

**Portfolio of Compositions and Exegesis:
Conflict and Resolution -
modelling emergent ensemble dynamics**

by

Luke Adrian Harrald

Submitted in fulfilment of the requirements for the degree of

Doctor of Philosophy

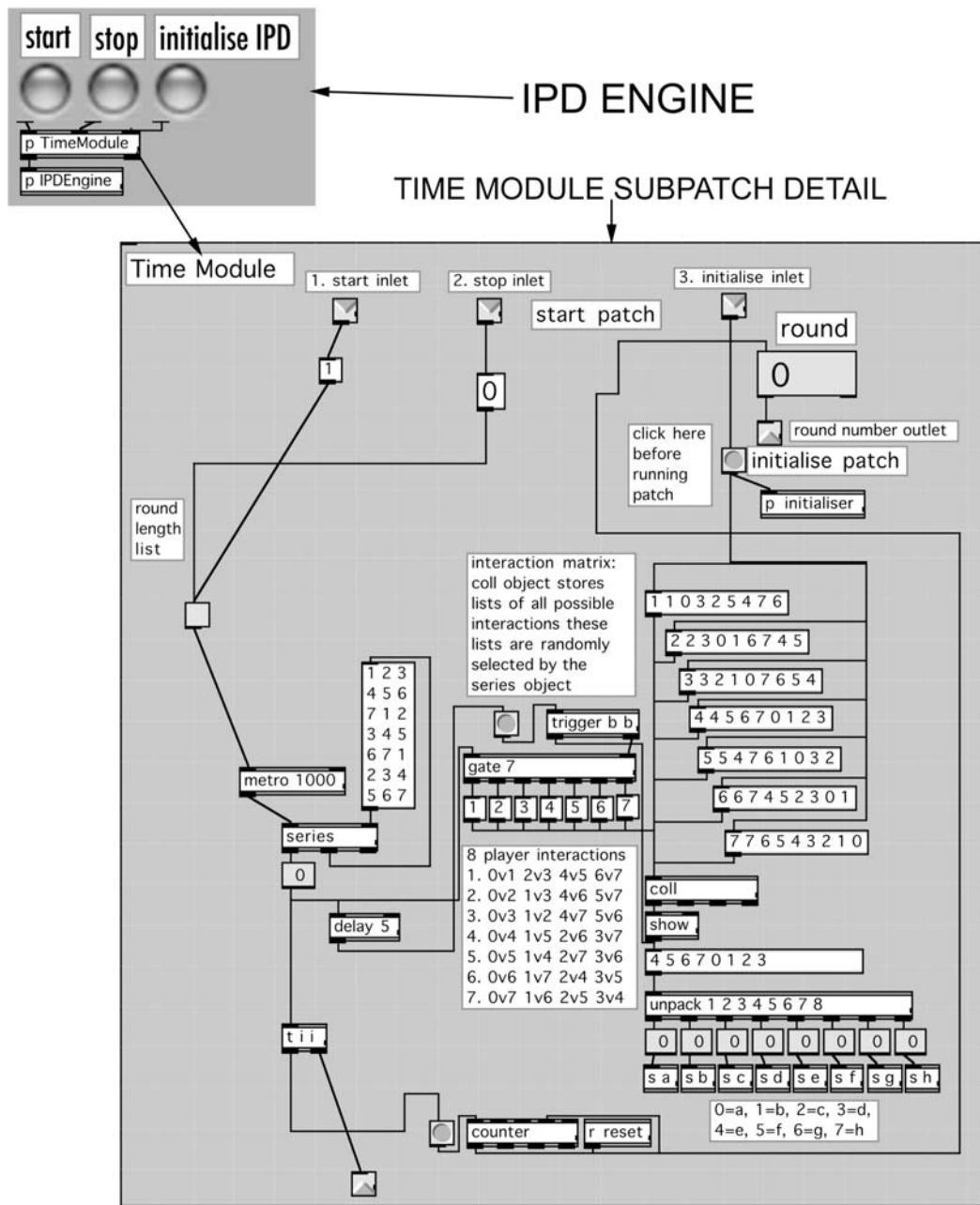
Elder Conservatorium of Music
Faculty of Humanities and Social Sciences
The University of Adelaide

February 2008

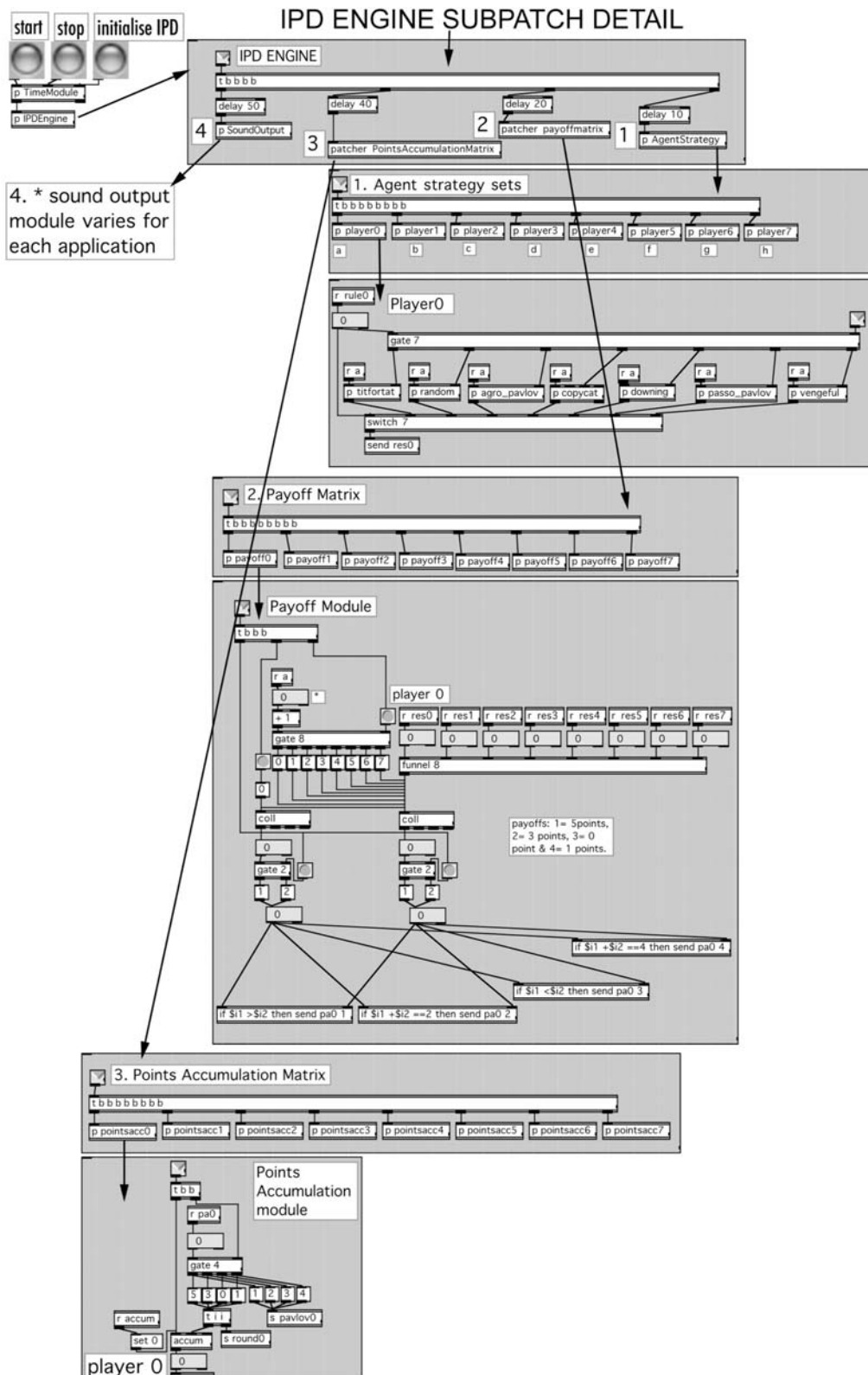
Appendix A

MaxMSP Patches.

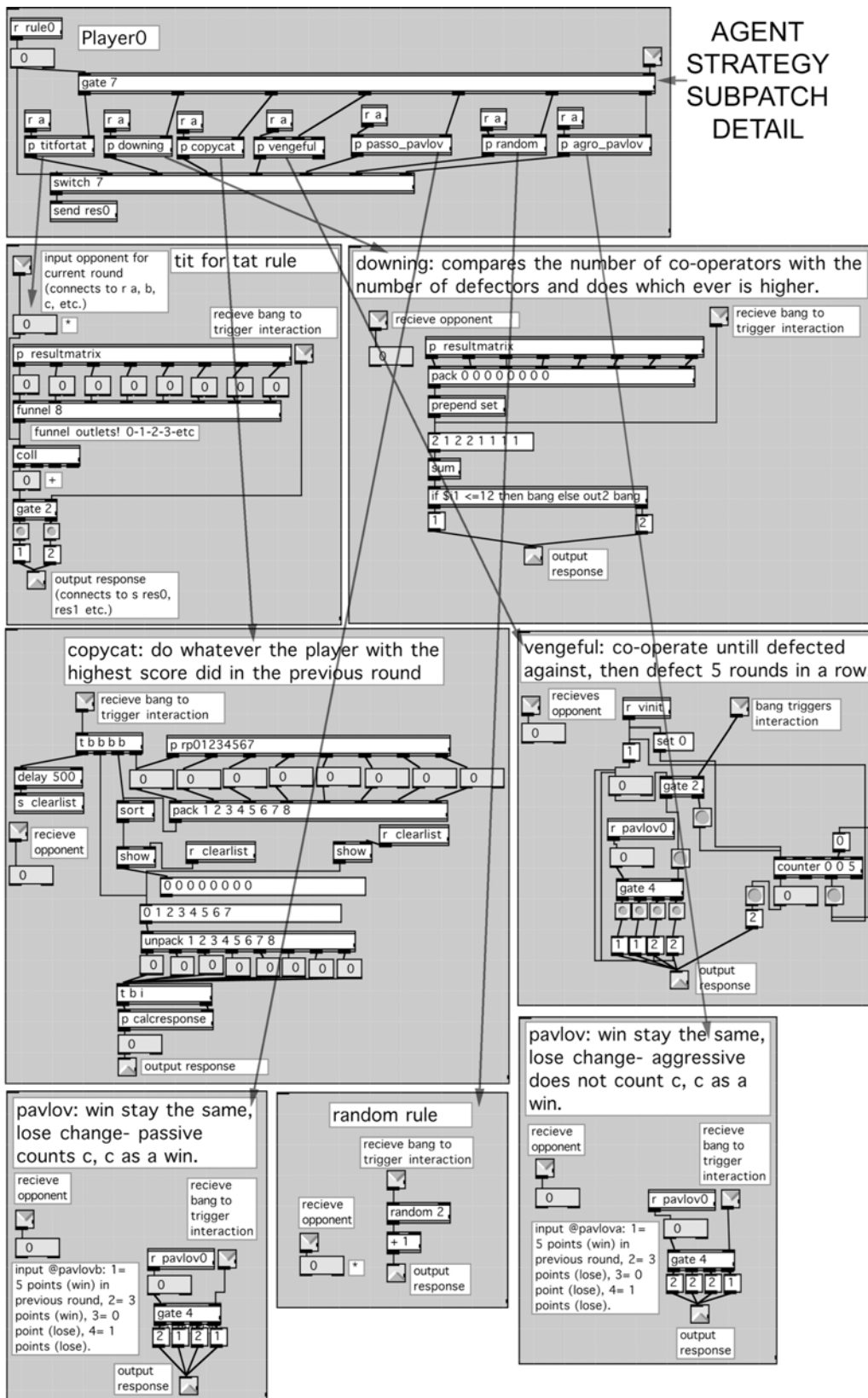
IPD Engine: Time Module



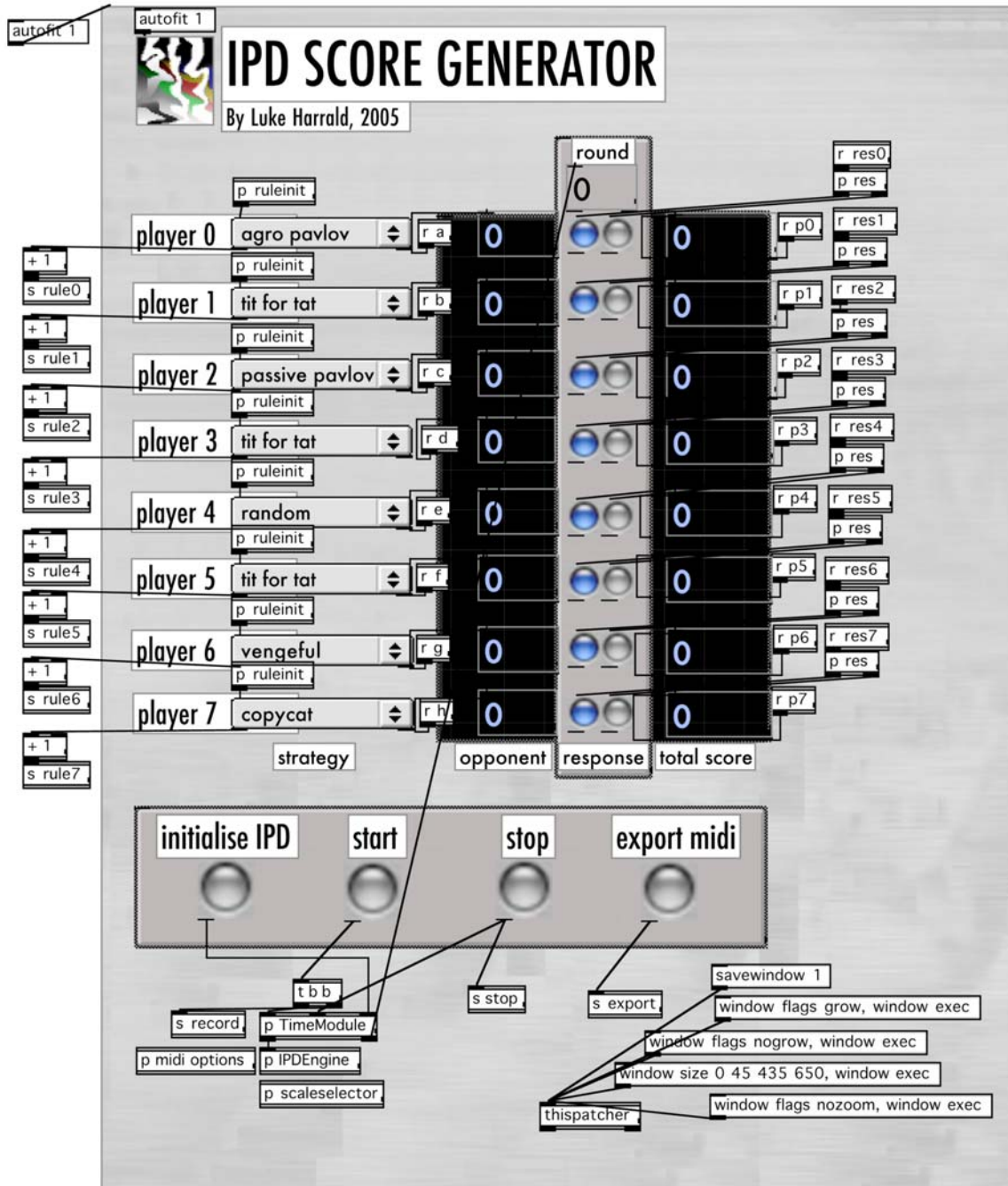
IPD Engine: Layer 1. Patch Sequencer



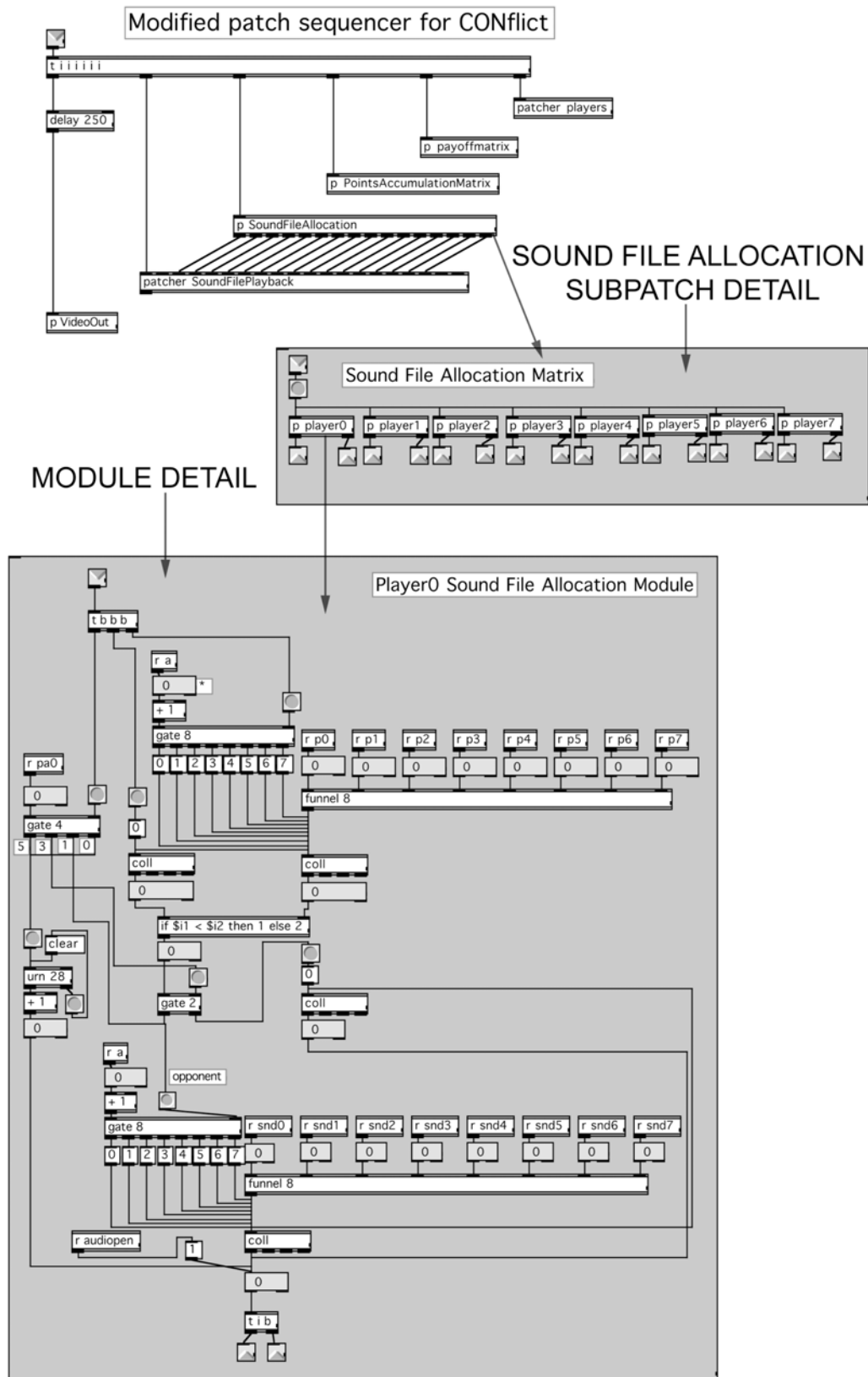
IPD Engine: Layer 2. Behavioural Engine (Strategy Set)



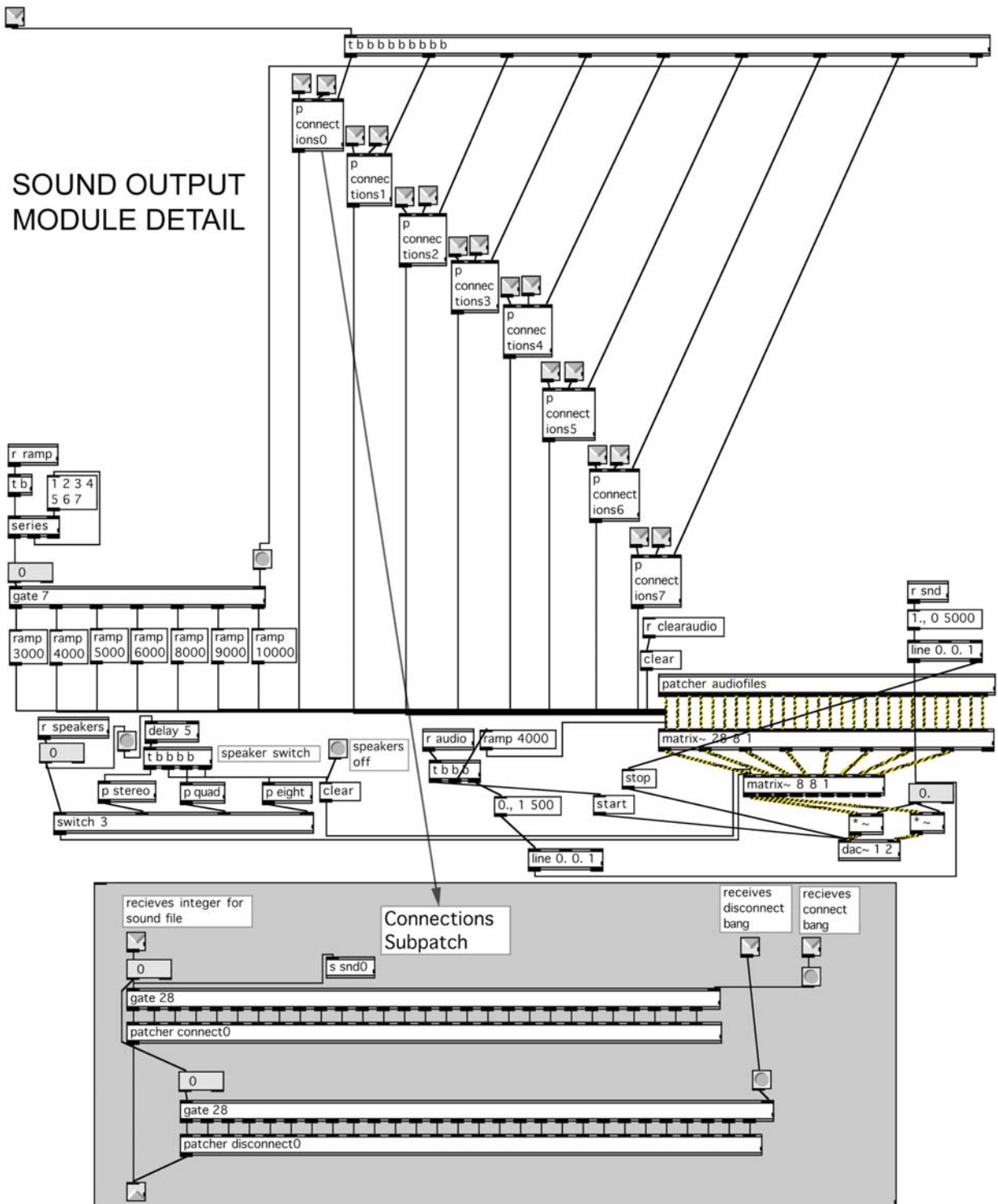
IPD Score Generator: GUI and Main Patch



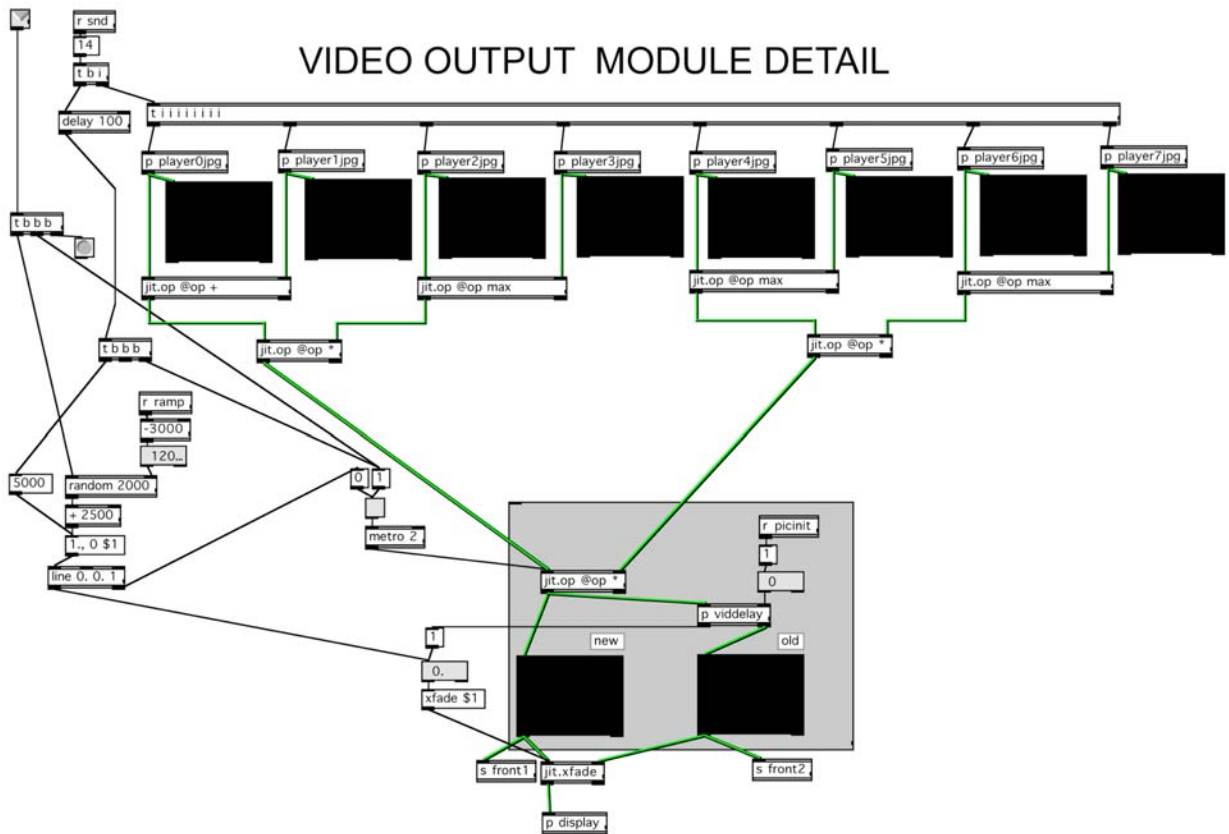
CONflict: IPD Engine Patch Sequencer and Sound File Allocation



CONflict: Sound Output Module (SoundFilePlayback Subpatch)



CONflict: Video Output (VideoOut Subpatch)



Appendix B

Compositions conceptually unrelated to the main portfolio.

The Pacific Solution

(Ocean Floor 2)

for orchestra

by

Luke Harrald

The Pacific Solution draws inspiration from topographical maps of the floor of the Pacific Ocean. Ocean currents are used to determine the density of musical materials and instrumental groupings, while the features encountered between lines of latitude and longitude determine the actual sonic events within each time bracket. Much like the ocean itself, the work aims to maintain a constant state of flux, punctuated by landmarks that are more or less constant.

2003

The Pacific Solution

Performance Notes

Orchestral Set Up

Two monitors or screens displaying the time should be placed to either side of the conductor in full view of the members of the orchestra. Alternatively, a large screen could be suspended from the ceiling of the auditorium to serve the same purpose, thus not obscuring the orchestra from the audience.

The Role of the Conductor

Through the use of time brackets, the conductor is liberated from the role of metronome, and can concentrate more wholeheartedly on shaping the sound of the piece. All Dynamics within the score are spatially related to time, and as such the conductor can use gestures to guide the dynamics and effects within the piece. The conductor still also performs their traditional role of music interpreter and achieving a balance within the overall colours of the orchestra.

Time Brackets

The left time indicates the start of the bracket, the right time indicates the end, all material within the bracket must be played between the times indicated. Where there are pairs of starting and ending times, the performers must begin and end the material between the pairs of times. Alternatively, where there are single starting and ending times, the performer can play the notes as they choose, and do not have to fill the entire bracket. The exceptions to this rule are at 7'35" where all the brass must stop playing as close to 7'35" as possible, and at the end of the piece. In both these situations the conductor can cut off the sound in the traditional manner.

Where there are a number of pitches within a bracket, the performer is under no obligation to spread the pitches evenly across the bracket as notated in the score. The pitches can be performed any way the performer chooses within the times specified, and are evenly spread in the score so as to not suggest any particular rhythm.

The small notes which almost look like crotchets marked sfz in the score represent an articulated attack within a long note that is quite a lot louder than the preceding dynamic marking. Following the attack the performer quickly dies away to the original dynamic. Immediately before the attack is a good opportunity for the wind players to breathe (although they can breathe anytime they require within a long note provided they stagger their breathing). These attacks must be played within the times indicated on the staff. This type of material is handled specially in the vibraphone part, where the long note is bowed, and the attack is struck using a hard mallet. Following the attack, the performer continues to bow the note at the previously specified dynamic.

The Pacific Solution

(Ocean Floor 2)

Score

Luke Harrauld

0'00" 0'13" - 0'15" 0'25" - 0'31" 0'53" - 0'55" 1'11"

Flute 1 *p sfz p sfz f sfz f sfz*

Flute 2 *p sfz p sfz f sfz p sfz*

Oboe 1 *p sfz p sfz p sfz p sfz*

Oboe 2 *p sfz p sfz p sfz p sfz f sfz*

Clarinet in B♭ 1 *p sfz p sfz f sfz f sfz*

Clarinet in B♭ 2 *p sfz p sfz f sfz f sfz*

Bassoon 1 *p sfz p sfz f sfz p sfz*

Bassoon 2 *p sfz p sfz p sfz p sfz*

Horn in F 1 *p sfz p sfz p sfz p sfz*

Horn in F 2 *p sfz p sfz p sfz p sfz*

Horn in F 3 *p sfz p sfz p sfz p sfz*

Horn in F 4 *p sfz p sfz p sfz p sfz*

Trumpet in B♭ 1 *p sfz p sfz f sfz f sfz*

Trumpet in B♭ 2 *p sfz p sfz p sfz p sfz p sfz*

Trombone *p sfz p sfz p sfz p sfz*

Bass Trombone *p sfz p sfz p sfz p sfz*

Vibraphone *with hard mallets p p soft mallets mp p*

Violin I *f pizz. arco p mp p p*

Violin II *f pizz. arco p mp p p*

Viola *f pizz. arco p mp p p*

Cello *f p pizz. arco p mp p*

1'11" □ = from previous page

2'29"

1'18" - 1'22" 1'32" - 1'35" 1'38" - 1'40"

Fl. 1 *f* 1'18" - 1'20" *sfz* *p* 1'24" *p* 1'37" - 1'41" *ppp*

Fl. 2 *p* 1'21" - 1'23" *sfz* *p* 1'28" - 1'32" 1'36" - 1'42" *ppp*

Ob. 1 *f* 1'16" - 1'18" 1'17" - 1'22" *sfz* *p* 1'26" - 1'28" *sfz* *p* 1'36" - 1'42" *ppp*

Ob. 2 *f* 1'18" - 1'23" *sfz* *p* 1'37" - 1'41" *ppp*

B♭ Cl. 1 *f* 1'17" - 1'19" *sfz* *p* 1'38" - 1'40" *ppp*

B♭ Cl. 2 *p sfz* 1'12" - 1'14" 1'38" - 1'40" *ppp*

Bsn. 1 *p* 1'25" - 1'29" 1'22" - 1'24" *sfz* *p* 1'22" - 1'27" *p* 1'37" - 1'41" *ppp*

Bsn. 2 *f* 1'20" - 1'22" *sfz* *p* 1'37" - 1'41" *ppp*

Hn. 1 *p* 1'17" - 1'21" 1'18" - 1'20" *sfz* *p* 1'38" - 1'40" *ppp*

Hn. 2 *p* 1'14" - 1'18" *p* 1'37" - 1'41" *ppp*

Hn. 3 *p* 1'22" *p* 1'36" - 1'42" *ppp*

Hn. 4 *p* 1'17" - 1'19" 1'22" - 1'24" *sfz* *p* 1'37" - 1'41" *ppp*

B♭ Tpt. 1 *f* 1'20" - 1'25" *p* 1'38" - 1'40" *ppp*

B♭ Tpt. 2 *p* 1'16" - 1'18" 1'19" - 1'22" *sfz* *p* 1'37" - 1'41" *ppp*

Tbn. *p sfz* 1'12" - 1'14" 1'16" - 1'19" *p* 1'37" - 1'41" *ppp*

B. Tbn. *p sfz* 1'12" - 1'18" 1'13" - 1'15" *p* 1'38" - 1'40" *ppp*

Vib. *p* 1'30" - 1'36" 1'38" - 1'40" *p* *ppp* 2'16" - 2'18" with hard mallets *ff* 8^{va}

Vln. I *f* 1'25" - 1'30" 1'43" - 1'46" 2'03" - 2'05" 2'16" - 2'21" *f* *ff* *p* smooth - non vib

Vln. II *p* 1'13" - 1'16" 1'41" 2'02" - 2'06" 2'28" - 2'30"

Vla. *p* 1'29" - 1'31" 1'40" - 1'42" *pizz* 1'52" - 1'58" *arco* 2'12" - 2'16" *f* smooth - non vib

Vc. *p* 1'35" - 1'39" 1'54" - 1'56" *pizz* 2'03" - 2'05" *arco* 2'23" *f* smooth - non vib

2'29"

3'47"

3'19" - 3'21" *ppp* < *p* *sfz* 3'41" - 3'43"

3'23" - 3'29" *ppp* < *mp* *sfz* 3'46" - 3'48"

3'30" *ppp* < *p* *sfz* 3'41" - 3'43"

3'29" - 3'31" *ppp* < *mf* *sfz* 3'41" - 3'43"

3'12" - 3'25" *ppp* < *mf* *sfz* 3'41" - 3'43"

3'37" - 3'39" *ppp* < *mf* *sfz* 3'41" - 3'43"

3'31" - 3'33" *ppp* < *mp* *sfz* 3'41" - 3'43"

3'23" - 3'28" *ppp* < *mp* *sfz* 3'43" - 3'47"

2'34" - 2'38" *ff* 2'52" - 2'54" *p* < *mp* 3'07" - 3'09" *p* < *mp* 3'19" - 3'22" *p* 3'34" - 3'40" *p*

2'36" - 2'42" *p* > < *p* 2'53" - 2'56" *p* < *mp* > < *p* 3'11" *ff* 3'23" - 3'29" *f* < *mp* > < *p* 3'42" - 3'44" *p*

2'33" - 2'35" *f* > < *p* 2'48" - 2'53" *p* 2'55" - 2'57" *sfz* 3'09" - 3'12" *p* 3'29" *p* 3'32" - 3'34" *sfz* 3'45" *sfz*

2'41" - 2'45" *p* 3'02" *p* 3'11" - 3'13" *sfz* 3'14" - 3'16" *p* 3'30" - 3'33" *sfz* 3'44" - 3'50" *sfz*

3'27" - 3'29" *sfz* 3'44" - 3'46" *sfz*

Vib. 8^{va} soft mallets 8^{vb}

Vln. I *p* < *ff* > < *p* > < *p* > < *f* > < *mp* > < *p*

Vln. II non vib *p* > < *p* > < *p* > < *ff* > < *f* > < *ff* > < *p*

Vla. non vib *f* > < *p* > < *p* > < *sfz* > < *p* > < *sfz* > < *p*

Vc. non vib *f* > < *p* > < *p* > < *sfz* > < *p* > < *sfz* > < *p*

3'47"

5'05"

This page of a musical score contains the following instruments and parts:

- Flutes:** Fl. 1 and Fl. 2
- Oboes:** Ob. 1 and Ob. 2
- Clarinets:** B♭ Cl. 1 and B♭ Cl. 2
- Bassoons:** Bsn. 1 and Bsn. 2
- Horns:** Hn. 1, Hn. 2, Hn. 3, and Hn. 4
- Trumpets:** B♭ Tpt. 1 and B♭ Tpt. 2
- Trombones:** Tbn. and B. Tbn.
- Percussion:** Vib.
- Strings:** Vln. I, Vln. II, Vla., and Vc.

The score includes various musical notations such as notes, rests, and slurs. Dynamics are indicated by *mp*, *f*, *sfz*, *p*, and *ppp*. Time markers are placed throughout the score, such as 4'07" - 4'12", 4'26" - 4'28", and 4'47" - 4'53".

5'05"

6'23"

5'27" - 5'29" 5'33" - 5'37" 5'52" - 5'56" 6'17" - 6'22"

Fl. 1 *ppp* < *p* > *ppp* < *p* > *f*

Fl. 2 5'27" - 5'29" 5'33" - 5'37" 5'47" - 5'51" 6'12" - 6'14"

Ob. 1 5'27" - 5'29" 5'33" - 5'37" 5'48" - 5'50" 6'10" - 6'14"

Ob. 2 5'27" - 5'29" 5'33" - 5'37" 5'50" - 5'52" 6'12" - 6'14"

B♭ Cl. 1 5'27" - 5'29" 5'33" - 5'37" 5'48" - 5'50" 6'08" - 6'14" *f*

B♭ Cl. 2 5'27" - 5'29" 5'33" - 5'37" 5'48" 6'11" - 6'13"

Bsn. 1 5'27" - 5'29" 5'33" - 5'37" 5'51" - 5'53" 6'00" 6'15" - 6'17"

Bsn. 2 5'27" - 5'29" 5'33" - 5'37" 5'50" - 5'56" 6'12" - 6'18"

Hn. 1 5'12" - 5'14" 5'26" - 5'30" 5'33" - 5'37" 6'00" - 6'04" 6'14" - 6'19" *f*

Hn. 2 5'18" - 5'22" 5'36" - 5'40" 5'55" - 5'59" 6'14" - 6'19" *f*

Hn. 3 5'13" - 5'16" 5'31" - 5'33" 5'56" - 5'58" 6'06" - 6'11" 6'23"

Hn. 4 5'21" - 5'25" 5'36" - 5'38" 5'58" - 6'00" 6'23"

B♭ Tpt. 1 5'20" 5'32" - 5'34" 5'56" - 5'58" 6'14" - 6'19" *f*

B♭ Tpt. 2 5'22" - 5'24" 5'35" 5'56" *f* 6'11" - 6'13" 6'21" - 6'25"

Tbn. 5'24" - 5'26" 5'37" - 5'39" 5'59" - 6'01" 6'22" - 6'24"

B. Tbn. 5'08" - 5'12" 5'23" - 5'27" 5'33" - 5'35" 5'34" - 5'40" 5'52" - 5'58" 6'05" - 6'11"

Vib. 5'27" - 5'29" 5'33" - 5'37" 5'54" 5'57" - 5'59" 6'03" - 6'05" 6'09" - 6'12" *p*

Vln. I 5'27" - 5'29" 5'33" - 5'37" 5'51" - 5'53" 6'03" - 6'05" 6'19" - 6'23"

Vln. II 5'27" - 5'29" 5'33" - 5'37" 5'50" 6'04" - 6'06" 6'22" - 6'24"

Vla. 5'27" - 5'29" 5'33" - 5'37" 5'47" - 5'49" 6'01" - 6'04" pizz. arco 6'14" - 6'16" pizz.

Vc. 5'27" - 5'29" 5'33" - 5'37" 5'48" - 5'50" 5'50" 5'52" 6'05" - 6'07" pizz. arco 6'14" - 6'18" pizz.

conductor to cue the start point of each pitch for this bracket only

6'23" 7'41"

Fl. 1 6'37" - 6'42" 6'58" - 7'04" 7'37" - 7'39"

Fl. 2 6'31" - 6'33" 6'52" - 6'56" 7'37" - 7'39"

Ob. 1 6'31" - 6'33" 6'47" - 6'53" 7'37" - 7'39"

Ob. 2 6'30" 6'47" 7'37" - 7'39"

B♭ Cl. 1 6'29" - 6'32" 6'52" - 6'55" 7'37" - 7'39"

B♭ Cl. 2 6'29" - 6'32" 6'52" - 6'55" 7'37" - 7'39"

Bsn. 1 6'31" - 6'35" 6'50" 7'37" - 7'39"

Bsn. 2 6'32" - 6'34" 6'54" - 6'56" 7'37" - 7'39"

Hn. 1 6'35" - 6'41" 6'55" - 7'00" legato 7'12" - 7'14" 7'27" 7'35" 7'37" - 7'39"

Hn. 2 6'29" - 6'33" 6'46" - 6'48" 6'51" - 6'53" legato 7'03" 7'15" - 7'17" 7'35" 7'37" - 7'39"

Hn. 3 6'46" legato 7'00" - 7'02" 7'25" - 7'27" 7'35" 7'37" - 7'39"

Hn. 4 6'41" 6'50" legato 7'07" - 7'09" 7'19" - 7'22" 7'35" 7'37" - 7'39"

B♭ Tpt. 1 6'28" - 6'33" 6'58" - 7'02" legato 7'19" - 7'22" 7'35" 7'37" - 7'39"

B♭ Tpt. 2 6'49" - 6'52" 6'52" - 6'54" 7'07" - 7'11" 7'35" 7'37" - 7'39"

Tbn. 6'35" - 6'39" legato 7'00" 7'11" - 7'13" 7'19" - 7'25" 7'35" 7'37" - 7'39"

B. Tbn. 6'26" 6'42" - 6'46" 6'51" - 6'53" 6'57" - 6'59" 7'25" - 7'27" 7'35" 7'37" - 7'39"

Vib. 6'28" (bowed) 6'43" - 6'49" (struck) sim. 7'01" - 7'07" 7'37" - 7'39" bowed

Vln. I 6'39" - 6'43" 7'02" - 7'06" 7'37" - 7'39"

Vln. II 6'37" - 6'42" 6'53" - 6'56" 7'03" - 7'05" 7'37" - 7'39"

Vla. 6'32" - 6'37" 6'50" - 6'52" 7'03" - 7'05" 7'37" - 7'39"

Vc. 6'32" - 6'37" * 8va for bass 6'49" - 6'53" 7'01" - 7'07" 7'37" - 7'39"

7'41"

8'59"

This page of a musical score contains the following parts and markings:

- Flutes (Fl. 1, 2):** Dynamics include *mp*, *sfz*, *mf*, and *p*. Time markers: 7'53"-7'56", 7'56"-7'59", 8'10"-8'14", 8'15"-8'17", 8'32"-8'34", 8'33"-8'35".
- Oboes (Ob. 1, 2):** Dynamics include *p* and *f*. Time markers: 8'04", 8'13", 8'14", 8'30", 8'02", 8'13", 8'31".
- Clarinets (B♭ Cl. 1, 2):** Dynamics include *p*, *mf*, and *f*. Time markers: 8'04"-8'07", 8'17"-8'20", 8'34"-8'37", 7'44"-7'46", 7'53"-7'55", 8'00"-8'02", 8'23"-8'26", 8'35"-8'40".
- Bassoons (Bsn. 1, 2):** Dynamics include *mf*, *sfz*, *p*, and *mf*. Time markers: 8'01", 8'26", 8'50"-8'52", 7'45"-7'47", 7'55"-7'57", 8'02"-8'04", 8'21"-8'27", 8'28"-8'30", 8'43"-8'45", 8'46"-8'51".
- Horns (Hn. 1-4):** Dynamics include *p*, *sfz*, *mf*, and *f*. Time markers: 7'58"-8'01", 8'03"-8'05", 8'16"-8'20", 8'20"-8'22", 8'37"-8'41", 7'59"-8'04", 8'08"-8'10", 8'21", 8'24"-8'26", 8'30"-8'32", 8'36"-8'38", 8'38", 7'55", 8'10", 8'30", 7'49", 8'07", 8'25".
- Trumpets (B♭ Tpt. 1, 2):** Dynamics include *p*, *f*, and *p*. Time markers: 7'43"-7'45", 7'55"-7'59", 8'19"-8'23", 8'47"-8'49", 7'48"-7'50", 7'56", 8'19"-8'21", 8'39"-8'43".
- Trombones (Tbn., B. Tbn.):** Dynamics include *p*, *sfz*, and *p*. Time markers: 7'43"-7'45", 7'49", 7'53"-7'55", 7'56", 8'16"-8'20", 8'24"-8'26", 8'30"-8'32", 8'57"-8'59", 7'44"-7'46", 7'49"-7'51", 7'52"-7'54", 8'16"-8'20", 8'22"-8'24", 8'36"-8'38", 8'43", 8'57"-8'59".
- Vibraphone (Vib.):** Dynamics include *p* and *f*. Time markers: 8'06"-8'11", 8'22"-8'24", 8'37"-8'42", with hard mallets.
- Violins (Vln. I, II):** Dynamics include *p*, *sfz*, *p*, and *f*. Time markers: 7'43"-7'45", 7'46"-7'48", 7'56"-7'58", 7'57"-8'00", 8'06"-8'08", 8'08"-8'14" pizz., 8'17"-8'20", 8'23"-8'25", 8'30"-8'32", 8'32"-8'35", 8'39"-8'40", 8'38"-8'40".
- Viola (Vla.):** Dynamics include *p*, *sfz*, *p*, and *f*. Time markers: 7'44"-7'46", 7'59", 8'01"-8'03", 8'40"-8'42", 8'17"-8'19", 8'25"-8'25", 8'29"-8'31", 8'39"-8'41", 8'41"-8'43".
- Cello (Vc.):** Dynamics include *p*, *sfz*, *p*, and *f*. Time markers: 7'56"-7'58", 7'58"-8'00", 8'01"-8'03", 8'10"-8'12", 8'15"-8'17", 8'20"-8'22", 8'27"-8'29", 8'39"-8'41", 8'57"-8'59".

8'59"

10'17"

This page of a musical score contains the following parts and markings:

- Fl. 1:** 9'14" - 9'21", 9'23" - 9'25", 9'29" - 9'31", 9'40" - 9'42", 9'43", 10'05" - 10'07", 10'09" - 10'11". Dynamics: *ppp* < *p* *sfz*, *sfz*, *p*, *f* *sfz* *f* > *p*. Includes "non vib."
- Fl. 2:** 9'31", 9'39" - 9'43", 9'49" - 9'54", 10'06" - 10'08". Dynamics: *ppp* < *p*, *f*, *p*, *sfz*, *p*.
- Ob. 1:** 9'37" - 9'41", 9'43" - 9'45", 9'49" - 9'51", 9'53" - 9'57", 10'03" - 10'09", 10'14" - 10'16". Dynamics: *ppp* < *p*, *sfz*, *sfz*, *p* < *mp* > *p*, *sfz*.
- Ob. 2:** 9'25" - 9'30", 9'43" - 9'45", 9'49" - 9'53", 9'56" - 10'02", 10'05" - 10'07". Dynamics: *ppp* < *p*, *sfz*, *sfz*, *p* < *mp* *sfz* > *p*.
- B♭ Cl. 1:** 9'12" - 9'17", 9'25" - 9'30", 9'35" - 9'37", 9'53" - 9'56", 10'12" - 10'14". Dynamics: *ppp* < *p*, *f*, *p*, *f* *sfz* > *p*.
- B♭ Cl. 2:** 9'14" - 9'16", 9'17" - 9'19", 9'25" - 9'27", 9'37" - 9'39", 9'38" - 9'44", 9'58" - 10'04", 10'09" - 10'11". Dynamics: *ppp* < *p* *sfz*, *sfz*, *p*, *non vib.*, *f* *sfz* > *p*.
- Bsn. 1:** 9'12" - 9'14", 9'16", 9'31" - 9'33", 9'36", 9'44" - 9'46", 9'53" - 9'56", 9'58" - 10'00". Dynamics: *p* *sfz*, *p*, *mp*, *sfz*, *p*, *f* *sfz*, *p*, *sfz*.
- Bsn. 2:** 9'12" - 9'14", 9'16", 9'31" - 9'33", 9'36", 9'44" - 9'46", 9'53" - 9'56", 10'11" - 10'13". Dynamics: *p* *sfz*, *p*, *mp*, *sfz*, *p*, *f* *sfz*, *p*, *sfz*.
- Hn. 1:** 9'17", 9'31", 9'46" - 9'48", 9'57", 9'58". Dynamics: *ppp* < *p*, *f*, *f*, *p*. Includes "utter tongue".
- Hn. 2:** 9'31", 9'58". Dynamics: *ppp* < *p*, *f*, *p*. Includes "utter tongue".
- Hn. 3:** 9'43" - 9'45". Dynamics: *ppp* < *p*, *f*, *p*.
- Hn. 4:** 9'42" - 9'44". Dynamics: *ppp* < *p*, *f*, *p*.
- B♭ Tpt. 1:** 9'31", 9'56". Dynamics: *ppp* < *p*, *f*, *p*.
- B♭ Tpt. 2:** 9'20", 9'42" - 9'44", 9'54", 9'56". Dynamics: *ppp* < *p*, *f*, *p*.
- Tbn.:** 9'00" - 9'05", 9'24" - 9'30", 9'46" - 9'49", 9'54" - 9'56". Dynamics: < *p*, *sfz*, *mp*, *p*, *f* *sfz*, *p*, *sfz*.
- B. Tbn.:** 9'05", 9'09" - 9'11", 9'24" - 9'29", 9'35" - 9'37", 9'46" - 9'51", 10'06" - 10'08". Dynamics: < *p*, *sfz*, *mp*, *p*, *f* *sfz*, *p*, *sfz*.
- Vib.:** 9'17" - 9'23" "bowed", 9'41" - 9'43", 9'48" - 9'52", 9'54" - 9'56", 10'04" - 10'09". Dynamics: *ppp* < *p*, *sfz*, *p*, *sfz*, *p*.
- Vln. I:** 9'33" - 9'40", 9'49" - 9'51", 9'57" - 9'59", 10'04" - 10'06", 10'14" - 10'16". Dynamics: *ppp* < *p*, *pizz.*, *arco*, *pizz.*, *arco*, *p*, *sfz*, *sfz*.
- Vln. II:** 9'29" - 9'32", 9'49" - 9'51", 9'57" - 9'59". Dynamics: *ppp* < *p*, *p*, *sfz*.
- Vla.:** 9'16" - 9'20", 9'43" - 9'47", 10'03" - 10'07". Dynamics: *ppp* < *p*, *p*.
- Vc.:** 9'05" - 9'09", 9'09" - 9'11", 9'27" - 9'29", 9'35" - 9'37", 9'53" - 9'58", 10'14" - 10'16". Dynamics: *p*, *sfz*, *mp*, *p*, *f* *sfz*, *p*, *sfz*.

Last Exit

**for flute, clarinet in B flat, tenor saxophone in B flat, drums,
electric guitar, piano, violin, cello, double bass.**

by

Luke Harrald

Last Exit was written specifically for a master class conducted by Kristjan Järvi and the Absolute Ensemble in the 2004 Adelaide Festival of Arts. Dealing with themes of being on the edge of oblivion (with the hope of new life), the work was inspired by the sight of two burned out busses sitting on top of a giant pile of scrap metal at sunset on the docks of Port Adelaide. Very much a crossover work, rhythms influenced by 'Rage Against the Machine' are combined with guitar riffs inspired by the virtuosity of Neil Young's playing on the soundtrack of Jim Jarmusch's 'Dead Man'.

2004

Last Exit

Luke Harrald

The musical score is divided into two systems. The first system includes parts for Flute, Clarinet in Bb, Tenor Saxophone, Drum Set, Electric Guitar, Piano, Violin, Cello, and Double Bass. The second system includes parts for Flute (Fl.), Baritone Clarinet (Bb Cl.), Tenor Saxophone (T. Sx.), Drum Set (D. S.), Electric Guitar (E. Gr.), Piano (Pno.), Violin (Vln.), Viola (Vc.), and Double Bass (D. B.).

Key musical details include:

- Flute:** Starts with a melodic line marked *f* (forte).
- Clarinet in Bb:** Enters in the second measure with a melodic line marked *f*.
- Tenor Saxophone:** Enters in the second measure with a melodic line marked *f*.
- Drum Set:** Provides a steady rhythmic accompaniment throughout.
- Piano:** Features a melodic line in the right hand and a bass line in the left hand, both marked *f* in the second system.
- Violin and Cello:** Play a rhythmic pattern of eighth notes, marked *f*.
- Double Bass:** Plays a rhythmic pattern of eighth notes, marked *f*.
- Flute (Fl.):** Continues the melodic line from the first system.
- Baritone Clarinet (Bb Cl.):** Continues the melodic line from the first system.
- Tenor Saxophone (T. Sx.):** Continues the melodic line from the first system.
- Drum Set (D. S.):** Features a change in rhythm at measure 6, marked *mp* (mezzo-piano).
- Electric Guitar (E. Gr.):** Features a complex rhythmic pattern in the right hand, marked *mp*.
- Piano (Pno.):** Continues the melodic and bass lines from the first system.
- Violin (Vln.):** Continues the rhythmic pattern from the first system.
- Viola (Vc.):** Continues the rhythmic pattern from the first system.
- Double Bass (D. B.):** Continues the rhythmic pattern from the first system.

11

Fl.

Bb Cl.

T. Sx.

D. S.

E.Gtr.

Pno.

Vln.

Vc.

D. B.

mf

mf

mf

mp

mp

15

Fl.

Bb Cl.

T. Sx.

D. S.

E.Gtr.

Pno.

Vln.

Vc.

D. B.

mf

mf

mf

mf

mf

mf

20

Fl.

Bb Cl.

T. Sax.

D. S.

E. Gtr.

Pno.

Vln.

Vc.

D. B.

mf

mf

25

Fl.

Bb Cl.

T. Sax.

D. S.

E. Gtr.

Pno.

Vln.

Vc.

D. B.

f

f

f

mp

f

f

f

f

f

30

Fl. *mp* *mf*

Bb Cl. *mp* *mf* *mf*

T. Sx. *mp* *mf* *mf*

D. S. *mf*

E. Gtr. *mf*

Pno.

Vln. *f*

Vc. *mf*

D. B. *mf*

35

Fl. *f*

Bb Cl. *f*

T. Sx. *f*

D. S. *f*

E. Gtr. *f*

Pno. *mf* *f*

Vln. *f*

Vc. *f*

D. B. *f*

FL. *f*

Bb Cl. *f*

T. Sax. *f*

D. S. *mf* *f*

E. Gtr. *mf* *f*

Pno. *mf* *f*

Vln. *mf* *f*

Vc. *mf* *f*

D. B. *mf* *f*

FL. *f*

Bb Cl. *f*

T. Sax. *f*

D. S. *mf* *f*

E. Gtr. *mf* *f*

Pno. *mf* *f*

Vln. *mf* *f*

Vc. *mf* *f*

D. B. *mf* *f*

48

Fl.

Bb Cl.

T. Sax.

D. S.

E. Gtr.

Pno.

Vln.

Vc.

D. B.

55

Fl.

Bb Cl.

T. Sax.

D. S.

E. Gtr.

Pno.

Vln.

Vc.

D. B.

mf

mf

mf

mf

mf

mf

mf

mf

61

Fl.
Bb Cl.
T. Sax.
D. S.
E. Gr.
Pno.
Vln.
Vc.
D. B.

f
f
f
ff
ff
ff
f
f
f

Detailed description: This block contains the musical score for measures 61 through 66. It features nine staves: Flute (Fl.), Bb Clarinet (Bb Cl.), Tenor Saxophone (T. Sax.), Double Bass (D. S.), Electric Guitar (E. Gr.), Piano (Pno.), Violin (Vln.), Viola (Vc.), and Double Bass (D. B.). The score is written in a key with one sharp (F#) and a 4/4 time signature. The piano part has a steady accompaniment of eighth notes. The guitar and bass parts feature rhythmic patterns of eighth and sixteenth notes. The woodwinds and strings play melodic lines with various articulations. Dynamic markings include *f* (forte) and *ff* (fortissimo).

67

Fl.
Bb Cl.
T. Sax.
D. S.
E. Gr.
Pno.
Vln.
Vc.
D. B.

ff
ff
ff
ff
ff
ff
ff
ff
ff

Detailed description: This block contains the musical score for measures 67 through 72. It features the same nine staves as the previous block. The piano part continues with its eighth-note accompaniment. The guitar and bass parts maintain their rhythmic patterns. The woodwinds and strings play melodic lines, with some instruments showing more complex rhythmic figures. Dynamic markings are consistently *ff* (fortissimo) throughout this section.

Musical score for measures 84-88. The score includes parts for Flute (Fl.), Bb Clarinet (Bb Cl.), Tenor Saxophone (T. Sax.), Double Bass (D. S.), Electric Guitar (E. Gtr.), Piano (Pno.), Violin (Vln.), Viola (Vc.), and Double Bass (D. B.). The piano part features a rhythmic accompaniment of eighth notes. The electric guitar part has a complex, textured sound with many notes. The violin and viola parts have melodic lines with some slurs. The double bass part has a steady eighth-note pattern.

Musical score for measures 89-92. The score includes parts for Flute (Fl.), Bb Clarinet (Bb Cl.), Tenor Saxophone (T. Sax.), Double Bass (D. S.), Electric Guitar (E. Gtr.), Piano (Pno.), Violin (Vln.), Viola (Vc.), and Double Bass (D. B.). The flute and clarinet parts are mostly silent. The tenor saxophone part has a few notes. The double bass part has a steady eighth-note pattern. The electric guitar part has a complex, textured sound with many notes. The piano part features a melodic line with some slurs and a dynamic marking of *p*. The violin and viola parts have melodic lines with some slurs.

94

Fl.

Bb Cl.

T. Sx.

D. S.

E. Gtr.

Pno.

Vln.

Vc.

D. B.

100

Fl.

Bb Cl.

T. Sx.

D. S.

E. Gtr.

Pno.

Vln.

Vc.

D. B.