

STEVE ANTOSCA



for piano quartet and computer

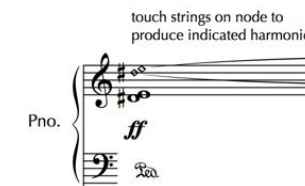
Commissioned by NO EXIT New Music Ensemble, Cleveland, Ohio

premiered at Cleveland State University
April 15, 2011

performance notes

The first 60 measure of EXIT are mostly traditional in notation and performance. Tempo and motion toward ms. 60 should be adhered to as much as possible.

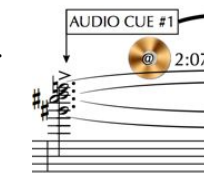
The pianist is required to perform a few harmonics on the keyboard strings by touching the proper nodes on the strings, then playing the keys.



After ms. 60, the notation shifts to a non-determinate style. For the passage with viola and computer at ms. 64, the violist and computer musician should approach this as a duet, with interactive playfulness.

At letter G, performers should calculate their entries based on the duration of each section, then follow the appropriate sequence of entries. It would be most effective to play from the score for sections G through the end.

To facilitate listening, the score contains five CD icons indicating the location on the performance recording of the pre-recorded audio entrances.



equipment

- > a laptop with Max/MSP software and a digital audio workstation (DAW)
- > a digital interface with at least 4 outputs and 1 input
- > a pick-up, such as the DPA 4000 or DPA 4099V for the viola, and either a wireless adaptor or an appropriate length mic cable to reach from the viola to the computer.
the viola is connect at all times during the piece but is only live from ms. 64 to the end.
- > a house 4 channel audio system

Settings for the opening of the piece are indicated at the beginning of the score:

opening AUDIO/COMPUTER settings
MIXER = see image in performance notes
AUDIO FILES = cue AUDIO CUE #1
Max/MSP = #1 - all processing off

technical notes

EXIT requires a computer running Max/MSP and a Digital Audio Workstation (DAW). The computer should be connected to a digital interface with a minimum of one input and four independent, discreet outputs. The four outputs of the digital interface can connect directly to four matched speakers in the house sound system, or to the house mixer. (see tech sheet, last page)

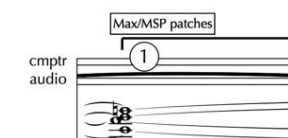
> pre-recorded digital audio playback

The DAW is used to play back pre-processed audio tracks. There are four cues in the score indicating where the audio is played. These are located in the score at measures 60, 92, 97, and 110. Each cue consists of multiple tracks which are assigned to the four output channels.

The audio materials for EXIT include a Digital Performer (version 7) file which is pre-formatted with four sequences, one for each cue in the score, and track assignments to the four speakers. In addition, there are AIF and WAV file versions which are mixed to four tracks, one for each output, for each of the four cues. These can be loaded into any standard DAW. There is also a version for REAPER, an inexpensive digital multitrack workstation.

> real-time computer processing in Max/MSP

EXIT uses a Max/MSP program for real-time processing of the viola signal. The Max/MSP settings are indicated throughout the piece by circled numbers:



Max/MSP patch 1 is a null patch and does not allow signal from the viola to pass into Max/MSP. The first active real-time processing patch is 3. A complete list of the patches and their effect is listed in the Max/MSP program.

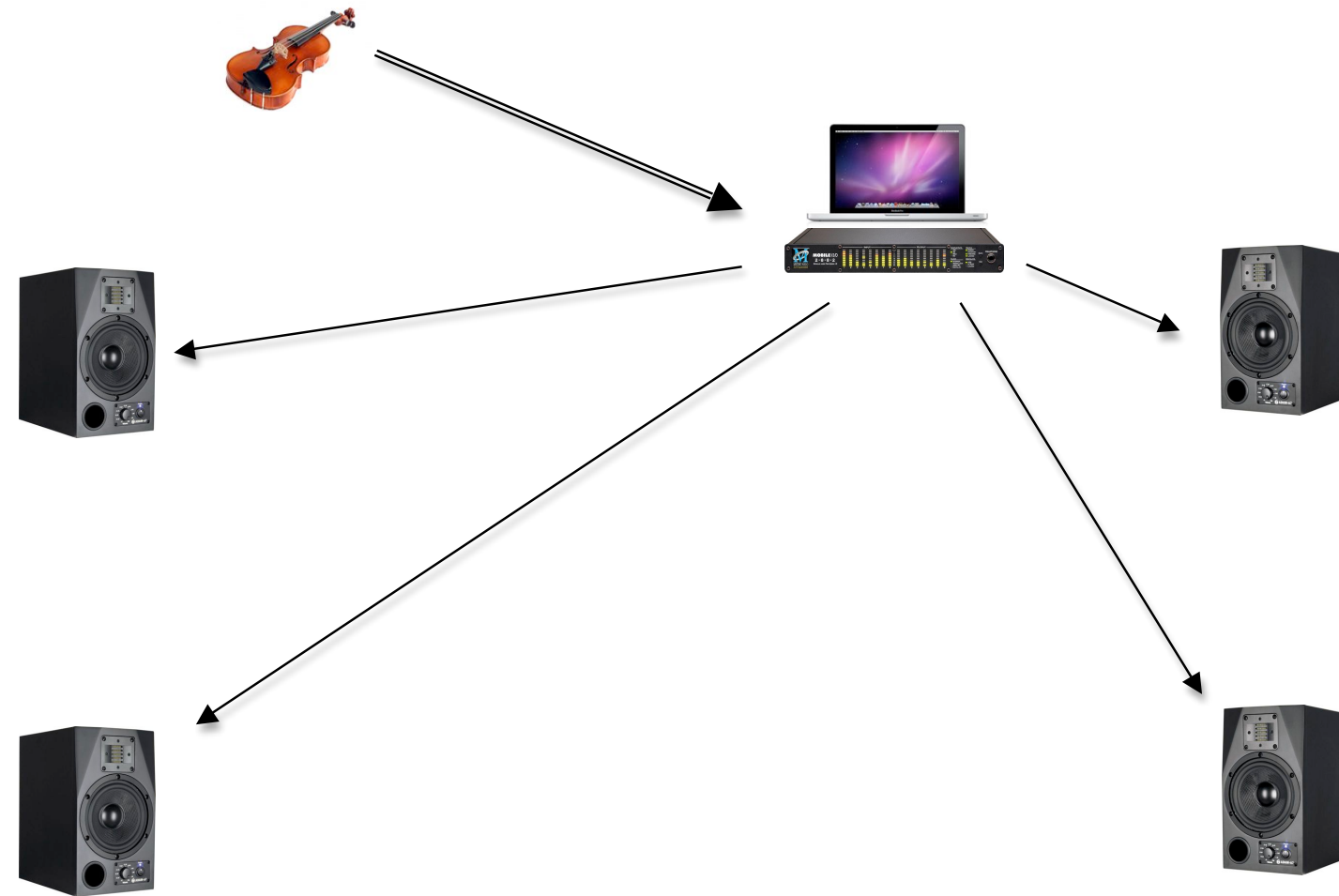
Max/MSP receives input from the firewire bus into a two channel ADC. Max/MSP processed audio is routed to an 8 output DAC which should be re-directed to the 4 channels of output: 1 – 4 to the front speakers, 5 – 8 to the rear speakers.

Each Max/MSP patch is triggered at the appropriate point in the score, then the computer musician is expected to manipulate the audio signal through the various fader controls for flange, feedback, delay and tap-delay.

EXIT audio connections

⇒ viola: mic or pick up into computer digital interface/DAC →

⇒ computer AUDIO: 4 channels of audio and real-time processing of viola, from computer digital interface/ADC to 4 speakers in the house or house mixer →



computer mix

Real-time processing and audio playback occur simultaneously in the computer, using two separate programs for greater audio control. Great care must be taken to route and mix audio signals internally. A suggested internal mix would look like this:

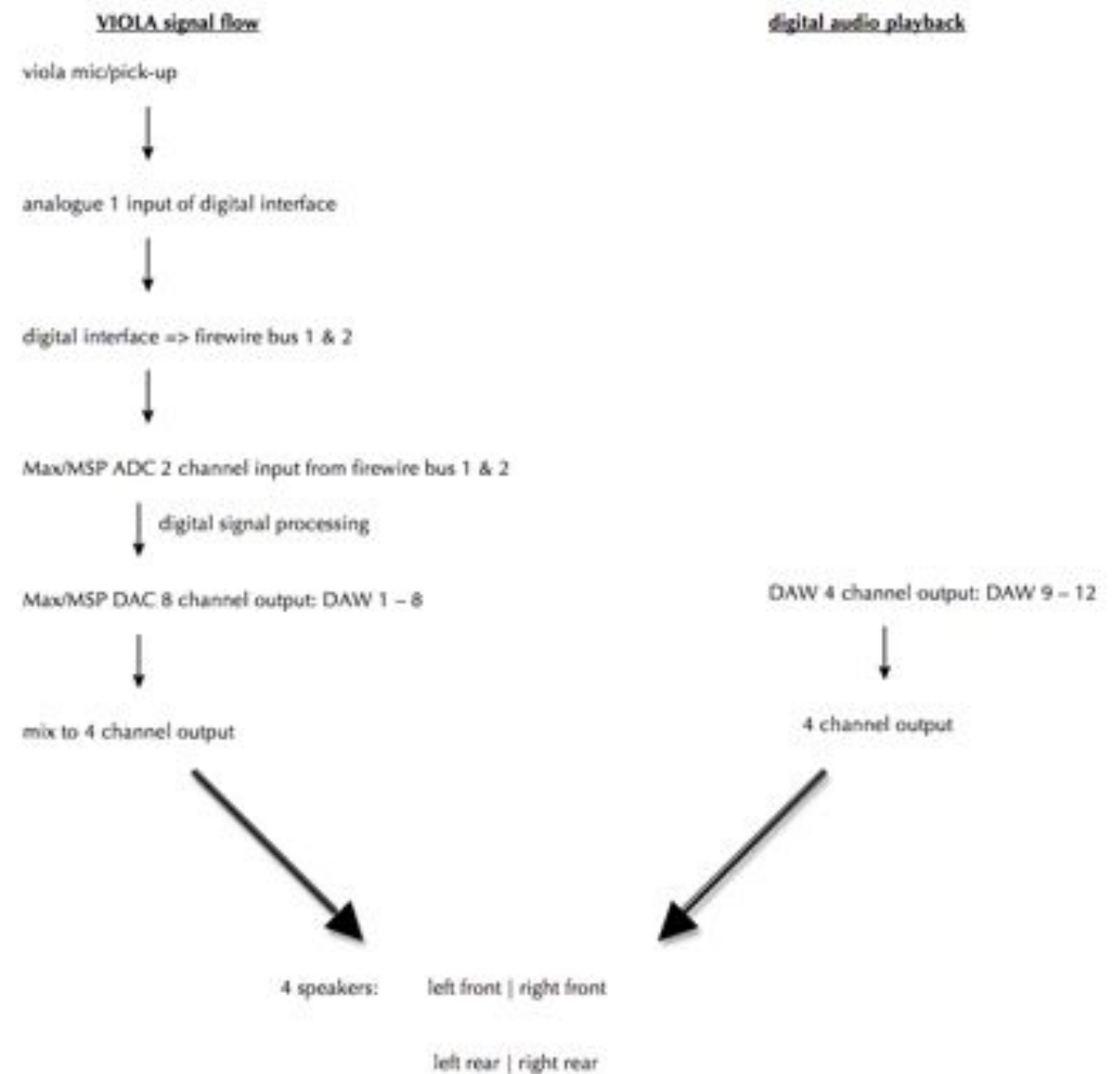
speakers



- > the viola mic or pick-up is routed to the firewire bus, which is received as the audio input in Max/MSP. the same signal can be routed to the front speakers to reinforced the non-processed viola signal if desired
- > 8 channels of real-time processed digital audio from Max/MSP (DAW 1 – 8) are routed to the front and rear
- > 4 channels of pre-processed audio from the DAW (DAW 9 – 12) are routed to the front and rear speakers

This arrangement allows maximum flexibility in signal routing and level control.

> AUDIO signal flow



opening AUDIO/COMPUTER settings
MIXER = see image in performance notes
AUDIO FILES = cue AUDIO CUE #1
Max/MSP = #1 - all processing off



for NO EXIT ensemble
Cleveland, Ohio

Steve Antosca
2010 – 2011

♩ = 160 (or as fast as possible; variation in tempo in sections A – E, as appropriate, are acceptable)

silently depress keys,
then sweep across strings

The musical score is arranged in a standard orchestral layout. The Piano part is at the top, followed by Violin, Viola, and Cello. Below these are the Piano (Pno.), Violin (Vln.), Viola (Vla.), and Violoncello (Vlc.) parts. The score includes various dynamics such as *ff*, *mf*, *p*, *f*, *sfp*, and *ord.* (ordinando). It also features complex rhythmic patterns, including triplets and sextuplets, and specific performance instructions like "arco" and "pizz.". The time signatures are frequently changing, with examples of 6/4, 4/4, 5/4, 3/4, 4/8, 5/8, 6/4, and 5/4. There are also markings for "sul pont." and "pizz.". The score is marked with section letters "A" and "E" in boxes. The tempo is indicated as ♩ = 160.

cmptr audio

7

8

freely, smooth and clean

Vla. *pizz.* *p* *repeat and vary*

80

9

10

9

10

11

cmptr audio

Vla. wait for computer to begin fade out *a quiet murmur...* *pizz.* *ppp* *f* l.v. *ppp* *ff* l.v. *a tempo* arco

85

12

cmptr audio

Vla. *fff* arco *f* arco *pp* *f* *ff* arco *pp* *f* l.v.

90

13

14

5:30

AUDIO CUE #2 just before viola climax

cmptr audio

Vla. *smooth* *p* *pp* *p* *sul pont.* *p* *f*

92 **F** ♩ = 60 30 seconds 95

cmptr audio AUDIO CUE #2 AUDIO fades out

Pno. 92 ♩ = 60 95

Vln. 92 **F** ♩ = 60 30 seconds enter after cello's gliss and swell 95 *ff*

Vla. *sfp* *pp* 5/4 4/4 *with computer processing* 6 3 3 *p* *f* *p*

Vlc. 92 *sul pont.* *fade in with computer audio* *n* *f* *f* *p* *pp* 5/4 4/4 100

cmptr audio

Pno. 100 5 3 3 *p* *f* *p* 6/4 4/4 *p*

Vln. *Lead.* *f* *gliss.* 100 *gliss.* *Lead.* *f* *p* *n*

Vla. *p* *p* *pp* *pp* *p* 6/4 4/4 *ord.* *sustained by computer* *n*

Vlc. *sul pont.* *rough gliss.* *sfp* *pp* 6/4 4/4 9 *n*

35 seconds

105 G

VIOLA enters immediately after audio reflections fade out

20 seconds

16

cmptr audio

AUDIO CUE #3

6:55

AUDIO fades out

AUDIO TACET

Pno.

Vln.

Vla.

Vlc.

105 G

with computer processing

shimmering

pp

sim.

p

sim.

pp

60 seconds

110

110

110

cmptr audio

AUDIO CUE #4

7:52

AUDIO continues until end of piece

Pno.

ff

loco

l.v.

mute strings

ppp

Vln.

110

Vla.

pp

Vlc.

pp

sul pont.

ord.

pp

pp

45 seconds

115 H

cmptr audio

AUDIO CUE #4/ second voice

AUDIO continues until end of piece

115

8:50

Pno.

mute strings *ppp*

Vln.

115 H

pp *p* *pp*

sim.

ppp

Vla.

pizz. like pebbles dropped into a pond

with computer processing

p

Vlc.

jette

repeat and vary pitches and dynamics

jette

30 seconds

120

18

124

19

cmptr audio

AUDIO CUE #4

120

Pno.

mute strings *ppp*

silently depress keys, then sweep across strings

rit.

n

124

slowly

p > ppp

mp

Vln.

120

sfp

pp

p

bend pitch $\frac{1}{4}$

fade out with AUDIO

Vla.

arco *pp*

fade out with AUDIO

Vlc.

pp

p

pp

p

fade out with AUDIO

ppp

n