

Piano Trio

by Mary Simoni

2009

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Program Notes:

The Piano Trio is a single-movement work in five parts, metaphorically related to the fingers of the human hand. The technological premise of the piece correlates each of the five sections of the composition with a device known as the Hot Hand™. This device contains technology that senses human motion and transmits the data wirelessly to a receiver connected to a computer. The computer analyzes the data from the Hot Hand and responds by creating a sonic signature that corresponds to the speed and trajectory of the human hand. The composer modified the Hot Hand™ from its original form as a ring to a bracelet that is attached to the bow arm of the violinist and cellist.

Instrumentation:

Piano with Microphone – the piano microphone is used to mix the amplified sound with the amplified and processed sound of the violin and cello.

Violin with HotHands™ Bracelet, MIDI & Microphone – the accelerometer of the HotHands™ has been integrated into a bracelet. The HotHands symbol should face the fingers of the performer. The violin microphone should be unidirectional so that the violin sound may be processed independent of the piano or cello. The unprocessed and processed violin sounds are mixed together equally.

Cello with HotHands™ Bracelet, MIDI & Microphone - the accelerometer of the HotHands™ has been integrated into a bracelet. The HotHands symbol should face the fingers of the performer. The cello microphone should be unidirectional so that the cello sound may be processed independent of the piano or violin. The unprocessed and processed cello sounds are mixed together equally.

Stereo Audio Playback – There are 24 stereo samples that are played back on cue in the score. The cue is a number 1-24 enclosed in a triangle. For example, the third cue is denoted as:



Computer running Max/MSP™ - There should be at least one but preferably two computers running Max/MSP. One computer running master_violin.maxpat should receive wireless MIDI input from the violinist's HotHands™ Bracelet, process the violin sound based on the MIDI data, and output the processed violin signal. The other computer running master_cello.maxpat should receive wireless input from the cellist's HotHands™ Bracelet, process the cello sound based on the MIDI data, and output the processed cello signal. The Max/MSP signal processing algorithms are in 5 sections that are cued in the score. The cue is a number 1-5 enclosed in a hexagon. For example, the second cue is denoted as:



Mixer – a mixer with at least 5 inputs with stereo output: 2 inputs for the violin (processed & unprocessed), 2 inputs for the cello (processed & unprocessed), and 1 stereo input for sample playback.

Please address any questions regarding performance instructions to:

Mary Simoni

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Calibrating the HotHands™ for the Violin (MIDI Channel 1):

Place the fully-charged HotHands™ Bracelet on the violinist with the H on the accelerometer facing toward the fingers. Turn the bracelet on by depressing the black button on the right side of the accelerometer. The status LED should be blue.

To calibrate the X axis:

1. Place the middle of the bow on the middle two strings of the instrument.
2. Hold down the activate button on the MIDI-EXP Controller for 2 seconds
3. Select X axis and assign to NOTE CONTROL 1 MESSAGE
4. Use maximum DEPTH and SMOOTHING
5. When properly calibrated, the tip of the bow on a middle string will have a MIDI note number of ~0 whereas the frog of the bow on a middle string will have a MIDI note number of ~127

To calibrate the Y axis:

1. Place the middle of the bow on the middle two strings of the instrument.
2. Hold down the activate button on the MIDI-EXP Controller for 2 seconds
3. Select Y axis and assign to CONTINUOUS CONTROLLER MESSAGE
4. Use maximum DEPTH and SMOOTHING
5. When properly calibrated, the middle of the bow on the G string should have a MIDI value of ~127, the D string should be ~86, the A string should be ~43, and the E string should be 0.

Calibrating the HotHands™ for the Cello (MIDI Channel 2):

Place the fully-charged HotHands™ Bracelet on the cellist with the H on the accelerometer facing toward the fingers. Turn the bracelet on by depressing the black button on the right side of the accelerometer. The status LED should be blue.

To calibrate the X axis:

1. Place the middle of the bow on the middle two strings of the instrument.
2. Hold down the activate button on the MIDI-EXP Controller for 2 seconds
3. Select X axis and assign to CONTINUOUS CONTROLLER MESSAGE
4. Use maximum DEPTH and SMOOTHING
5. When properly calibrated, *sul ponticello* should have a MIDI value of ~0 and *sul tasto* should have a MIDI value of ~127.

To calibrate the Y axis:

6. Place the middle of the bow on the middle two strings of the instrument.
7. Hold down the activate button on the MIDI-EXP Controller for 2 seconds
8. Select Y axis and assign to NOTE CONTROL 1 MESSAGE
9. Use maximum DEPTH and SMOOTHING
10. When properly calibrated, the tip of the bow on a middle string will have a MIDI note number of ~0 whereas the frog of the bow on a middle string will have a MIDI note number of ~127

Piano Trio

Mary Simoni

Adagio ♩=60

①

①

Violin

Cello

Piano

Vln

Cel

Pno.

Vln 13 *mf* *p* *mf*

Cel 13 *mf*

Pno. 13 *mp* *p* *mf*

Vln 16 *pizz.* *f* *poco ritard* *a tempo* *mp*

Cel 16 *pizz.* *f* *poco ritard* *a tempo* *mp*

Pno. 16 *f* *poco ritard* *p* *pp* *a tempo*

Musical score for Violin (Vln), Cello (Cel), and Piano (Pno.) instruments, measures 19-22.

Measures 19-21:

- Vln:** Measure 19 starts with a Δ symbol above the staff. The note is marked *mf*. Measure 20 has a *p* dynamic. Measure 21 has a Δ symbol above the staff.
- Cel:** Measure 19 starts with a Δ symbol above the staff. The note is marked *mf*. Measure 20 has a *p* dynamic. Measure 21 has a Δ symbol above the staff.
- Pno.:** Measure 19 features a long slur across the right hand and a *mf* dynamic. Measure 20 has a *p* dynamic. Measure 21 has a Δ symbol above the staff.

Measures 22-24:

- Vln:** Measure 22 starts with a Δ symbol above the staff. Measure 23 has a Δ symbol above the staff. Measure 24 has a Δ symbol above the staff.
- Cel:** Measure 22 starts with a Δ symbol above the staff. The notes are marked *mp*. Measure 23 has a Δ symbol above the staff. Measure 24 has a Δ symbol above the staff.
- Pno.:** Measure 22 starts with a Δ symbol above the staff. The notes are marked *mp*. Measure 23 has a Δ symbol above the staff. Measure 24 has a Δ symbol above the staff.

Additional markings include Δ symbols above the staves, *mf* and *p* dynamics, and *mp* dynamics. The score includes various musical notations such as slurs, accents, and triplets.

25 **Vln** *mf* *accel.* *f* *pizz.* Δ 13 2

25 **Cel** *mf* *accel.* *f* *pizz.*

25 **Pno.** *mf accel.* *f* *8vb*

Vln *arco* **Allegro e loco** $\text{♩} = 192$ *ff*

Cel *arco* **Allegro e loco** $\text{♩} = 192$ *ff*

Pno. **Allegro e loco** $\text{♩} = 192$ *sfz* *8vb*

31 *a risoluto* *sul ponticello** *ord.* *sul ponticello*

Vln

Cel

a risoluto

Pno.

34 *ord.* *sul ponticello* *ord.* *sul ponticello*

Vln

a risoluto *sfz* *sul ponticello* *f*

Cel

a risoluto *sfz* *f*

34 *ff*

Pno.

* a quasi-pitched percussive timbre

37

Vln ord. sul ponticello ord. sul ponticello pizz. *mf*

Cel ord. sul ponticello ord. sul ponticello ord. *a risoluto* pizz. *mf*

Pno. *mf*

41

Vln arco *f ritard* *ff*

Cel arco *f ritard* *ff*

Pno. *f ritard* *ff*

3 **Tempo I**

44 **Tempo I** *subito p peaceful and serene*

Vln *mf* *mp* *sul tasto**

Cel *mp* *mf* *sul tasto**

Pno. *subito p peaceful and serene*

47 *mf* *mp* *p* *mp*

Cel *mp* *mf* *mp* *p* *mp*

Pno. *4*

* a hollow whispering timbre

50 \triangle 18 \triangle

Vln

Cel

Pno.

mp *p* *mf* *poco ritard*

mf *mp* *mp* *mf* *poco ritard*

mp *poco ritard*

53 \triangle 19

Vln

Cel

Pno.

A bit faster ♩ = 74

p

A bit faster ♩ = 74

p

A bit faster ♩ = 74

ppp *nello stile di habañera* *crescendo poco a poco*

56 *p* *crescendo poco a poco* *gliss.* *V*

56 *p* *crescendo poco a poco* *gliss.* *V*

56 *pp* *pedal simile*

59 *mp* *f* *V*

59 *mp* *mf* *V*

59 *mp*

Detailed description: This page of a musical score covers measures 56 to 59 for Violin (Vln), Cello (Cel), and Piano (Pno.).
- **Measure 56:** The Violin part begins with a glissando (gliss.) and a dynamic of *p*, marked *crescendo poco a poco*. The Cello part also starts with a glissando and *p*, also marked *crescendo poco a poco*. The Piano part features a *pp* dynamic and a *pedal simile* instruction. The key signature has two flats (B-flat and E-flat).
- **Measure 59:** The Violin part has a dynamic of *mp* and a *f* dynamic later in the measure. The Cello part has a dynamic of *mp* and a *mf* dynamic later. The Piano part has a dynamic of *mp*. The key signature changes to one flat (B-flat).
- **Performance markings:** Various dynamics (*p*, *pp*, *mp*, *f*, *mf*) and performance instructions (*gliss.*, *crescendo poco a poco*, *pedal simile*) are used throughout. Violin and Cello parts include *V* markings above notes.

This musical score page contains three systems of music for Violin (Vln), Cello (Cel), and Piano (Pno.).

System 1 (Measures 62-64):
- **Vln:** Treble clef, starting at measure 62. Dynamics range from *ff* to *f*.
- **Cel:** Bass clef, starting at measure 62. Dynamics range from *ff* to *fff*.
- **Pno.:** Grand staff (treble and bass clefs). Dynamics range from *mf* to *fff*.

System 2 (Measures 65-68):
- **Vln:** Treble clef, starting at measure 65. Includes markings for *ritard*, *fff*, and *L.H. pizz.*. A circled number '4' is above the final measure.
- **Cel:** Treble clef, starting at measure 65. Includes markings for *ritard*, *ff*, *f*, *mp*, and *sfz*.
- **Pno.:** Grand staff, starting at measure 65. Includes markings for *ff*, *ritard*, and *fff*.

Allegro e loco ♩ = 192

69

Vln *ff*

Cel *ff*

Pno.

Detailed description: This system covers measures 69 to 71. The Violin part (Vln) features a rhythmic pattern of eighth notes with accents and dynamic markings of *ff*. The Cello part (Cel) mirrors this with a similar rhythmic pattern, also marked *ff*. The Piano part (Pno.) consists of rests in both staves for these measures.

Allegro e loco ♩ = 192

72

Vln *a risoluto* *sfz* *sul ponticello* *ord.* *sul ponticello*

Cel *a risoluto* *sfz* *sul ponticello* *ord.* *sul ponticello*

Pno. *ff*

Detailed description: This system covers measures 72 to 74. The Violin part (Vln) begins with *a risoluto* and *sfz* dynamics, followed by *sul ponticello* and *ord.* markings. The Cello part (Cel) follows a similar pattern. The Piano part (Pno.) is active with *ff* dynamics, featuring a rhythmic pattern of eighth notes with accents.

75 ord. sul ponticello ord.

Vln

75 ord. sul ponticello ord.

Cel

75

Pno.

a risoluto *ritard*

a risoluto *ritard*

a risoluto *ritard*

78

Vln

78

Cel

78

Pno.

Tempo I

Tempo I

Tempo I

5 *20* pizz.

subito p

subito p

subito p *nello stile di habañera*

fff *subito p*

fff *subito p*

fff

This musical score page contains three systems of music for Violin (Vln), Cello (Cel), and Piano (Pno.).

System 1 (Measures 81-83):
- **Vln:** Starts at measure 81 with a $\Delta 1$ dynamic marking. The music is marked *arco*. Dynamics range from *mp* to *p*.
- **Cel:** Starts at measure 81 with a *p* dynamic marking and the instruction *peaceful and serene*.
- **Pno.:** Starts at measure 81 with a *pedal simile* instruction. Dynamics range from *mp* to *p*.
- **Tempo/Performance:** A *ritard* (ritardando) is indicated over measures 81-83.

System 2 (Measures 84-84):
- **Vln:** Starts at measure 84 with a $\Delta 2$ dynamic marking. Dynamics range from *pp* to *ppp*.
- **Cel:** Starts at measure 84 with a *pp* dynamic marking. Dynamics range from *pp* to *ppp*.
- **Pno.:** Starts at measure 84 with a *p* dynamic marking. Dynamics range from *pp* to *ppp*.
- **Tempo/Performance:** A *ritard poco a poco* instruction is present. The time signature changes from 5/4 to 2/4 at the end of measure 84. A *8vb* marking is present at the bottom right.