SITKA

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A Thesis

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State University in partial fulfillment of
the requirements for the degree of

MASTER OF MUSIC

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Committee:

Elainie Lillios, Advisor

Mikel Kuehn

ABSTRACT

Elainie Lillios, Advisor

Sitka is a twelve-minute work for piano and seasonally variable electronics that explores the relationship between music, technology, and nature. Since Steinway piano soundboards are made exclusively from Sitka spruce, the trees and the forests in which they grow served as the conceptual material for many of the piece's musical components. Environmental elements including forest density, weather, and the Sitka tree's shape informed the composition's structure, density, frequency spectrum, rhythmic activity, and live electronics.

The composition's form models the United States Geological Survey species range map for Sitka spruce trees, which grow throughout Alaska, Canada, and the United States. Curiously, when the map is rotated ninety degrees it becomes a fitting graphical depiction translatable into musical form. The piece's growth and rhythmic density mirror this graphic, as does the rhythmic language, with more active rhythms appearing at times when tree growth is denser in corresponding map regions. In addition to conceptual translations, I connect the piece to Sitka, Alaska, in real time via an audio software program I developed using Cycling 74's Max/MSP. The program polls real-time weather data from a weather station in Sitka, Alaska during performance, which in turn influences the piece's accompanying live electronics. For example, when polling on a sunny summer day, the software generates higher pitched sonorities to create a light, open sounding accompaniment. Conversely, on a cold winter day the live electronics exhibit a darker, denser tone. These and other live electronics are projected over small speakers placed in front of the piano, mixing with the acoustic sound and emanating from the same physical space.

AKNOWLEDGEMENTS

I would like to thank the members of my thesis committee, Dr. Elainie Lillios and Dr. Mikel Kuehn, for all of their help in putting this project together.

Performance Notes:

- The conceptual basis of this *Sitka* is tightly tied to Steinway soundboards, so if possible please perform it exclusively on a Steinway piano.
- This piece employs a click track (see details below.)
- The seasonally variable electronics occur between rehearsal marks C-D and L-P. Be aware that during these sections the electronics change for each performance.

Technical Notes:

Equipment:

- 1 laptop computer
- Internet connection
- 1 audio interface with at least 3 outputs
- 1 mixing board with at least 5 inputs
- 2 condenser microphones
- 2 medium sized studio monitor speakers
- Stereo house speaker system
- 1 headphone amplifier
- 1 set of over ear headphones for the pianist (click track)
- Cycling 74's Max/MSP 7 (https://cycling74.com/downloads/)
- To obtain the Max/MSP patch please contact me through my website at www.thomasrexbeverly.com.

Technical Setup:

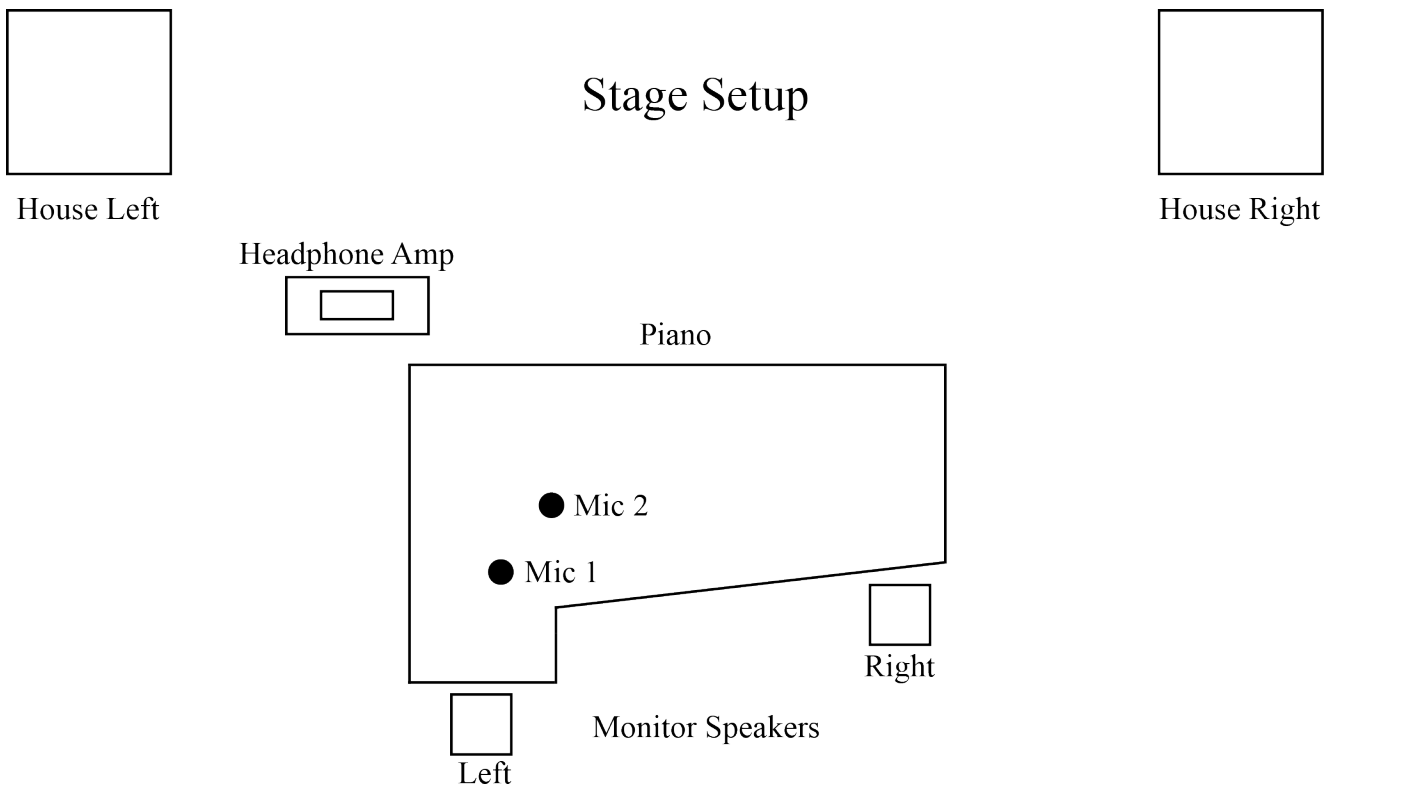
- The two microphones connect directly into the mixer and then route to both the medium sized studio monitor speakers and the stereo house speaker system.
- Place the two microphones near the middle and high registers of the piano to capture primarily higher frequency sounds.
- The two medium sized studio monitor speakers should be placed on stands directly in front of the piano as shown in the following diagram.
- Channels 1 and 2 from the Max/MSP patch connect from the audio interface into the mixer and the route to both the medium sized studio monitor speakers and the stereo house speaker system.

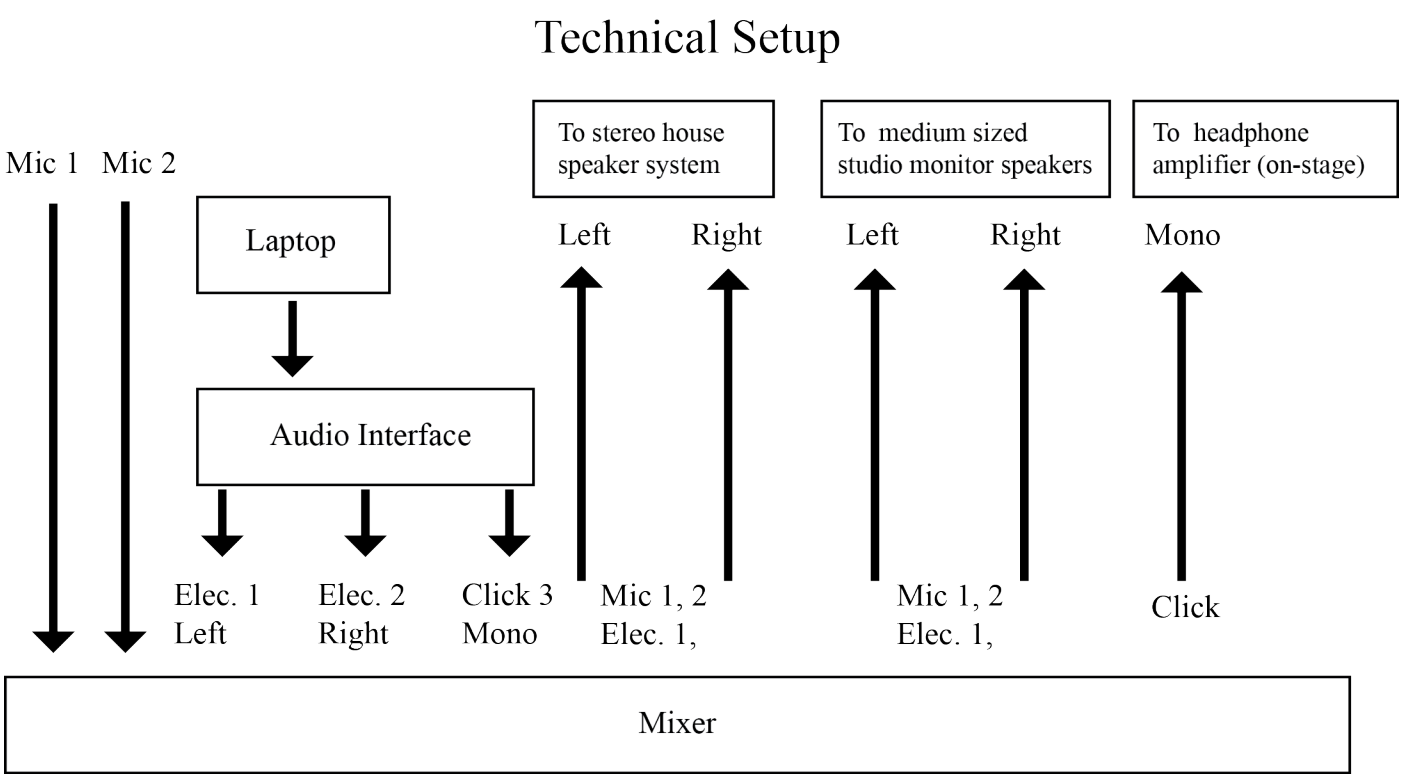
Click Track:

- Channel 3 includes a click track and mono mix of the electronics for the pianist. It should connect from the audio interface into the mixer and then route to the pianist's headphones via an on-stage headphone amplifier.
- The click track changes to a higher tone four beats before each rehearsal mark to give the pianist a warning about the upcoming arrival.

Audio Engineer:

- This piece requires an audio engineer to adjust the levels at the mixing console during the performance. Please follow the directions listed below.
- From the beginning to rehearsal mark A, the electronics are meant to be incredibly subtle. These electronics should be fine-tuned from the mixing console to fit within the resonating sound of the acoustic piano. During this section, the electronics should sound mostly from the monitor speakers with a slight boost from the house speakers.
- After rehearsal mark A, the house speakers should be brought up to boost the overall volume of the electronics.
- The electronics from mm. 176-190 consist of recorded piano sounds. They should be mixed so that the recorded and live pianos are indistinguishable during the performance and work together to create one “super piano”.



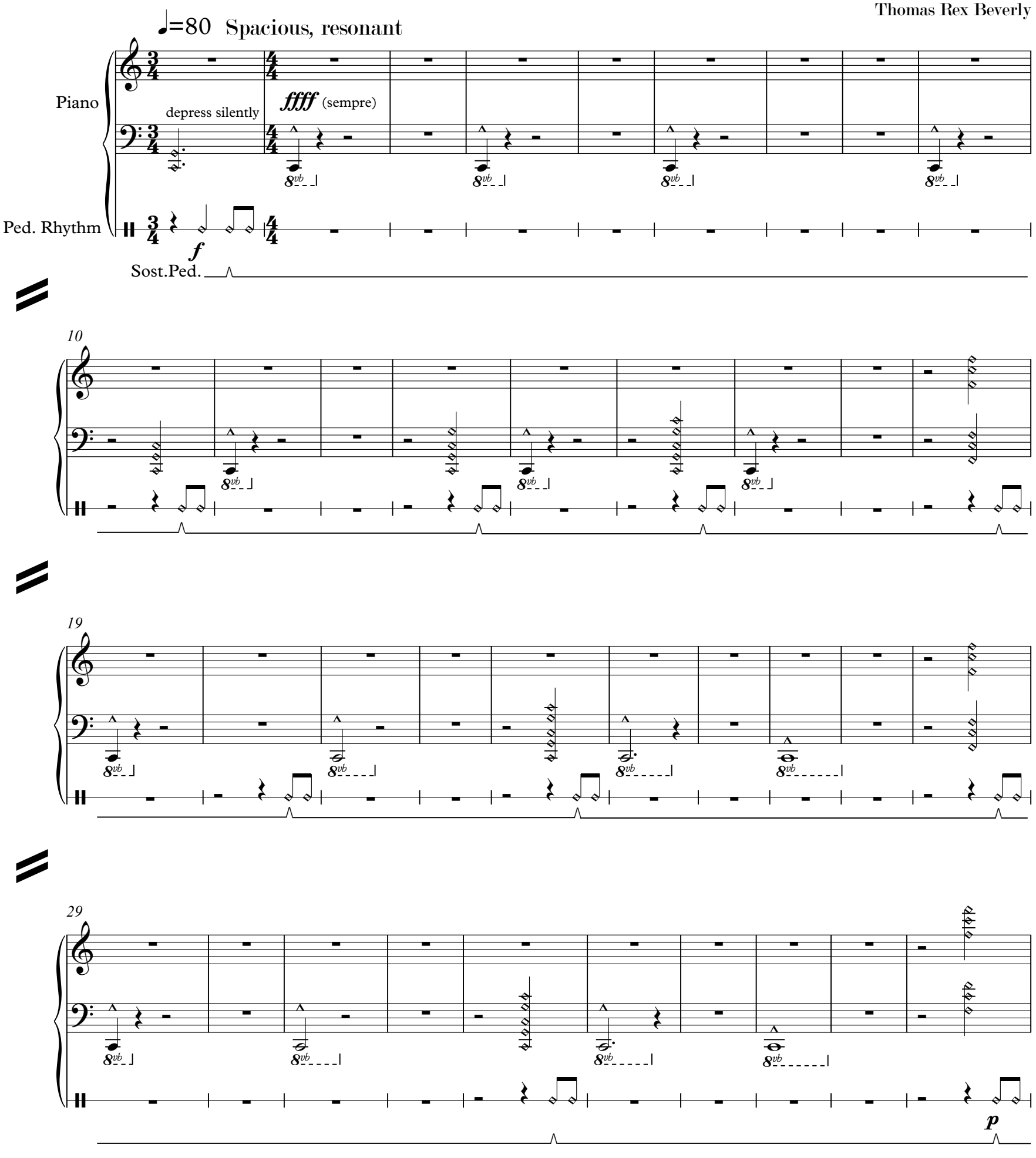


for Jeff Manchur

Sitka

for piano and seasonally variable electronics

Thomas Rex Beverly



39

(Sost.Ped.)

47

57

67

77

85 **A** Steady

ppp

ff

8vb

91

(8)

B Lush, full

97

mf

p

(8)

8vb

104

(8)

111

(8)

117

mf

cresc. poco a poco

f

(8)

(end Sost. Ped.) Ped. ad lib.

122

127

cresc. poco a poco

ff

C Twittering

133

8va

mf

139

(8)

mp

144

pp

149

p

153

157

160

mp

163

D Flying, twinkling

8va

167

mf

f

(8)

170

ff

E Booming, aggressive

173

f

Senza Ped.

176

(Electronics Cue)

(EA)

F

179

(EA)

182

(EA)

184

(Senza Ped.)

(EA)

G Thunderous, explosive

186

ff

(EA)

188

(EA)

H

190

(EA)

192

I Torrential, unyeilding

(Senza Ped.)

fff

194

J

196

197

K

8vb

ff