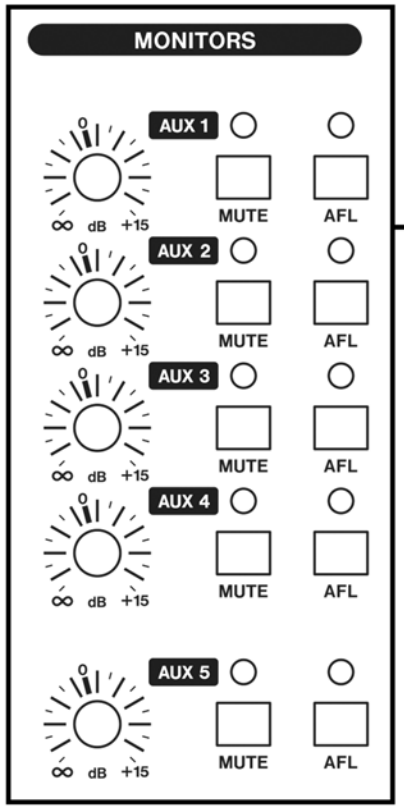





Stage Setup Wide

04 Mixing Board Setup





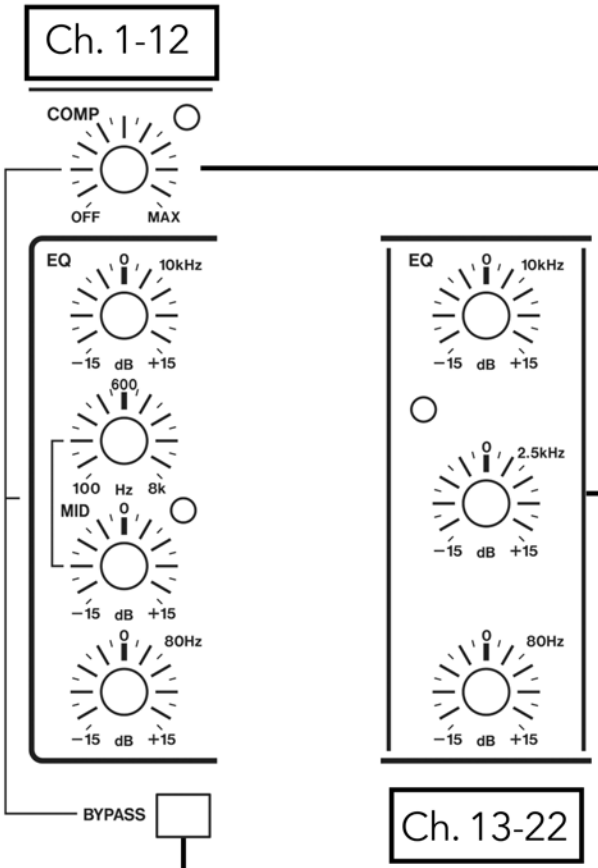
The **AUX** potentiometers in the MONITORS section output signal routed to them to the respective auxillary outs. AUX 5 in this area does not need to be active for signal to reach the on-board FX processing unit.

TIP: Routing audio from an **AUX** channel back into itself is a traditional way to create feedback loops for no-input mixing. However, it gives you less control than routing audio via the **INSERT** to NCJ9FI-S Combo XLR/TS/TRS jack trick. Create your sounds in an individual channel strip first, then use the **AUX** channel as a space to furhter color, distort or mix multiple channels.

The **AUX** potentiometers route audio from the channel strips out to a designated auxillary channel.

AUX chs. 1-3 on the ch. strip are pre-fader. **AUX** chs. 4 & 5 are post-fader. **AUX 5** also sends audio to the onboard FX processor.

AUX 4 has a **PRE** switch. When it is activated, **AUX 4** is switched from post- to pre-fader.

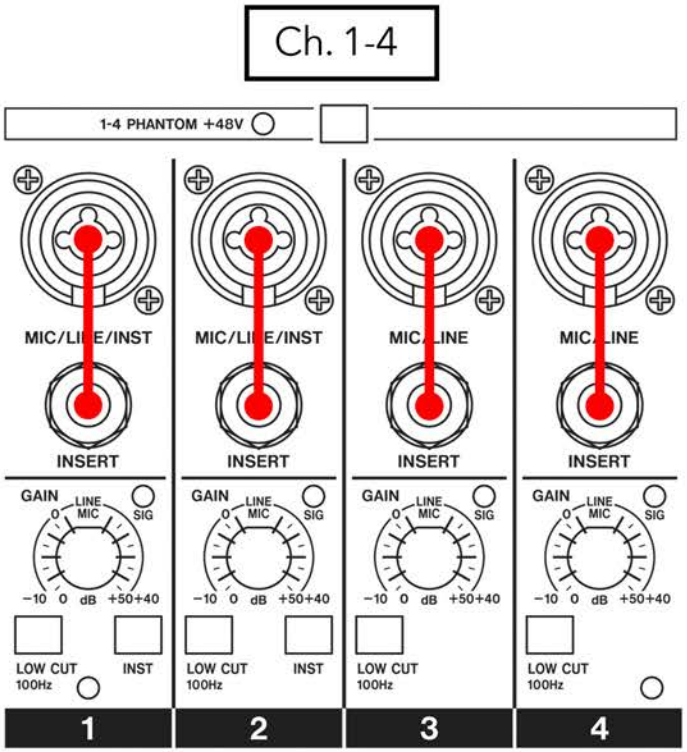


The **COMP** potentiometer can be used to control the channel compressor. The compressor is an effective means to control the color, quality, and distortion of a fedback signal. For instance, it tempers the aggression of impulse trains generated when using a channel as a no-input mixing signal.

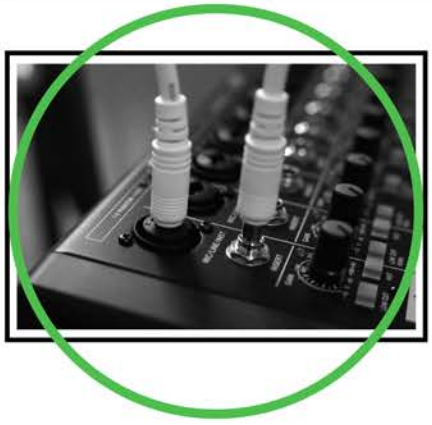
The **EQ** potentiometers are very useful for shaping the timbre and harmonic information generated by an individual channel in no-input mixing mode. On the TASCAM-2400, the first 12 channels offer users the ability to control the cutoff frequency of the bandpass/stop **MID** filter, in addition to how much the filter attenuates or amplifies the range. The top potentiometer controls the cutoff frequency, while the bottom controls the gain. Channels 13-on offer a **MID** bandpass filter at a fixed 2.5 kHz.

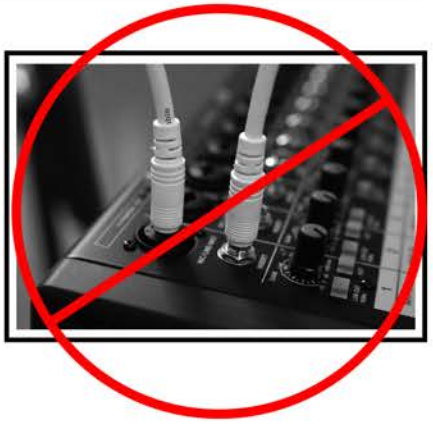
The **BYPASS** switch bypasses the **EQ** portion of the channel strip, allowing users to quickly turn filtering on and off.

NIMB CHANNEL 1-4 SET UP

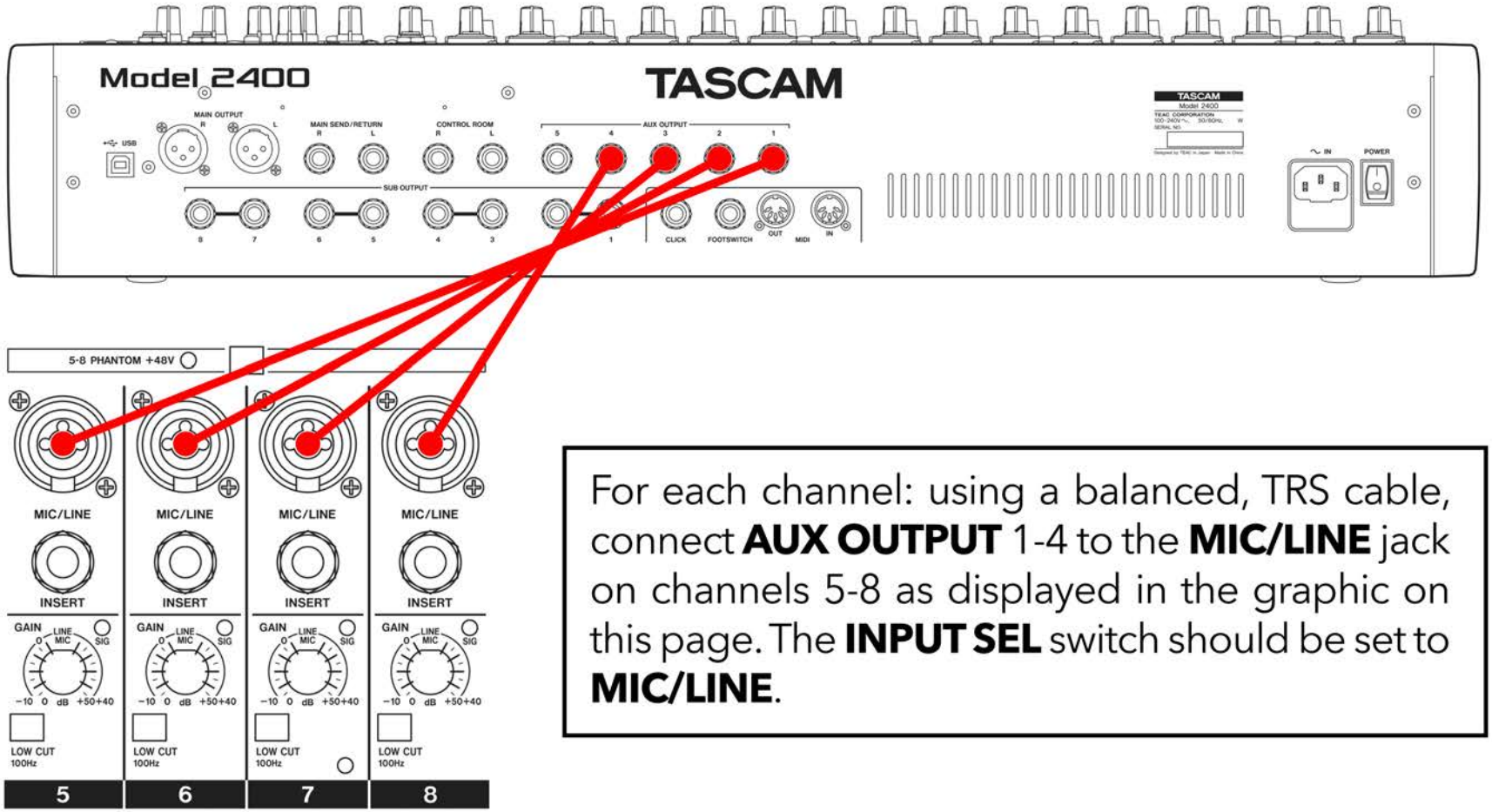


For each channel: using a balanced, TRS cable, insert one end completely into the hybrid XLR-1/4" stereo jack labled **MIC/LINE/INST** or **MIC/LINE**. Insert the other end of the TRS cable half-way into the **INSERT** jack of the same channel. See images below for an example of what to do and what not to do on a single channel. The TRS cable will "click" once when inserted properly, connecting only to the output of the **INSERT** jack. The **INPUT SEL** switch should be set to **MIC/LINE**.



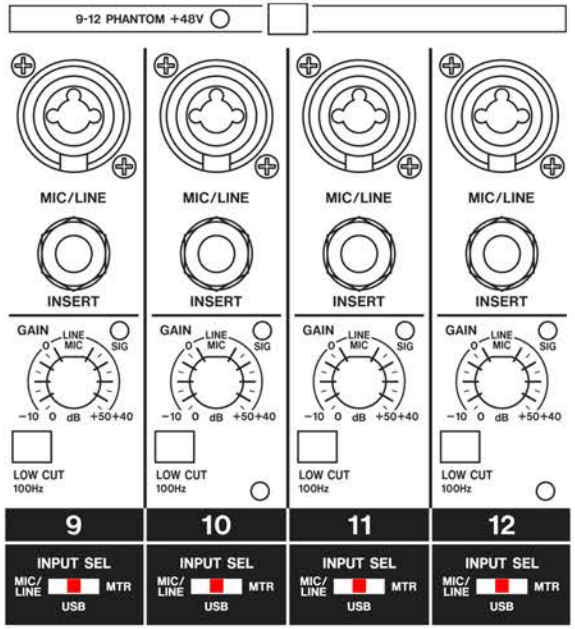


NIMB CHANNEL 5-8 SET UP



For each channel: using a balanced, TRS cable, connect **AUX OUTPUT** 1-4 to the **MIC/LINE** jack on channels 5-8 as displayed in the graphic on this page. The **INPUT SEL** switch should be set to **MIC/LINE**.

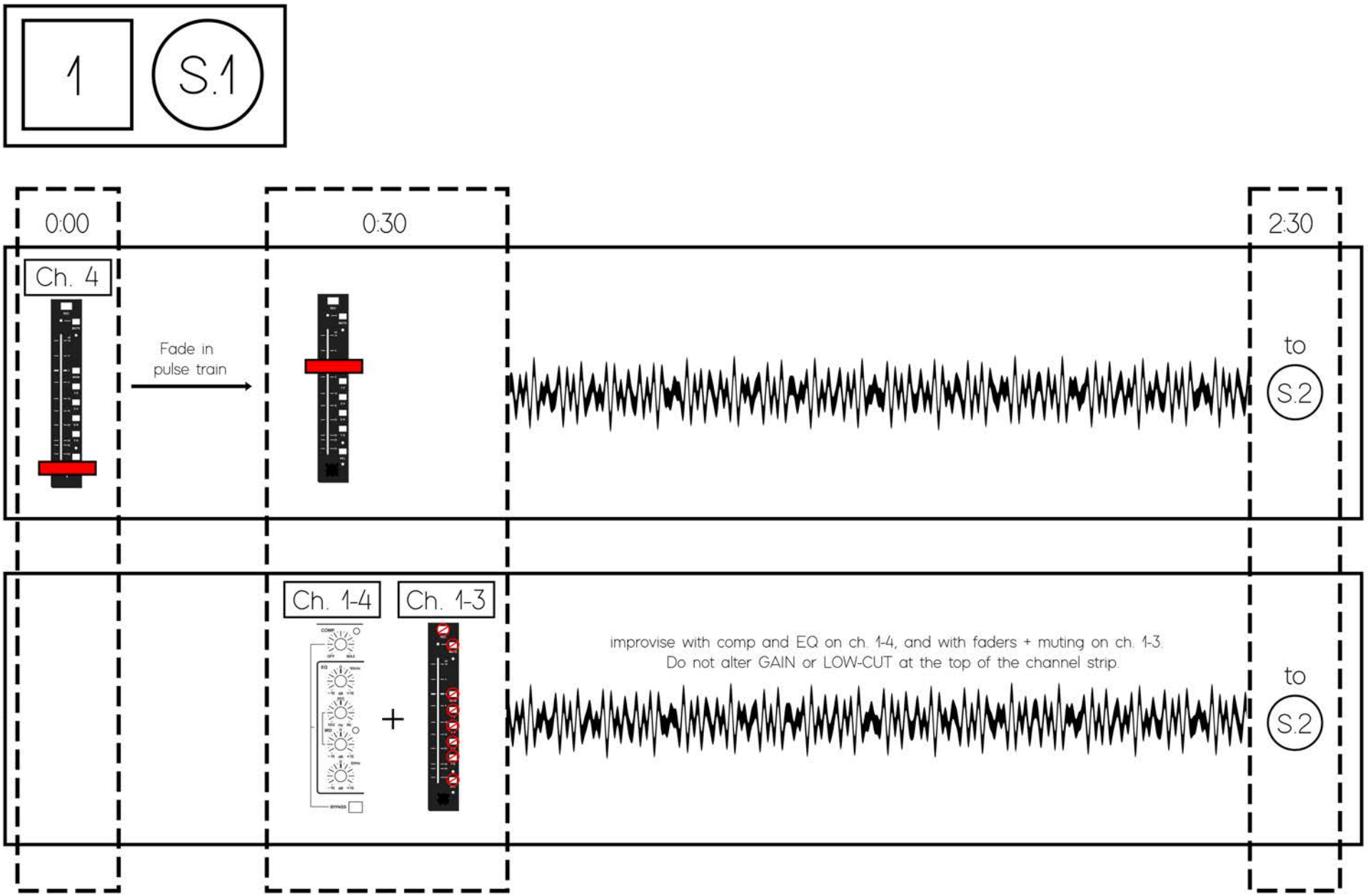
NIMB CHANNEL 9-12 SET UP



For each channel: set the **INPUT SEL** switch to **USB**. These channels wil be reserved for sends from the computer managed by the performer on the electronics part. The computer can be installed with the DAW, digital instruments, and effects plugins of the performers' choice and need.

05 Reticulations

I. Glass


1
S.1
0:00
0:30
2:30
E
Ch. 4
Fade in
pulse train
to
S.2
A
Ch. 1-4
Ch. 1-3
+
improvise with comp and EQ on ch. 1-4, and with faders + muting on ch. 1-3.
Do not alter GAIN or LOW-CUT at the top of the channel strip.
to
S.2

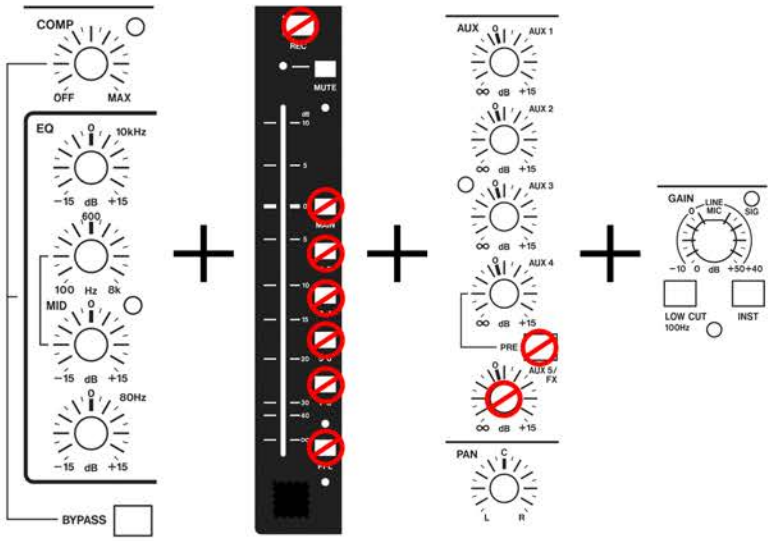
1

S.2

2:30

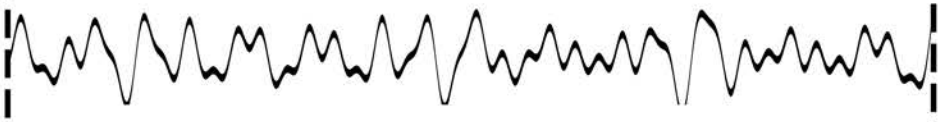
5:00

Ch. 1-8



A

Improvise, building in complexity using the NIMB. To do so, begin introducing the auxilliary feedback channels (ch. 5-8) one by one by activating the auxilliary sends in the AUX section of the channel strip and turning up the AUX outputs in the MONITORS section of the mixing board. All the while, players should still be improvising using ch. 1-4, slowly shaping the sound across the next 2:30. Players may now begin re-tuning the oscillators and switching on and off the LOW-CUT filter as needed.



to

N

As a means of organizing how sound is shaped, think of ch. 1-4 as signal sources, and ch. 5-8 as channels to distort and re-color. They can also serve as signal sources when necessary.

1

2.1

0:00

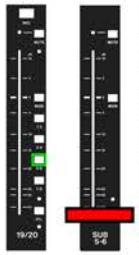
0:15

2:30

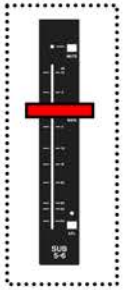
E

Ch. 19/20

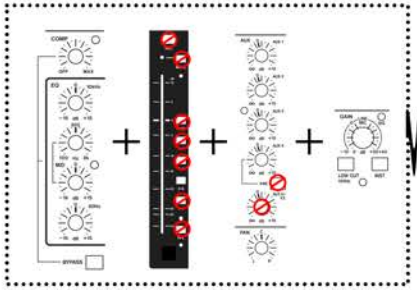
Activate SUB 5-6



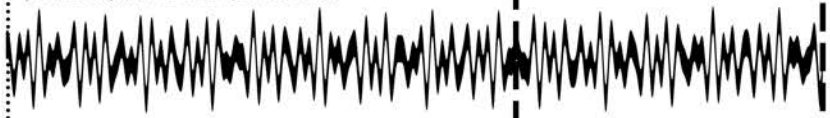
Fade up SUB 5-6



Ch. 1-8, 19/20, SUB 5-6



Slowly improvise with Ch. 1-8 until they are completely faded out, or muted. During this process of diminution, take the opportunity intermittently to route the sound of the NIMB into the tactile exciter alongside the fedback contact mic, always paying attention to the musicality of the moment. At the same time, control the faders, and gain on Ch. 19/20 (contact mics) as well as SUB 5-6 in coordination with the percussionist on the node. Use panning on Ch. 19/20 to contol whether sound is output to the glass or copper sheet. Follow the performer's exploration for which surface to activate.

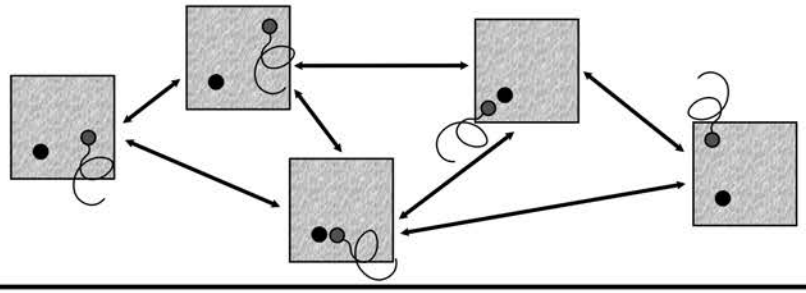


to 2.2

P

pick up R1 contact mic

improvise with feedback from the contact mic's proximity to the tactile exciter and the sound of the contact mic on the texture of the copper plate's patina/glass' ripples and the rumble of the plate's/glass' activation



to 2.2

1

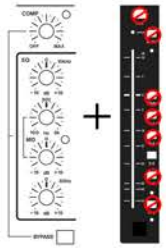
2.2

2:30

4:00

E

19/20



Continue improvising with the volume fader, compression and EQ on channels 19/20. Pan as necessary for the location of the performer. You should not need to alter SUB 5-6 at this point until you are ready to fade out the section. If you'd like, introduce FX processing via your computer and the dedicated Ch. 21/22 outs.

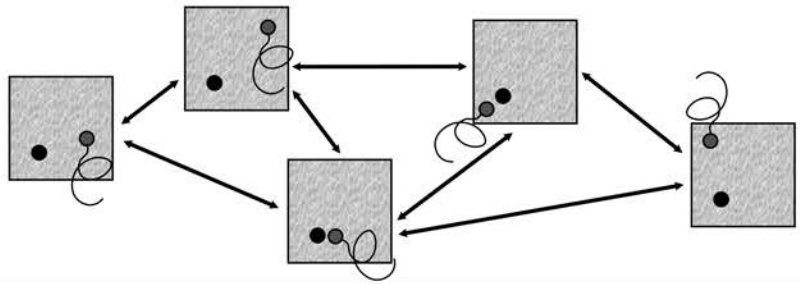
Transition to the next section gradually

to

N

P

Continue improvising with feedback from the contact mic and its proximity to the tactile exciter as well as the sound of the contact mic on the texture of the copper plate's patina or the glass' ribbing and the rumble of the plate's/glass' activation.



Transition to the next section gradually. If you need to break away from your station, do so asynchronously with the other percussionist.

to

N

1

3.1

0:00

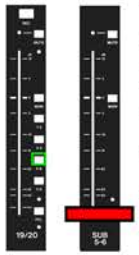
0:15

2:30

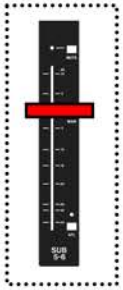
E

Ch. 19/20

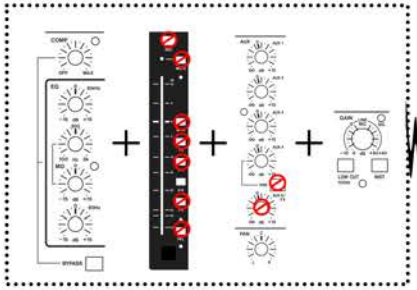
Activate SUB 5-6



Fade up SUB 5-6



Ch. 1-8, 19/20, SUB 5-6

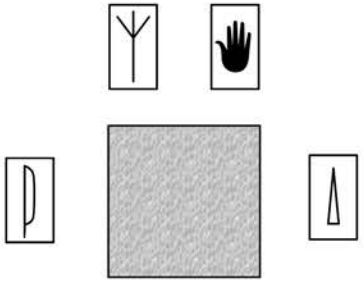


Slowly improvise with Ch. 1-8 until they are completely faded out, or muted. During this process of diminution, take the opportunity intermittently to route the sound of the NIMB into the tactile exciter alongside the fedback contact mic, always paying attention to the musicality of the moment. At the same time, control the faders, and gain on Ch. 19/20 (contact mics) as well as SUB 5-6 in coordination with the percussionist on the node. Use panning on Ch. 19/20 to contol whether sound is output to the glass or copper sheet. Follow the performer's exploration for which surface to activate.

to 3.2

P

Move asynchronously to other percussionist from your prior node's station to R1



Improvise with bass bow, brushs, hands, drumsticks, or any combination of the above on the suspended copper plate and/or stained glass. React to and shape the sound of the material based on the improvisation of the other percussionist as they move the contact microphone across the back of the material and closer and further from the tactile exciter attached to the other side of the plate. Do not forget to bend the copper plate if that is the instrument you are at. Be careful with the stained glass..

to 3.2

1

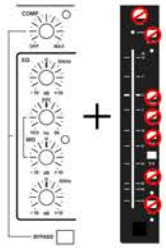
3.2

2:30

4:00

E

19/20



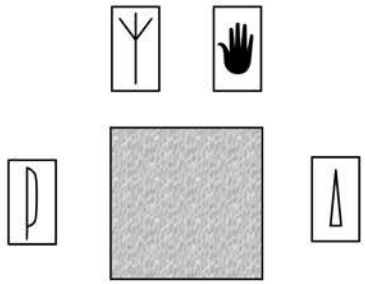
Continue improvising with the volume fader, compression and EQ on channels 19/20. Pan as necessary for the location of the performer. You should not need to alter SUB 5-6 at this point until you are ready to fade out the section. If you'd like, introduce FX processing via your computer and the dedicated Ch. 21/22 outs.

Transition to the next section gradually

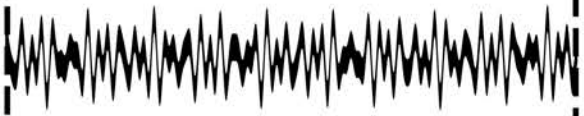
to

N

P



Continue improvising as before: bass bow, brushs, hands, drumsticks, or any combination of the above on the suspended copper plate and/or stained glass. React to and shape the sound of the material based on the improvisation of the other percussionist as they move the contact microphone across the back of the material and closer and further from the tactile exciter attached to the other side of the plate. Do not forget to bend the copper plate if that is the instrument you are at. Be careful with the stained glass..



Transition to the next section gradually. If you need to break away from your station, do so asynchronously with the other percussionist.

to

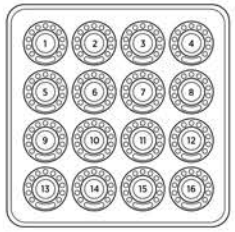
N

1

4.1

0:00

E



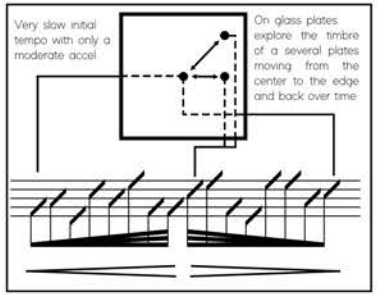
Using your MIDI controlller and Ableton Live, apply and control delays with a minimal amount of feedback and reverbs with a medium decay length to the percussionists' sound pallete. The effect of the live electronics should be that where the other performer's sound is bathed in the effects, but not swimming in them (save that for later in the piece). Application of filtering, formant shaping, and resonators after the reverb and delay in the signal chain is also welcome in tasteful amounts. Any control parameters in these effects are spaces to shape the sonic output.

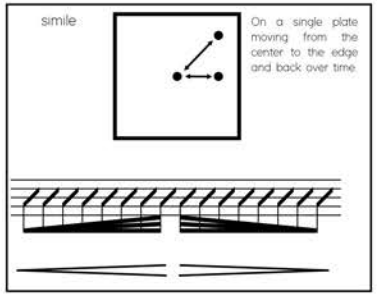
with

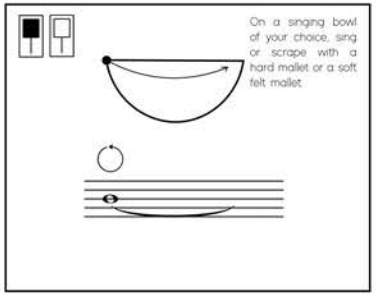
4.2

P

Mix and match beaters and mallets to explore textures on the glass plates and singing bowls (even ceramic or metalic). Be careful if using a hard implement on the glass. Introduce struck metals and ceramics rarely and sparingly. Below are merely examples of fragments to explore and improvise with. Always react to the other percussionist and the electronics.







with

4.2

1

4.2

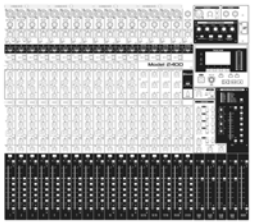
(0:00)

4:00

E

with

4.1



Using the NIMB, shape the sound of Ch. 1-4 using the auxilliary feedback channels set up in Ch. 5-8 during 1.S. You should have some nice polyrhythmic textures coming out of one or more of Ch. 5-8. If not, gradually construct the polyphonic texture by feeding two impulse trains with different BPM into an auxillary channel, along with two pitched oscillators. The distortion from the impulse trains will create and interesting rhythm. Once you have done so, send the NIMB out the on-board FX processor and explore the modulating parameters. You can react and interact to the percussionists using mute-unmute techniques, or turning on and off the low-cut filter in the GAIN strip. Alternate between working the NIMB and the digital effects processing of the percussionists.

to

N

P

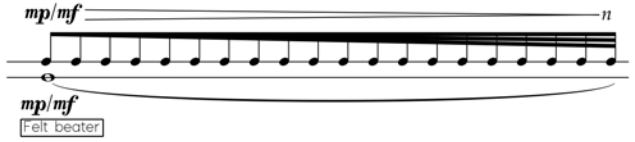
with

4.1

Mix and match beaters and mallets to explore textures on the glass plates and singing bowls (even ceramic or metalic). Be careful if using a hard implement on the glass. Introduce struck metals and ceramics rarely and sparingly. Below are merely examples of fragments to exlpore and improvise with. Always react to the other percussionist and the electronics.

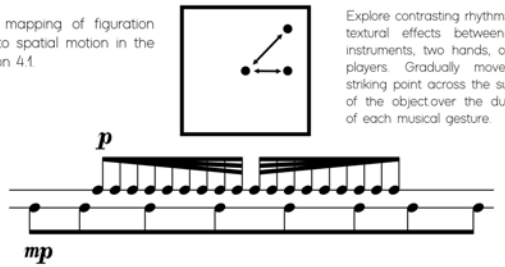
Loosely rest a drumstick or other implement against the side of a singing bowl. Metal bowls are best. Strike the bowl with a soft felt mallet and let the vibrations of the bowl agitate the stick.

Drum stick on s.b. lip



Felt beater

simile to mapping of figuration notation to spatial motion in the first cell on 4.1.



Explore contrasting rhythms and textural effects between two instruments, two hands, or two players. Gradually move the striking point across the surface of the object over the duration of each musical gesture.

to

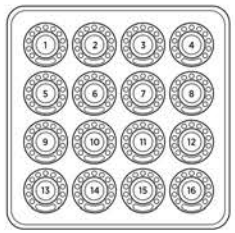
N

1

5.1

0:00

E



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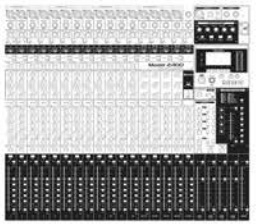
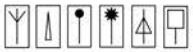


Use the NIMB to introduce a modulated, yet polyrhythmic harmonic texture by running two impulse trains and the oscillators you have set up into an AUX channel of your choice (if you have not already). Shape the harmonic world to your liking. If not already, improvise with mute-unmute techniques. Route audio through the mixer's on-board FX processers if it is not already.

to

5.2

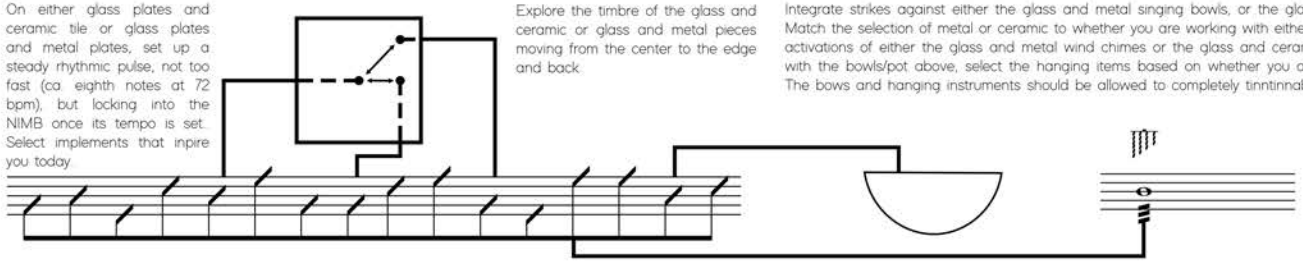
P



On either glass plates and ceramic tile or glass plates and metal plates, set up a steady rhythmic pulse, not too fast (ca. eighth notes at 72 bpm), but locking into the NIMB once its tempo is set. Select implements that inpire you today.

Explore the timbre of the glass and ceramic or glass and metal pieces moving from the center to the edge and back.

Integrate strikes against either the glass and metal singing bowls, or the glass and ceramic pot as reach allows. Match the selection of metal or ceramic to whether you are working with either metal or ceramics. Further integrate activations of either the glass and metal wind chimes or the glass and ceramic hanging tiles as reach allows. As with the bowls/pot above, select the hanging items based on whether you are working wither metal or ceramics. The bows and hanging instruments should be allowed to completely tinntinnabulate before being struck again.



to

5.2

1

5.2

2:00

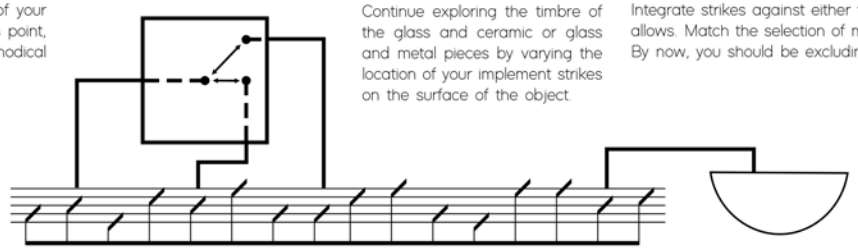
E

SIMILE

to 5.3

P

Continue the pace of your eighth notes. At this point, it should be a methodical steady stream.



Continue exploring the timbre of the glass and ceramic or glass and metal pieces by varying the location of your implement strikes on the surface of the object.

Integrate strikes against either the glass and metal singing bowls, or the glass and ceramic pot as reach allows. Match the selection of metal or ceramic to whether you are working with either metal or ceramics. By now, you should be excluding hanging items entirely.

to 5.3

1

5.3

4:00

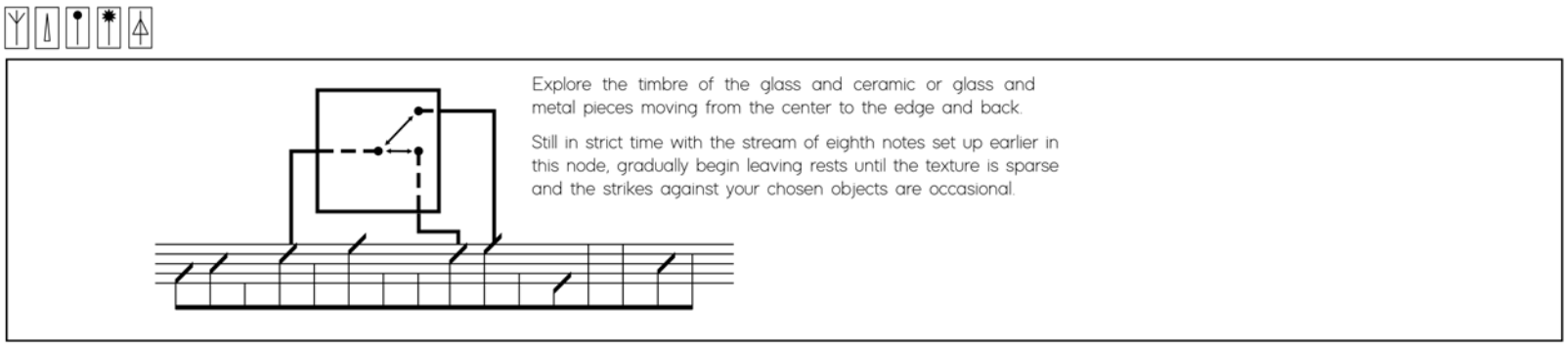
E

SIMILE

to

N

P



Explore the timbre of the glass and ceramic or glass and metal pieces moving from the center to the edge and back.

Still in strict time with the stream of eighth notes set up earlier in this node, gradually begin leaving rests until the texture is sparse and the strikes against your chosen objects are occasional.

to

N

1

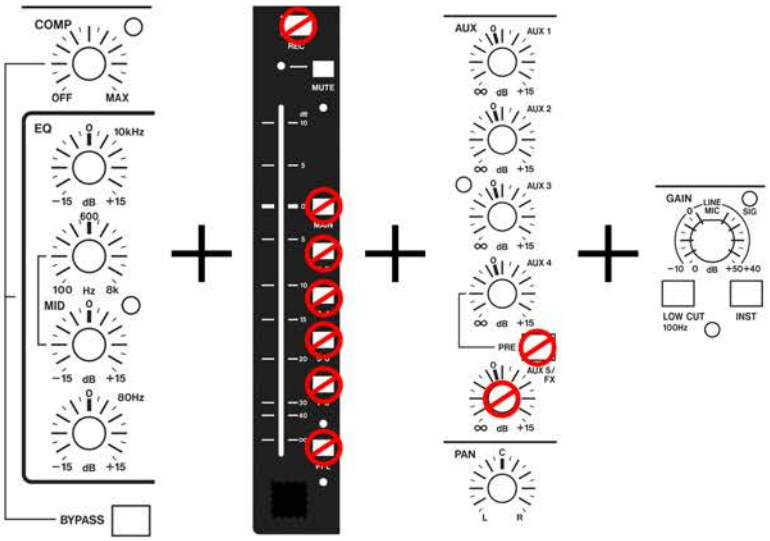
E.1

0:00

2:00

Ch. 1-8

A



Improvise, drawing down complexity in the NIMB.

to

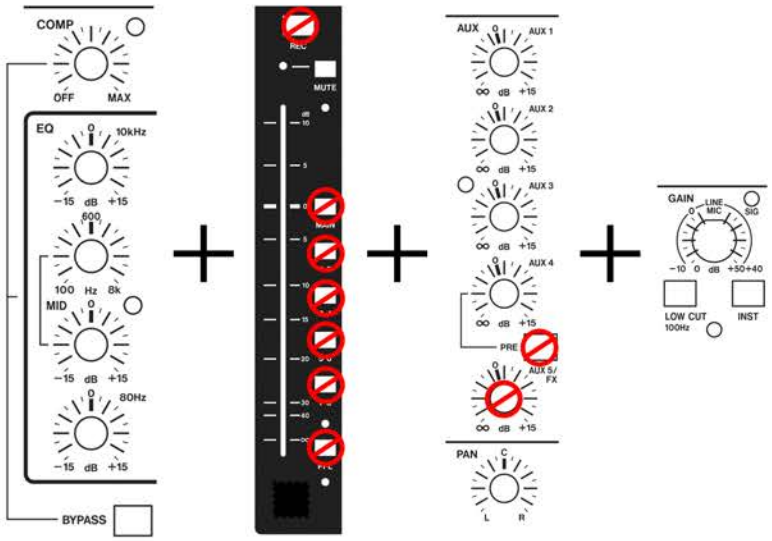
E.2

1 E.2

2:00

4:00

Ch. 1-8



A

Continue improvising so that the no-input mixing board's musical texture thins out to be almost a singly impulse train. One percussionist should peel away to the copper plate that begins the 2nd movement of the work and pick up the cortado MKII contact microphone. The other percussionist should continue to manipulate the NIMB while the electronics performer sets up the 2nd movement.

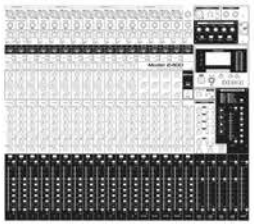
to 2.S.1

II. Ceramic

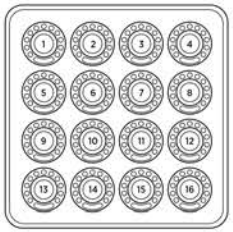
2 S.1

0:00 2:30

E



The NIMB board's impulse trains should be positively crackling at the start of this movement. At this point, any pitch-base materials from the oscillator channels should be on their way out of the music texture after the climax at the end of 1.E. Once the percussionists have peeled off, turn your attention to controlling the effects processors on the percussionist inputs, as well as introducing the drones generated by Ableton Live.

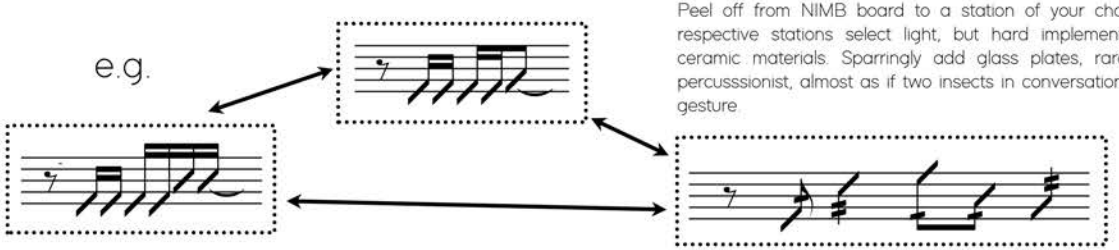


Using your MIDI controlller and Ableton Live, apply and control delays with a medium amount of feedback and reverbs with a long decay length to the percussionists' sound pallete. The effect of the live electronics should be that where the other performer's sound is positively DRIPPING.. Application of filtering, formant shaping, and resonators after the reverb and delay in the signal chain is also welcome in tasteful amounts. Any control parameters in these effects are spaces to shape the sonic output

to S.2

P

e.g.



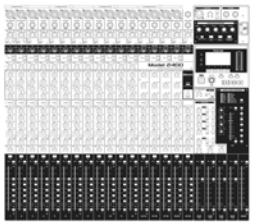
Peel off from NIMB board to a station of your choice. Once both percussionists are at their respective stations select light, but hard implements. Improvise short, skittering gestures on ceramic materials. Sparringly add glass plates, rarely add metal plates. React to the other percusssionist, almost as if two insects in conversation. Each musical utterance should be its own gesture

to S.2

2 S.2

2:30 5:00

E

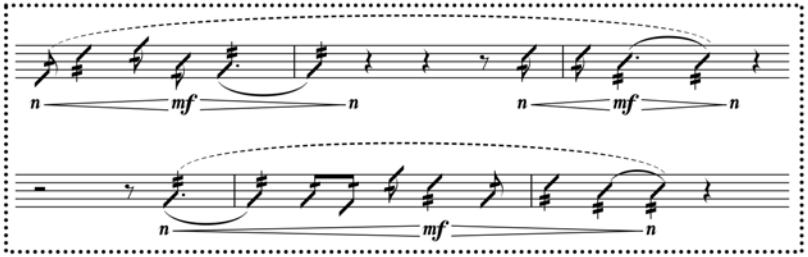


Begin re-introducing the pitch-based oscillators. "Sing" sparsely in reaction to the percussionist's ceramic skittering using mute-un-mute techniques and by adjusting the gain to manipulate the pitch content of the board. Leave the polyrhythmic impulse train set up from 1.E crackling. By the end of this section, the electronics part should begin making sonic space for the percussionists. Therefore these last two minutes of the section should take on an ABA form, with the B section combrised of NIMB oscillators singing in response to percussionist gestures, and the the A sections focusing on the texture of the drones and impulse trains.

to N

P

Begin expanding gestures and overlapping them in swells with your percussion partner, while still reacting and responding in your improvisation. As you progress towards the end of this section, begin introducing pointillistic sounds, and rarely sounds of scraping against the rough texture of the ceramics with your implement.

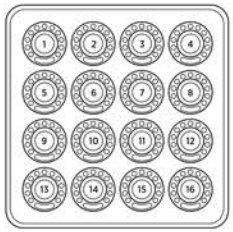


to N

2 2.1

0:00

E



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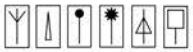
with 2.2

P



Improvise pointilistic gestures on ceramics. Be sparse

Scraping tile with one implement, striking the other pointilistically

The written out gestures here are merely ideas for improvisation. The musical texture during 2.2.1-2.2.2 should be sparse and pointillistic. Freely move among the cells in 2.2.1 and 2.2.2

ricochet

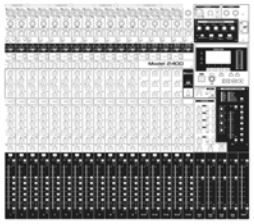
Similar to hyōshigi playing style

with 2.2

2 2.2

E

with 2.1



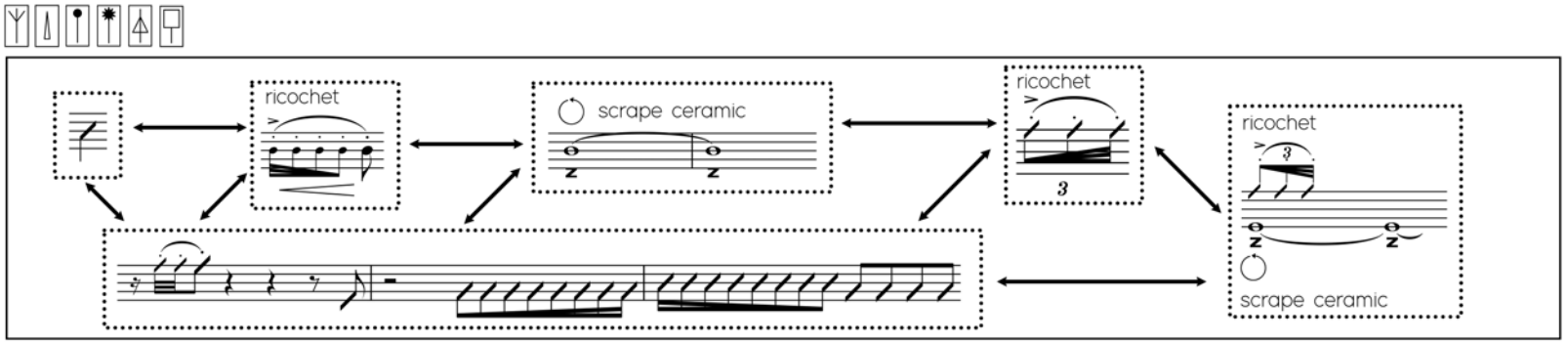
Use the NIMB's oscillator channels, the faders, and the mute button to to generate short blips of pitch-based material every now and again. Set the impulse trains to be quite quiet, perhaps even routed through auxilliart channels and with the high-frequency information boosted so that there is a soft crackle of texture.

Open channels 9-12 and run low-frequency drones from the digital instruments in Live. Modulate them using your midi controller as needed.

with 2.3

P

with 2.1



with 2.3

2 2.3

4:00

E

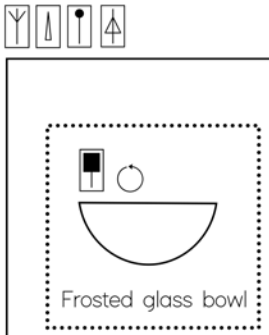
with 2.2

See 2.1 and 2.2

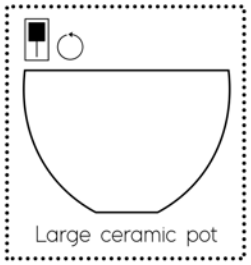
to N

P

with 2.2



or



Using a hard singing bowl beater (likely wood), scrape around the sides of the large ceramic pot or the forsted glass singing bowl. As you activate the bowl with the hard singing bowl beater, use a light, but hard implement to generate small pointillistic textures that abound with high frequency material.

A note about 2.2.1-2.2.3: Freely move between stations during this section to find the right sound in partnership with the other percussionist and the electronics part.

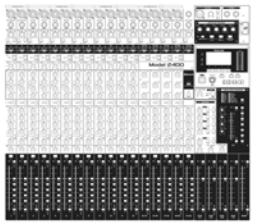
to N

2

3.1

0:00

E



Using the NIMB, fade out any impulse trains slowly over time until you arrive at 3.2. If not already using, introduce low, slowly developing drones using Ch. 9-12.

to 3.2

P

Frosted glass bowl

or

Large ceramic pot

Using a hard singing bowl beater (likely wood), scrape around the sides of the large ceramic pot or the forsted glass singing bowl. As you activate the bowl with the hard singing bowl beater, introduce short pointillistic textures that abound with high frequency information. This density of "points" should progress from a higher state to a lower state as you move to 3.2.

Ceramic tiles and plates

Using hard and thin implements, slowly scrape the rough side of a ceramic tile in circles. You should get a grating sound. Introduce short pointillistic textures that abound with high frequency information. This density of "points" should progress from a higher state to a lower state as you move to 3.2.

to 3.2

2

3.2

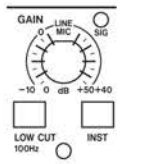
2:00

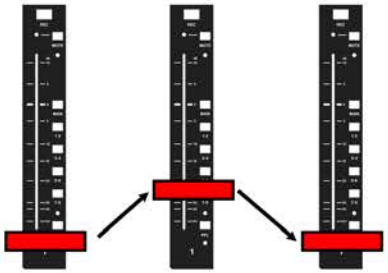
4:00

E

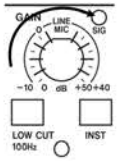
Once the impulse trains are out and the percussionist has settled into a sparse scraping texture, set an oscillator using the NIMB and slowly fade it in and out. Change pitches, and then repeat this process. The slow introduction of this pitch material should sound like and overtone scale emerging from the noise of the scraping texture.

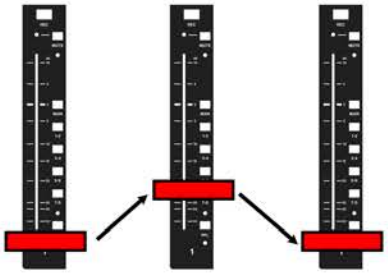
Ch. 1-2





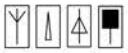
Adjust gain for new freq.





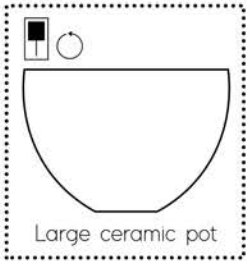
to N

P



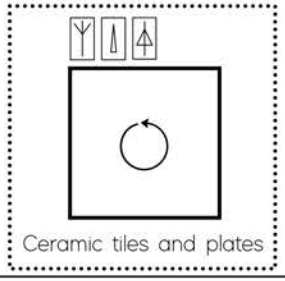
Frosted glass bowl

or



Large ceramic pot

In this section of the node, the percussionists should almost universally be generating a slow texture of scraping sounds. If absolutely necessary to keep the texture interesting, interject with short, single attacks on the bowl with a light, hard implement.



Ceramic tiles and plates

to N

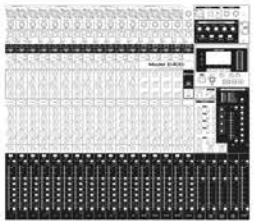
2

4.1

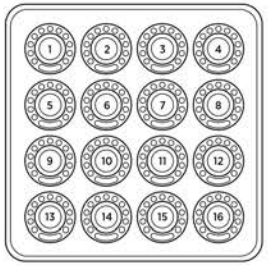
0:00

2:00

E



Fade in and out some, rhythmic, pitch based materials in one of Ch. 5-8 so as to give the percussionists a rhythmic lattice to begin improvising on. As before, this is achieved by routing an impulse train and an oscillator out to the same auxillary channel and the connecting that auxilliary out back into the one of the channel strips with a 1/4" cable.



As this section progresses, leave the NIMB to focus on working with the digital effects processors on this section of rhythmic virtuosity. Prepare effects, or alternatively explore them by adding them to the channel strip in your DAW and then sending them out via Ch. 9-12.

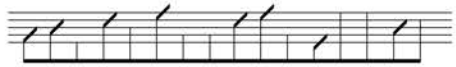
to 4.2

P

Over time, slowly lock into any rhythmic material in the NIMB. Interact and react to the other percussionist's playing.

pointillistic gestures

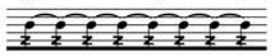
transition to



Convert your pointillistic gestures into a steady stream of eighth notes, with frequent rests.

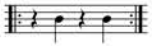
and/or

Cohere into rhythmic scraping



add

Add a steady pulse on the off-beat to your rhythmic scraping with your other hand.



to 4.2

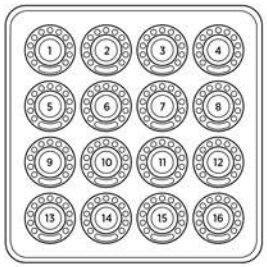
2

4.2

2:00

4:00

E



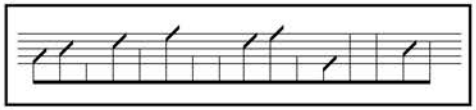
Continue working with the digital effects processors on this section of rhythmic virtuosity. Prepare effects, or alternatively explore them by adding them to the channel strip in your DAW and then sending them out via Ch. 9-12.

For the most part leave the NIMB silent, except for any low drones running out of Ch. 9-12. If it inspires you, feel free to raise and lower a fader in Ch. 5-8 with the impulse train-distorted oscillators that provide a steady pulse.

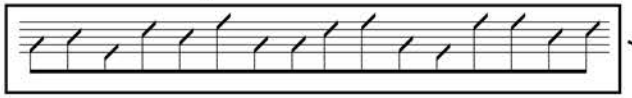
to

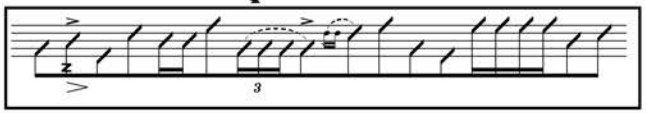
4.3

P



Over the course of 4.2 the stream of rhythmic materials should become more consistent, and then gradually more complicated, with flourishs of virtuosic materials injected into the stream. These flourishs should be in response to any gestures executed by the other percussionist or the electronics part.





By the time the percussionist has reached 4.2, they should be at a quick tempo (ca. 132 BPM) that is proportional to the steady pulse that the rhythmic oscillators from the NIMB have been giving during 4.1. This stream of notes could be subdivided as triplet or duple eighth notes. At the beginning of 4.2, there should still be rests injected in the stream as reflected at the end of 4.1.

to

4.3

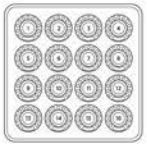
2

4.3

4:00

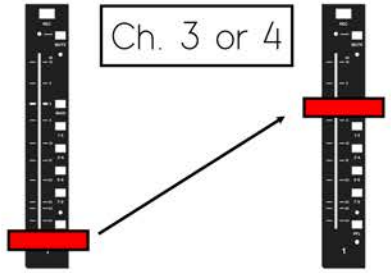
6:00

E



Continue working with the digital effects processors on this section of rhythmic virtuosity. Prepare effects, or alternatively explore them by adding them to the channel strip in your DAW and then sending them out via Ch. 9-12.

By the end of this section, fade up a simple impuse train in Ch. 3 or 4.

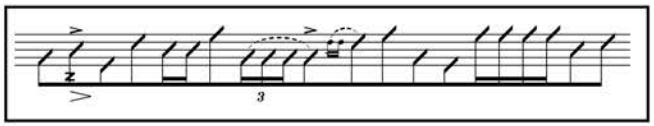


to

N

P

Gradually wind down the stream of virtuosic rhythms, also slowing your tempo over time, until your strikes with implements are sparse.



to

N

III. Metal

3

S.1

0:00

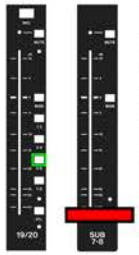
0:30

2:30

E

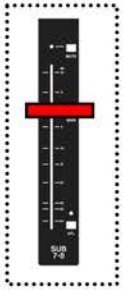
Ch. 19/20

Activate SUB 7-8

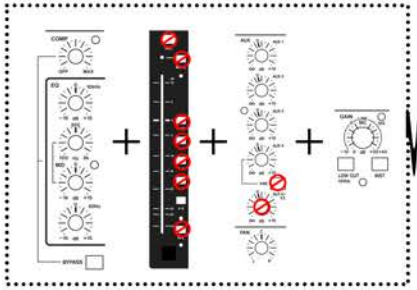


Fade up SUB 7-8

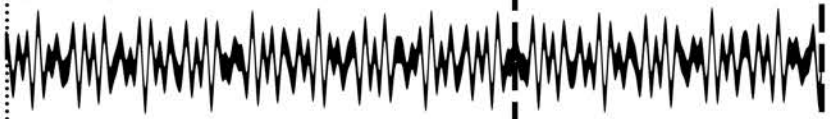
Fade out all but drones in Ch. 9-12



Ch. 19/20, SUB 7-8



Control the faders, and gain on Ch. 19/20 (contact mics) as well as SUB -8 in coordination with the percussionist on the node. Use panning on Ch. 19/20 to contol whether sound is output to the ceramic tile or steel sheet. Follow the performer's exploration for which surface to activate.

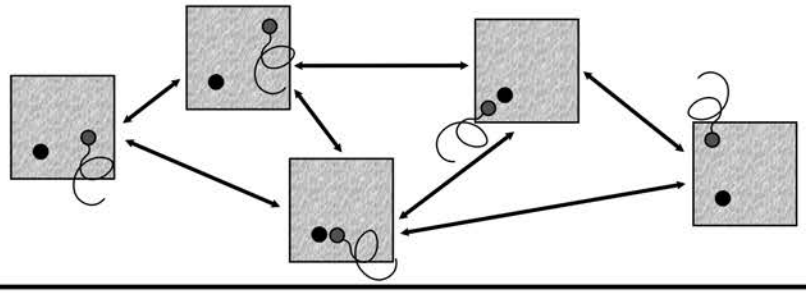


to S.2

P

pick up R2 contact mic

improvise with feedback from the contact mic's proximity to the tactile exciter and the sound of the contact mic on the texture of the steel plate.



to S.2

3

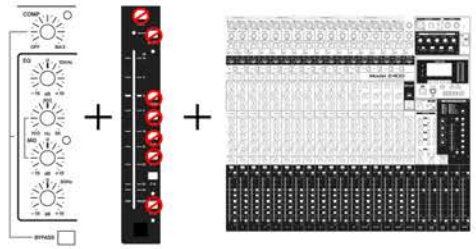
S.2

2:30

5:00

E

19/20



Continue improvising with the volume fader, compression and EQ on channels 19/20. Pan as necessary for the location of the performer. You should not need to alter SUB 7-8 at this point until you are ready to fade out the section. If you'd like, introduce FX processing via your computer and the dedicated Ch. 21/22 outs. Also slowly introduce an impulse train-modulated set of oscillators using the auxilliary channel routing technique. The rhythm of this musical texture should not be polyrhythmic, but regular, and should be positively buzzy with distortion.

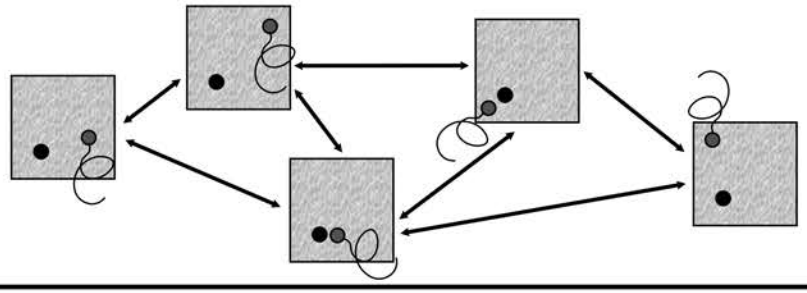
Transition to the next section gradually

to

N

P

Continue improvising with feedback from the contact mic and its proximity to the tactile exciter as well as the sound of the contact mic on the texture of the steel plate or ceramic tile and the rumble of the tile/plate's activation.



Transition to the next section gradually. If you need to break away from your station, do so asynchronously with the other percussionist.

to

N

3

3.1

0:00

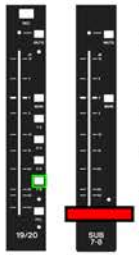
0:30

2:30

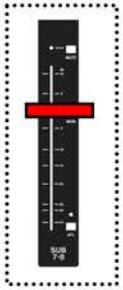
E

Ch. 19/20

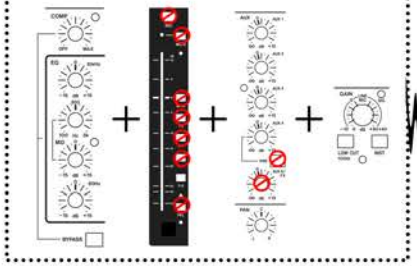
Activate SUB 7-8



Fade up SUB 5-6



Ch. 19/20, SUB 7-8

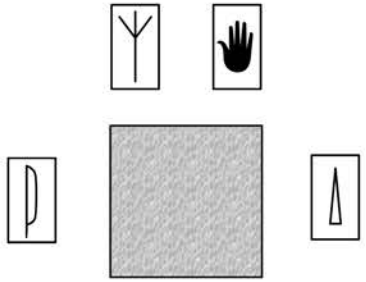


Control the faders, and gain on Ch. 19/20 (contact mics) as well as SUB -8 in coordination with the percussionist on the node. Use panning on Ch. 19/20 to contol whether sound is output to the ceramic tile or steel sheet. Follow the performer's exploration for which surface to activate

to 3.b2

P

Move asynchronously to other percussionist from your prior node's station to R2



Improvise with bass bow, brushs, hands, drumsticks, or any combination of the above on the suspended steel plate or ceramic tile. React to and shape the sound of the material based on the improvisation of the other percussionist as they move the contact microphone across the back of the material and closer and further from the tactile exciter attached to the other side of the plate. Do not forget to bend the steel plate if that is the instrument you are at.

to 3.b2

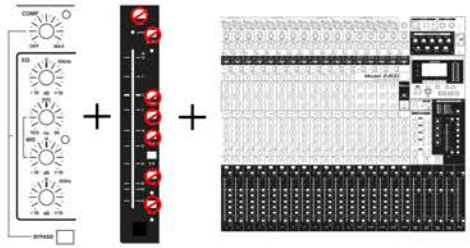
3 | 3.2

2:30

5:00

E

19/20



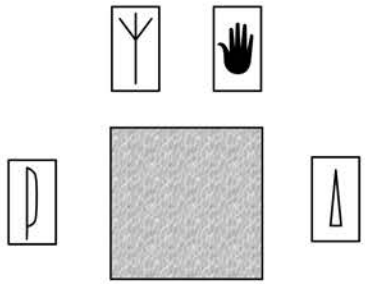
Continue improvising with the volume fader, compression and EQ on channels 19/20. Pan as necessary for the location of the performer. You should not need to alter SUB 7-8 at this point until you are ready to fade out the section. If you'd like, introduce FX processing via your computer and the dedicated Ch. 21/22 outs. Also slowly introduce an impulse train-modulated set of oscillators using the auxilliary channel routing technique. The rhythm of this musical texture should not be polyrhythmic, but regular, and should be positively buzzy with distortion.

Transition to the next section gradually

to

N

P



Continue improvising as before: bass bow, brushs, hands, drumsticks, or any combination of the above on the suspended copper plate and/or stained glass. React to and shape the sound of the material based on the improvisation of the other percussionist as they move the contact microphone across the back of the material and closer and further from the tactile exciter attached to the other side of the plate. Do not forget to bend the steel plate if that is the instrument you are at.

Transition to the next section gradually. If you need to break away from your station, do so asynchronously with the other percussionist.

to

N

3

4.1

0:00

2:00

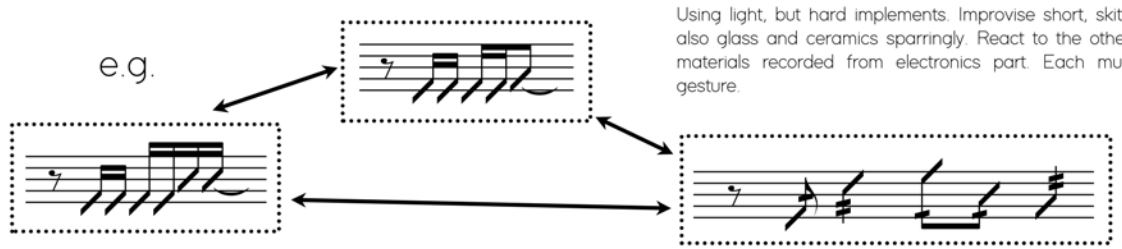
E

Using a granulator, improvise with materials that you have recorded over the course of the work

to 4.2

P

e.g.



Using light, but hard implements. Improvise short, skittering gestures on metal plates, but also glass and ceramics sparringly. React to the other percusssionist and the granulated materials recorded from electronics part. Each musical utterance should be its own gesture.

to 4.2

3

4.2

2:00

3:00

E

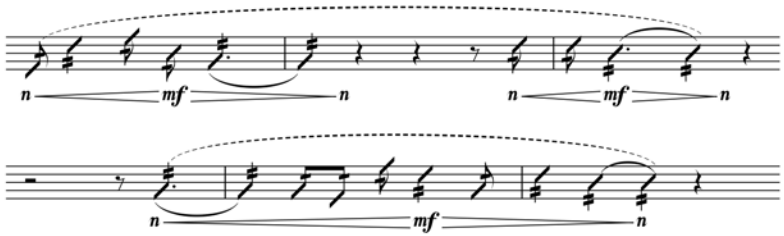
Using a granulator, improvise with materials that you have recorded over the course of the work. Increase the chaos of the musical texture.

to

N

P

Begin expanding gestures and overlapping them in swells with your percussion partner, while still reacting and responding in your improvisation. As you progress towards the end of this node, begin striking the suspended bell plates, and metal windchimes.



to

N

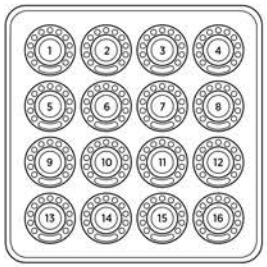
3

4.2

2:00

4:00

E

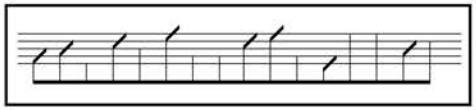


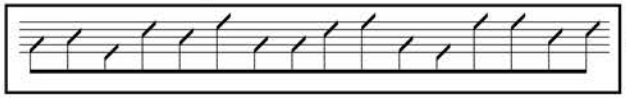
Continue working with the digital effects processors on this section of rhythmic virtuosity. Prepare effects, or alternatively explore them by adding them to the channel strip in your DAW and then sending them out via Ch. 9-12.

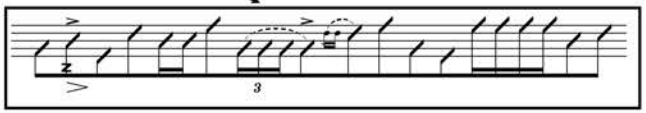
For the most part leave the NIMB silent, except for any low drones running out of Ch. 9-12. If it inspires you, feel free to raise and lower a fader in Ch. 5-8 with the impulse train-distorted oscillators that provide a steady pulse.

to 4.3

P







Over the course of 4.2 the stream of rhythmic materials should become more consistent, and then gradually more complicated, with flourishs of virtuosic materials injected into the stream. These flourishs should be in response to any gestures executed by the other percussionist or the electronics part.

By the time the percussionist has reached 4.2, they should be at a quick tempo (ca. 132 BPM) that is proportional to the steady pulse that the rhythmic oscillators from the NIMB have been giving during 4.1. This stream of notes could be subdivided as triplet or duple eighth notes. At the beginning of 4.2, there should still be rests injected in the stream as reflected at the end of 4.1.

to 4.3

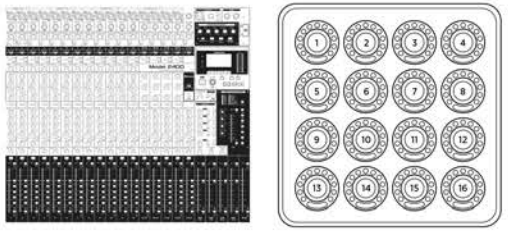
3

5.2

2:00

4:00

E



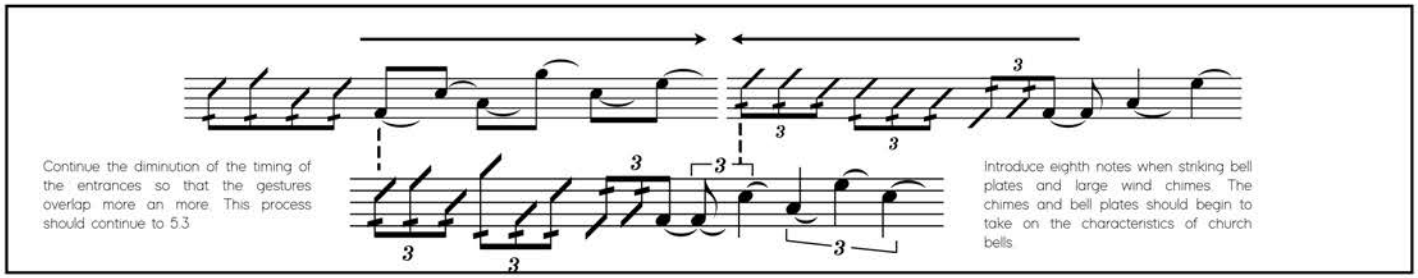
Continue increasing chaos

Increase the harmonic rhythm in addition to the harmonic motion

to 5.3

P

Performers, over the course of 3.5.2 should continue the call and response figuration established in 3.5.1, where when using implements that evoke the greatest amount of timbral variation, the percussionists execute a run of 16ths across mostly metals, but also glass and ceramics. At the end of the run, the percussionist should land on a sequence of steady strikes against the hung, metal bell plates, or the body of an individual chime on the wind chimes. Over the course of 3.5.2 the displacement of the call and response should contract so that the players begin interjecting their entrances more and more as time progresses.

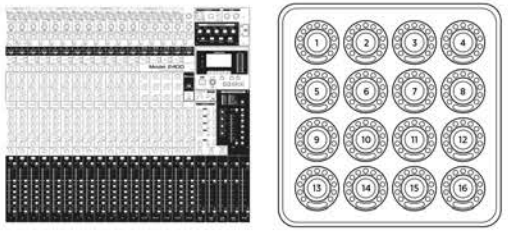


to 5.3

3 | 5.3

4:00 6:00

E



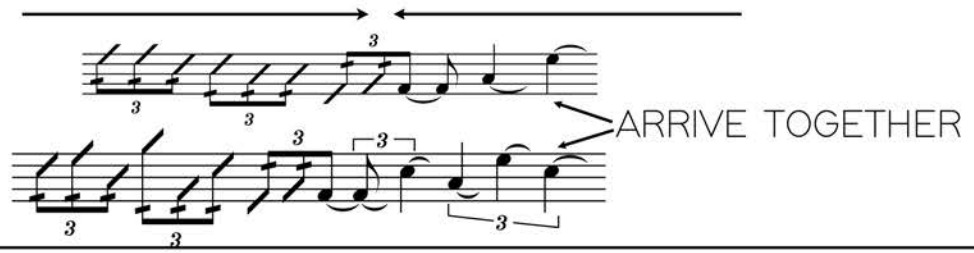
Chaos should be at the apex

Harmonic motion and rhythm is at its most intense point in the piece.

to 5.4

P

Performers, over the course of 3.5.3 should continue the call and response figuration established in 3.5.1, where when using implements that evoke the greatest amount of timbral variation, the percussionists execute a run of 16ths across mostly metals, but also glass and ceramics. At the end of the run, the percussionist should land on a sequence of steady strikes against the hung, metal bell plates, or the body of an individual chime on the wind chimes. Over the course of 3.5.3, the call and response's should be arriving at the chime and bell attacks at the same time to create a homophonic texture



to 5.3

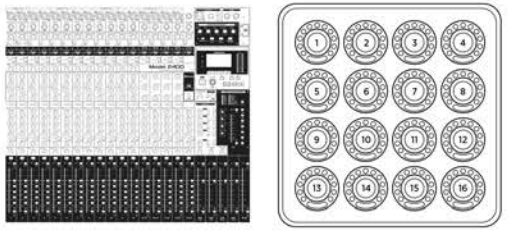
3

5.4

5:00

6:00

E



Chaos should arrive at an ecstatic, unified texture with the percussionists.

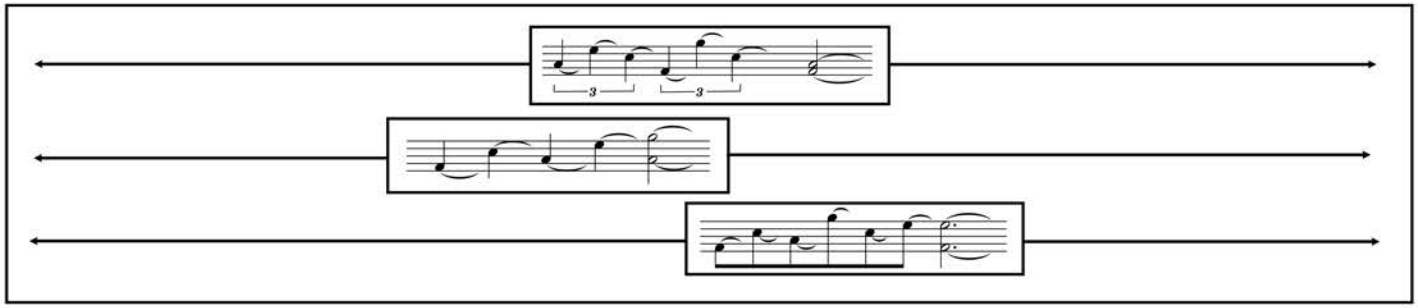
Harmonic motion and rhythm stabilizes.

to

N

P

Strike on bell plates, singing bowls, and wind chimes so that the sonic texture is saturated with the harmonic content of the metal objects.The effect should sound like a cacophany of church bells



to

N

3

E.1

0:00

3:00

E

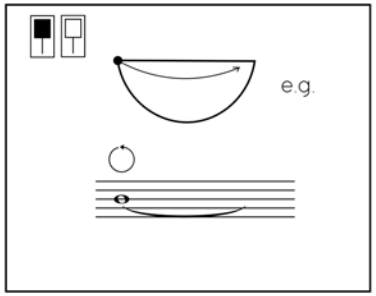
Slowly, ever so slowly wind down complexity in the NIMB, drone materials, and delay effects

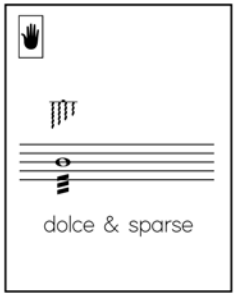
to

E.2

P

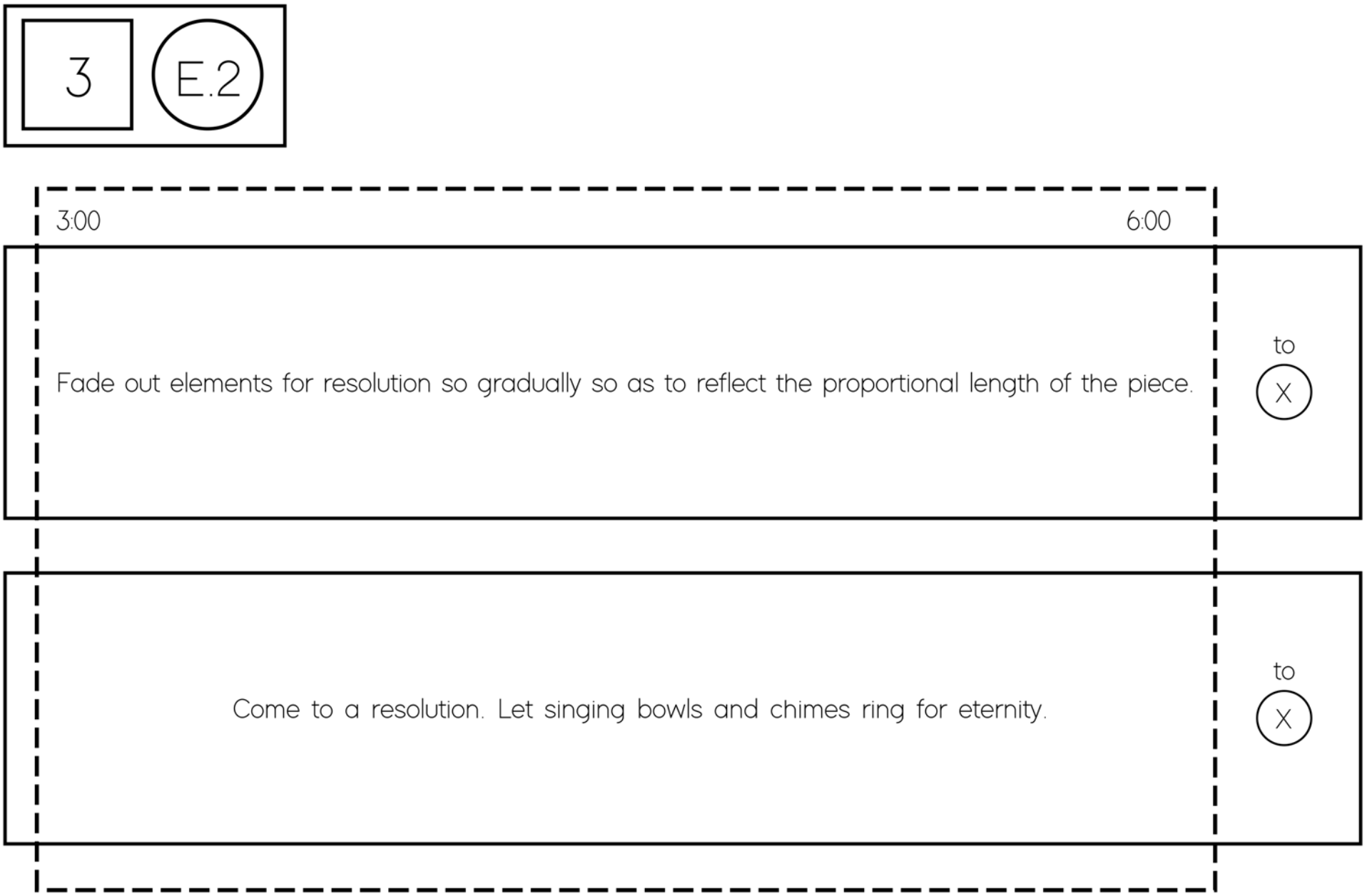
The end of the work should consist of several minutes of either rubbing singing bowl mallets around the lip of the singing bowls and/or large ceramic pot or gently activating the large wind chimes on hand.





to

E.2


3
E.2
3:00
6:00
E
Fade out elements for resolution so gradually so as to reflect the proportional length of the piece.
to
X
P
Come to a resolution. Let singing bowls and chimes ring for eternity.
to
X