

Luca Francesconi

Ballata

2002

creation
2011



The setup and the execution of the electroacoustic part
of this work requires a Computer Music Designer (Max expert).

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Work related information

Performance details

- Oct. 29, 2002, Bruxelles, Théâtre Royal de la Monnaie

Publisher : Ricordi

Detailed staff

- soloists: 2 solo baritones [1. Jeune Marin ; 2. 2d invité : voix baroque amplifiée] , 3 solo tenors [1. Timonier ; 2. la Mort ; 3. 1er invité : voix baroque amplifiée] , 2 solo sopranos [1. dramatique : La Vie en la Mort ; 2. Page : soprano léger ou mezzo soprano, voix baroque amplifiée] , solo mezzo-soprano [Lune]
- women's choir à 4 voix , men's choir
- clarinet [sur scène] , accordion [sur scène] , cymbalom [sur scène] , violin [sur scène] , double bass [sur scène] , 2 piccolos, 2 flutes, 2 oboes, English horn (also piccolo), E-flat clarinet, 2 clarinets, bass clarinet, 2 bassoons, contrabassoon, 4 horns, 3 trumpets, 3 trombones, tuba, 6 percussionists, harp, piano (also celesta), electronic/MIDI keyboard/synthesizer, strings

Realisation

- Eric Daubresse

Useful links on Brahms

- [Ballata](#) opera in two acts (1996-1999), 2h25mn
- [Luca Francesconi](#)

Version related information

First performance

Performance date: Oct. 29, 2002

Documentation date: May 3, 2011

Version state: valid, validation date : May 3, 2018, update : May 6, 2021, 3:10 p.m.

Documentalist

You noticed a mistake in this documentation or you were really happy to use it? Send us feedback!

Realisation

- David Poissonnier (Sound engineer)
- Marco Gasperini (Documentalist)

Version length: 2 h 25 mn

Default work length: 2 h 25 mn

Comment

The patch is that used for the creation of the opera at the theatre "La Monnaie", Bruxelles, in 2002.

As for now the patch can't be used since many objects are no more working on current machines (porting needed). It should work with Max versions from 4.2 to 4.5. See "max4.6-log.txt" in "ballata-doc.zip" to see what kind of messages are given by Max/MSP 4.6.

Tested on an i7 MacBookPro, Mac OS X 10.6.4, with Max5.1.7 at least sound samples are being played and heard.

Other version(s)

- [Luca Francesconi - Ballata - 2020 update \(Feb. 1, 2020\)](#)
- [Luca Francesconi - Ballata - max6-unttested \(May 3, 2011\)](#)

Electronic equipment list

Computer Music Equipment

- 1 Macintosh G4 - *Apple Desktops* (Apple)
PPC processor
- 1 Mac OS - *OS* (Apple)
- 1 Max 4 PPC - *Max* (Cycling74)
version 4.2
- 2 KX 88 - *MIDI Keyboard* (Yamaha)
A : to trigger soundfiles and effects. B : to play the sampler.
- 2 MIDI booster - *Booster*

Audio Equipment

- 37 Microphone - *Microphone*
- 4 HF System - *HF System*
- 4 MPB 600 - *Passive Monitors* (Amadeus)
- 6 MPB 400 - *Passive Monitors* (Amadeus)
- 6 PM 200 - *Stage Monitors* (Amadeus)
- 2 subwoofer - *Subwoofers*
- 2 O2R - *Digital Mixers* (Yamaha)
- 1 01 V - *Digital Mixers* (Yamaha)
- 1 PCM80 - *Effects Processor* (Lexicon)
- 1 PCM 70 - *Effects Processor* (Lexicon)
- 1 Lexicon 300 - *Effects Processor* (Lexicon)

Musical Instruments

- 1 S5000 - *Sampler* (Akai)
RAM 74 MB

Files

File	Type	Author(s)	Comment
Ballata-AKAI.dmg	Sound banks	Eric Daubresse	AKAI S500 samples and multis
Ballata-Concert-patch.dmg	Patch	Eric Daubresse	Max/MSP 4.2-4.5
ballata-doc.zip	Patch	Eric Daubresse	Images, technical rider, various documents
Ballata-recording.zip	Recording(s)	Eric Daubresse	Recording (La Monnaie, 3 november 2002, MP3)

Instructions

Audio-MIDI setup

The input signals from the orchestra are split between two mixing consoles (O2R n.1 and n.2) linked with a Cascade card (the respective outputs are mixed).

Strings, Alto solo, Harp, Celesta and Actor (Ancient Mariner) are reverberated through a LEXICON 300 whose output is then sent to Output 1-2 (Loudspeakers 1 high and low, 2 high and low; see Figures 2-3).

The female choir is divided in four groups placed in different position in the hall (see Figures 2-3)

Female choir groups 1 and 4 (left side) are reverberated through a PCM 80 and go to Output 3-4.

Female choir groups 2-3 (right side) are reverberated through a PCM 70 and go to Output 5-6.

Each group is also reinforced on the respective loudspeakers in the hall: Choir 1 on loudspeakers 3 low and high, Choir 2 on loudspeakers 4 low and high, Choir 3 on loudspeakers 6 low and high, Choir 4 on loudspeakers 5 low and high.

Together with Choir 3 there is positioned also a trumpet in Bb, while with Choir 4 there are some percussion with microphones (bass drum 1 and 3 and snare-drum 4).

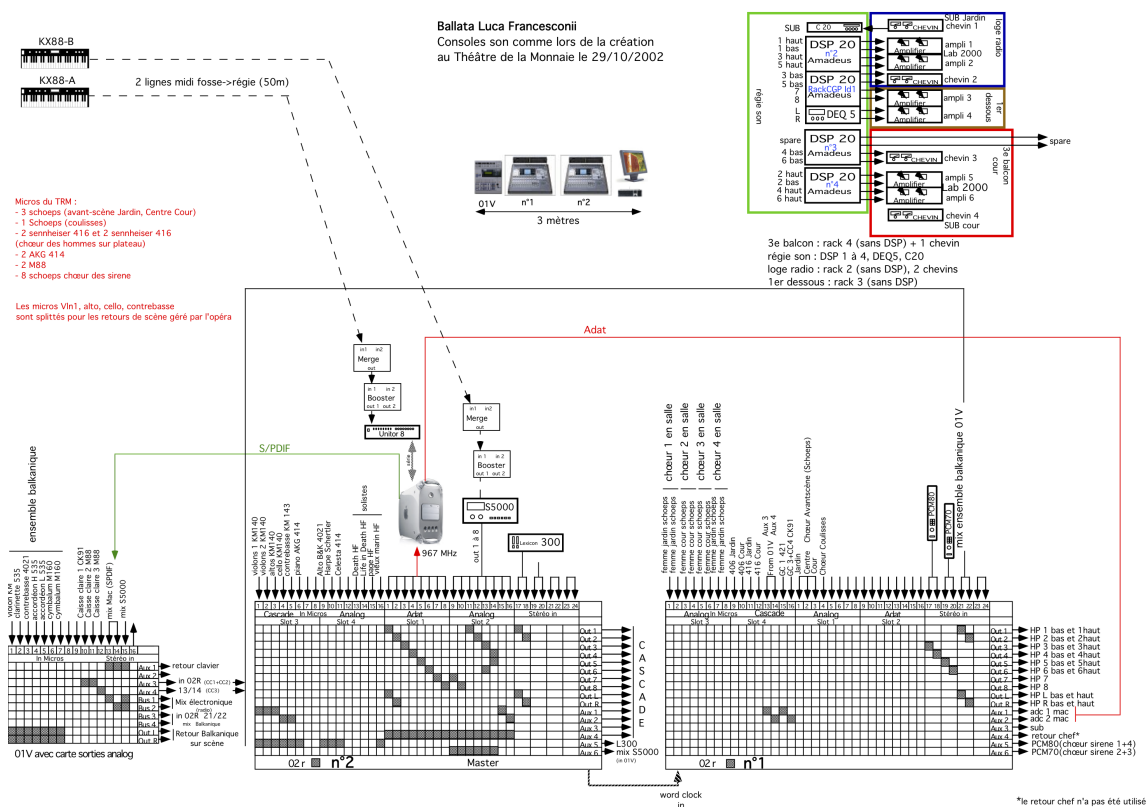
Channels 1-6 of AKAI S5000 are diffused in the hall (see Chapter 3) and also sent to 01 V for monitoring purposes.

The "ensemble balkanique" (violin, clarinet, accordion, cymbalum, contrabass, 3 snare-drums) playing on stage is mixed in a separate desk (01-V) and the mix (without snare-drums) is sent to loudspeakers L and R, for sound reinforcement. The snare-drums are instead sent to the Max/MSP patch. The 01-V is even used to provide monitoring signals from S5000 and Max/MSP output to KEYBOARD B player and of the "ensemble balkanique" to on stage monitors.

The male choir (on stage) is reinforced by fixed microphones (3 Schoeps on the proscenium: left, middle and right; 1 Schoeps backstage; 4 Sennheiser on stage).

Strings, Output 7 and 8 of AKAI S5000, Snare-drums 1-3 (on stage), bass drums 1 and 3, snare drum 4 (in the hall) and the female choir are routed to adc 1-2 of Max/MSP to be spatialized. The required signals should be routed there according to the score events (see Chapter 3).

Fig. 1



Loudspeakers setup

Fig. 2: Upper view of the theatre.

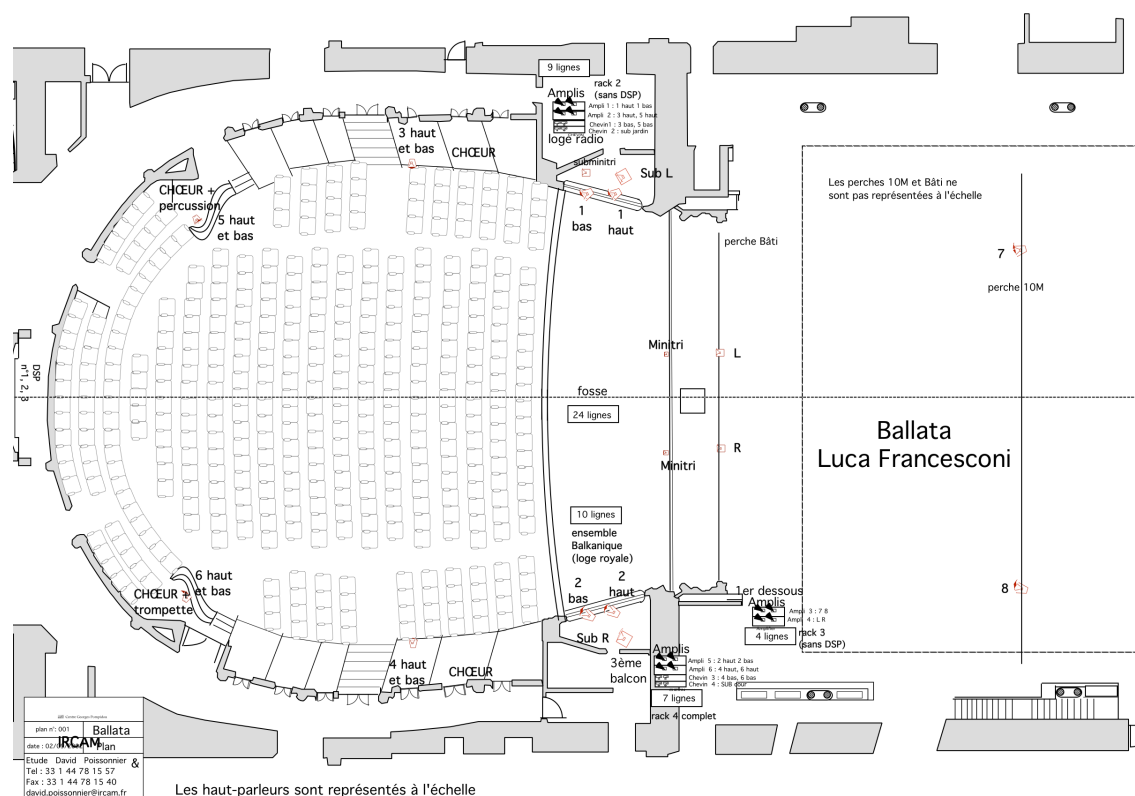
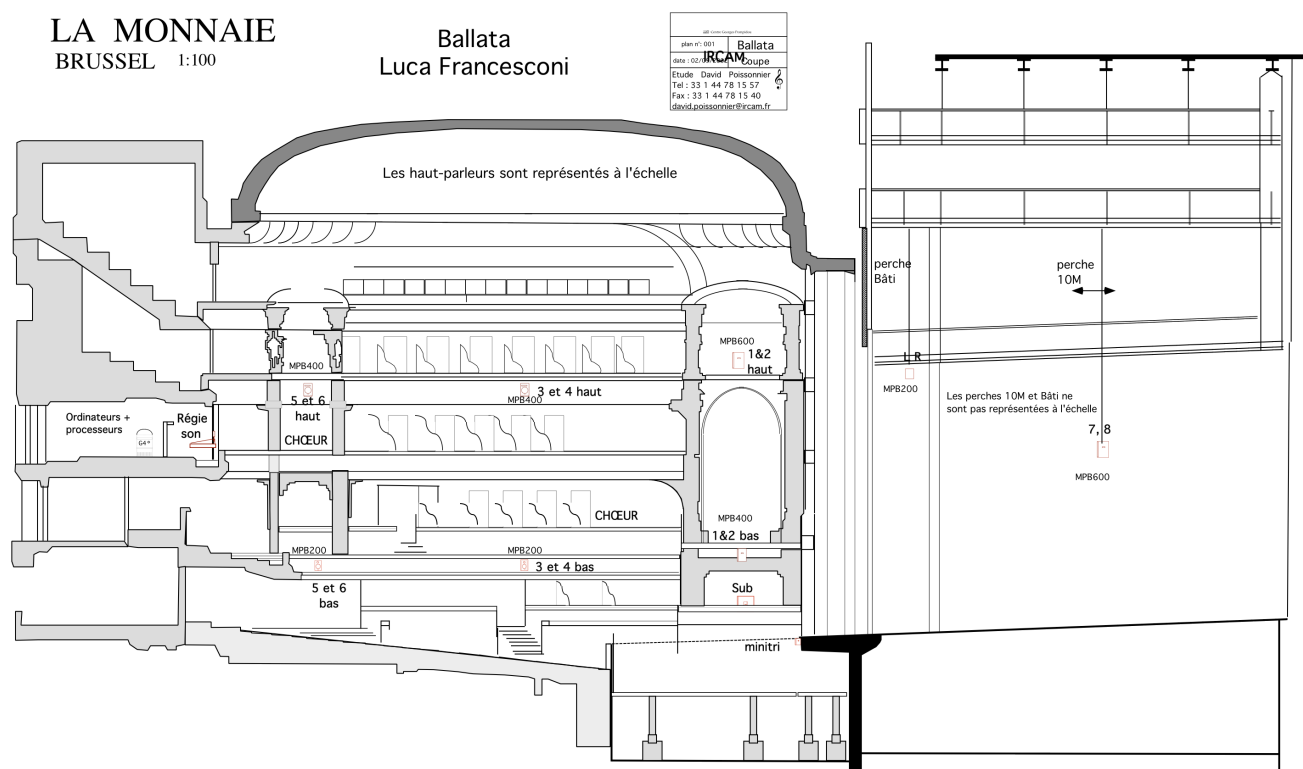


Fig. 3: Lateral section



MIDI keyboards

Two MIDI keyboards are used: one is directly linked to the Max/MSP patch to trigger both events and samples (KEYBOARD A, 7 octaves needed, from MIDI note 24 to 103) and the other is used to drive an AKAI S5000 sampler (KEYBOARD B).

The first keyboard is used to trigger the events (sound files and real time effects) which are described in Chapter 8 (see below) and in two documents "Events-Act-I.pdf" and "Events-Act-II.pdf", in the ".doc" folder. The ".Concert-patch/sounds" folder contains all the audio files used in the opera (1, 2 or 4 channels AIFF sound files, 16 bit, 44.1 kHz).

Each event cue corresponds to one pitch in a chromatic order, from low to high: whenever a certain note is played the patch jumps to the corresponding cue, if existing, according to the current program. In the first act note keys are used from 36 to 84, while in the second from 24 to 103. This keyboard should also send two program-change messages at the beginning of each act (PGM1 for the first act and PGM2 for the second).

As for the KEYBOARD B the folder ".AKAI/Ballata-S5K-Memory" contains multis, programs and samples to be loaded by the sampler and should be copied to its "Autoload" folder. In the folder ".AKAI/Ballata-programs-doc" there are the S5000 display

screenshots of the 12 Multis (which should correspond to program change messages from 1 to 12) and text files describing the programs. The 8 outputs of the sampler are thus routed to loudspeakers (L) in the hall (see O2R n.2 in Fig.1):

Outputs (AKAI S5000)	Loudspeakers (L)
1, 2	L7, L8
3, 4	L1, L2
5	L3, L6
6	L4, L5
7, 8	Max/MSP: adc 1-2

Output 7 and 8 are routed to the Max/MSP ADC 1 and 2 to be spatialized (see sampler events in "Events-Act-I.pdf" and "Events-Act-II.pdf").

The parts of the two keyboards are printed separately from the whole score and the event cue numbers are reported for each note of KEYBOARD A, but in the complete score are missing and also the KEYBOARD B part is not complete there.

Software installation

On the Macintosh laptop

1. copy the disk image called "Ballata-Concert-patch.dmg" on your hard disk drive and mount it;
2. launch Max/MSP (versions 4.2 to 4.5);
3. in the Max/MSP Options menu, click on File Preferences. Then add the folder "./Concert-patch";
4. browse the disk image to "Concert-patch" and launch the file called "CONCERT-11-05.pat".

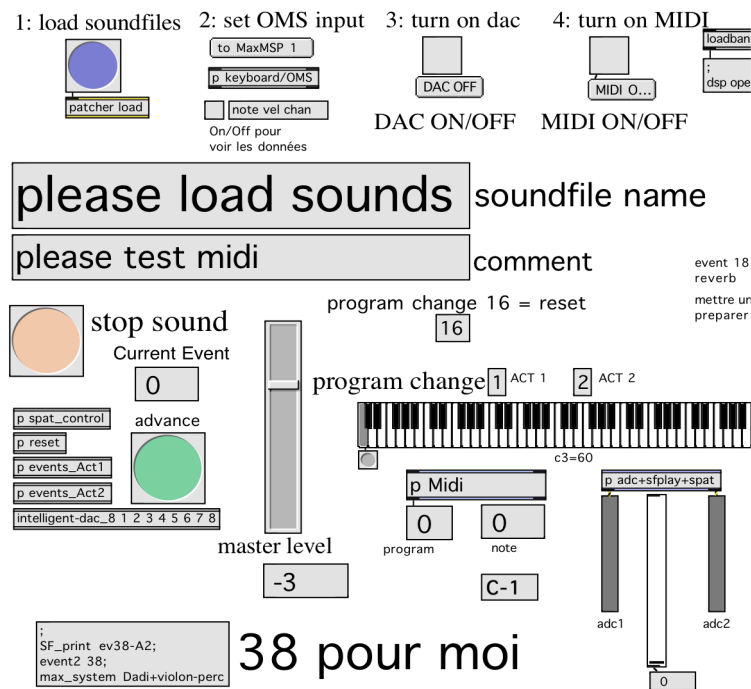
Patch presentation

The concert patch is composed of:

- top: initialization steps;
- middle: monitoring interface of events (audio file name and other comments).
- bottom-left: interface for events triggering, level management and main sub-patches. Events are represented by a single increasing number starting from 1 for each act.
- bottom-right: audio and MIDI sub-patchers, MIDI message triggering.

Fig. 4: Main patcher

BALLATA *MSP*



DSP description

There are 2 4-tracks and 3 2-tracks sample players (see Figure 5). DSP processing consists in two parallel SOLA harmonizers with feedback (Figures 6-7), used to transpose the choir downward (Act I event 28: one transposition -1200 cent; Act II event 29: two transpositions -1600 and -2400).

Fig. 5: sub-patcher [adc+sfplay+spat]

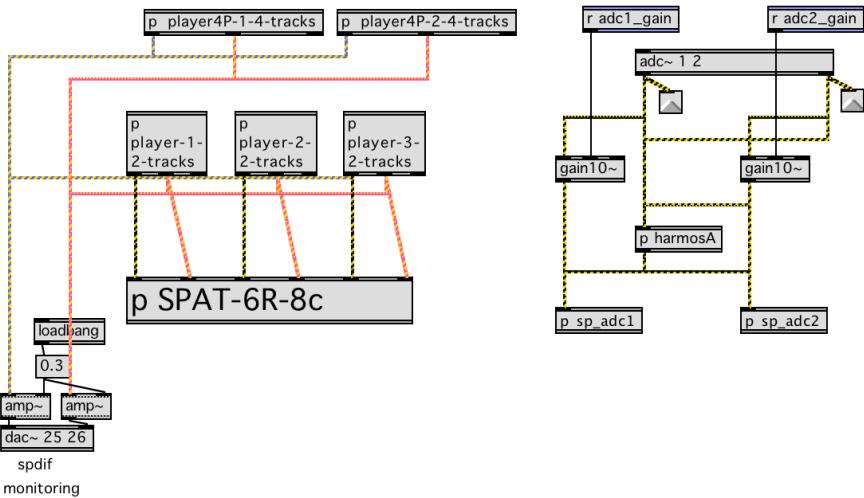


Fig.6: sub-patcher [hamosA]

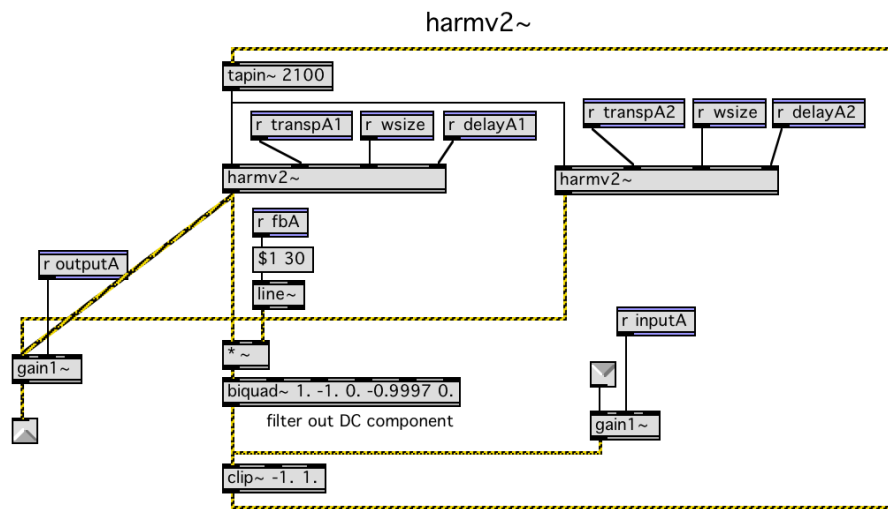
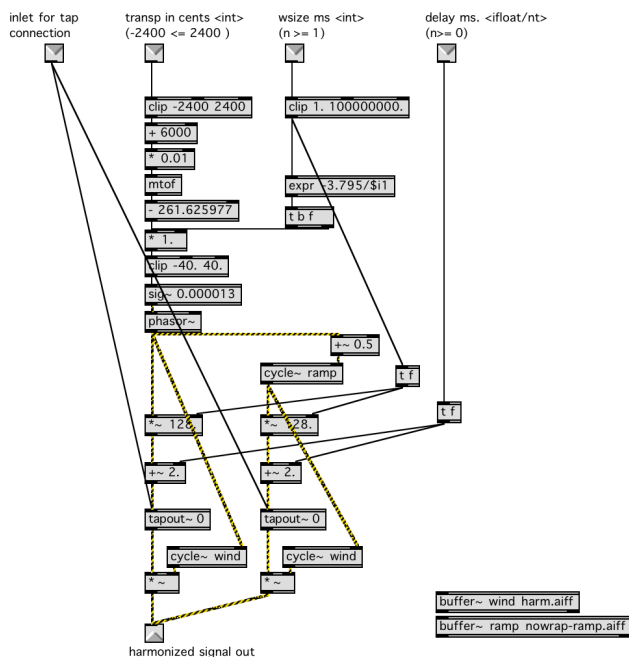


Fig. 7: sub-patcher [harmv2~]



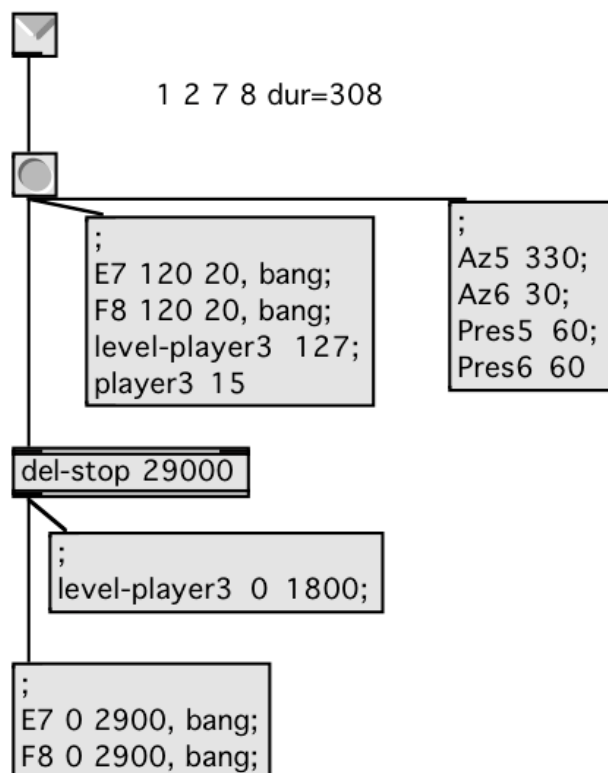
Initialization routine

To initialize the patch:

1. click on load soundfiles and wait three seconds;
2. set OMS input;
3. turn on the DSP by clicking turn on dac;
4. turn on MIDI.

After initialization the functioning might be tested by sending the program-change message (1 or 2) and then by clicking on the advance button. Current event will report the event number. By using the kslider it is possible to randomly access the event list. Events are defined in the two sub-patches "events_Act1" and "events_Act2" as lists of messages (see Fig.8 for an example).

Fig. 8: event 33, act II



Performance notes

Two inputs (adc 1 and 2) are received from the mixing console, where the signals required for each event should be mixed (see events lists for the different signals to be routed from the console to Max/MSP adc 1 and 2). The main treatment consists on spatialisation (IRCAM SPAT 3.3.2) of samples and live signals. Another treatment is used at the end of the first act (events 28 and 29): two parallel transpositions which affect the signal coming from the choir.

Events list

The events triggered by KEYBOARD A part are here listed for each act. For each event is indicated the event number, the complete score page number for that event, the sound source reference (sound file name or processed signals), number of tracks of the sound file, output signal routing and motions, MIDI messages (mainly note key numbers), sustain and comments; the events marked with S (sustain) should be played legato (fade-out envelopes on note-off messages to the sample being playback).

Act I

EVENT	page	name of sound	track	MIDI	sustain	spatialisation	O2R	comments
0	36	Sampler PGM1		PGM#1		1 2	1	magic-piano diffusion mf
1	42	ev01-A1 dur=29"9	2	36		scène 1 2 7 8		
2	50	ev02-A1 dur=59"6	2	38		scène->salle		
3	53	ev03-A1 dur=18"3	1	39	sustain	salle->scène		
4	53	ev04-A1 dur=7"	1	40		scène		mélangé à l'orchestre sur 1 2 7 8
5	66	Sampler PGM2		41		1 2 + pas spat mono		EFFECTS MOVIES (non utilisés) + VLA loops diffusion pp
6	72	ev06-ACT1 dur=43"9	1	43		scène->salle		
6bis	73	Sampler PGM3				34/ 5/6		ppnew alone diffusion p
7	75	ev07-A1 dur=15"2	1	45	sustain	1/2 3/4 5/6		
8	76	ev08-A1 dur=8"	1	47		salle->scène		1/2 3/4 5/6 vers 1 2
8bis	85	Sampler PGM4				7 8		CORIM soutien du chœur diffusion mf et retours
8ter	129	Sampler PGM5				1 2		CORIM-attack soutien du chœur diffusion mf et retours
9	150	ev09-A1 dur=10"9	1	48		7 8		
10	151	ev10-A1 dur=10"7	1	50		7 8		
11	152	ev11-A1 dur=1'26"4	2	52		lointain->salle		prendre ADAT lentement envahit la salle
12	154	ev12-A1 dur=16"6	2	53		7 8		singleICE
13	156	ev13-A1 dur=18"7	1	55		salle->scène		
14	173	ev14-A dur=16"1	2	57		scène->salle		
15	174	ev15-A1 dur=40"9	2	59		spirale		s'élargit lentement sur le Chœur (44") puis fade out sur fin (20") ajouter de la réverbération sur les percus
16	180	ev16-A1 dur=28"8	2	60		1 2		
17	183	ev17-A1 dur=15"2	2	62		1 2		
18	184	ev18-A1 dur=47"9	2	64		7/8 vers salle		comme 15 ajouter de la réverbération sur les percus
19	194	ev19-A1 dur=25"	1	65		lointain->salle		en balancier progressif scène->salle
20	197	ev20-A1 dur=28"4	1	67		salle->lointain		tourne autour du public puis s'éloigne sur la fin
21	207	ev21-A1 dur=4"1	1	69		7 8		lointain
21bis	208	Sampler PGM5				1 2		CORIM-attack soutien du chœur diffusion mf et retours
22	238	ev22-A1 dur=6"6	1	71		1 2		VIE attack
23	240	ev23-A1 dur=42"2	1	72		salle		VIE2 mouvements lents salle
		Sampler PGM12				3 4 5 6		diffusion p
24	240	ev24-A1 dur=59"6	1	74		scène->salle		NI en 12 "
25	241	ev25-A1 dur=1'13"7	1	76				GIO mouvements lents salle
26	242	ev26-A1 dur=41"	1	77				IA1 mouvements lents scène->salle avec fade out
27	242	ev27-A1 dur=1'08"7	1	79				CRU mouvements + vite
28	244	ev28-A1 dur=47"2	1	81				mouvements plus vite hamos réverbérés sur Chœurs -1200
29	245	ev29-A1 dur=48"3	1	83				hamos réverbérés sur Chœurs -1600 -2400
30	246	ev30-A1 dur=28"5	1	84				

Act II

EVENT	page	name of sound	track	MIDI	sustain	spatialisation	O2R	comments
1	247	ev01-A2-hp_7-8-rappel	1	PGM#2 24		7/8 vers salle		1 piste ev1,II-Lerappel mono
		ev01-A2-hp_1-2 et 5-6 dur=3'44"	2 x 2			1 2 5 6		4 pistes
2	249	ev02-A2 dur=10"2	1	25		7 8		SOLE1
3	249	adc percus		26		3 4 5 6		assignées
4	251	adc percus		27		3 4 5 6		Random
5	251	adc percus		28		3 4 5 6		assignées
6	252	adc percus		29		3 4 5 6		Random
7	252	adc percus		30		3 4 5 6		assignées
8	252	adc percus		31		3 4 5 6		Random
9	252	adc percus		32		3 4 5 6		assignées
10	253	adc percus		33		3 4 5 6		Random
11	253	adc percus		34		3 4 5 6		assignées
12	254	ev12-A2 dur=8"2	1	35		7 8		SOLE-2 OK + stop percus
13	254	adc percus		36		3 4 5 6		Random
14	255	adc percus		37		3 4 5 6		assignées
15	260	adc percus		38				stop percus
16	257	adc percus		39		3 4 5 6		Random + delai 16 " = fin du spat
17	260	adc percus		40		3 4 5 6		assignées
17 bis	261	Sampler PGM5		41		1 2		CORIM-attck (check) ou magic piano
18	262	fin spat percus		42				stop percus
19	267	adc percus		43		3 4 5 6		assignées
20	267	adc percus		44		3 4 5 6		Random
21	267	adc percus		45		3 4 5 6		assignées
22	268	ev22-A2-hp_1-2 à 5-6 dur=2'04"1	3 x 2	46		1 2 3 4 5 6		6 pistes granular
23	270	ev23-A2 dur=28"1	1	47		5 6->1 2		salle->scène
24	270	ev24-A2 dur=20"9	2	48		1 2->3 4		revient dans la salle vers 3 4
25	270	ev25-A2 dur=27"1	2	49		3 4 ->1 2 + 7 8		vers le lointain
25bis	271	Sampler PGM6				1 2		VOICI (alto + harpe + sampler vers monitors sirene)
26	272	ev26-A2 dur=14"1	2	50		1 2 7 8		
27	273	ev27-A2 dur=19"5	2	51		3 4		
28	274	ev28-A2 dur=8"2	1	52		5 6->1 2		SOLE-2 passage en 4" salle ->scène
29	274	ev29-A2 dur=10"9	2	53		1 2 7 8		
30	274	ev30-A2 dur=22"6	2	54		3 4 5 6		
31	275	ev31-A2 dur=12"8	2	55		1 2 7 8		
32	278	ev32-A2 dur=24"6	2	56		3 4 5 6		
33	280	ev33-A2 dur=30"8	2	57		1 2 7 8		
34	281	ev34-A2 dur=22"6	2	58		1 2 7 8		ACC53CRESC-P
		Sampler PGM7				1 2		Celeste
35	282	ev35-A2-hp_1-2 et 5-6	2 x 2	59		1 2 5 6		coupe le 34 avec un fade-out vite, et delai sur lstart de 4"

		dur=47"1					
35bis	283	Sampler PGM8			monitors 3 4 5 6		ppnew complexo
36	294	adc all strings		60	1 2 3 4 5 6		Random lent avec éclats
37	298	fin spat cordes		61			
38	307	adc percus + 1er violon		62	3 4 5 6		Random (20") comme des crépitements
		Sampler PGM9			1 2		DADI + respiro
39	339	ev39-A2 dur=30"4		63	Scène->Salle		impression de sortir de sa bouche
40	354	Sampler PGM9		64	1 2		DADI + respiro
41	359	Sampler PGM6			3 4 5 6 ?		VOICI (en principe hp 1 2)
42	362	ev42-A2 dur=42"5		65	3 4 + 5 6		dure jusqu' à scène 3 bis stopper avec 43 fin (delai)
43	363	ev43-A2-hp1->6 et hp5->2	4	66	1 2 + 5 6		SDOING1 croisé stéréo 1->6 5->2
		dur=9"2					
44	369	ev44-A2-hp5->2 et hp1->6		67	1 2 + 5 6		SDOING2 croisé stéréo 5->2 1->6
		dur=11"8					
45	369	ev45-A2 dur=4"4	1	68	S L->R	K	adc percu hp 1 7 + 2 8 sur les 2 grosses caisses
46	369	ev46-A2 dur=2"9	1	69	S R->L		COLPO upbeat à 13FINE
47	369	ev47-A2 dur=2"7	1	70	S L->R		
48	370	ev48-A2 dur=2"2	1	71	S L->R		
49	370	ev49-A2 dur=2"5	1	72	S R->L		
50	370	ev50-A2 dur=2"5	1	73	S L->R		
51	370	ev51-A2 dur=2"5	1	74	S R->L		
52	370	ev52-A2 dur=2"6	1	75	S L->R		
53	370	ev53-A2 dur=6"5	1	76	S R->L		
54	371	ev54-A2 dur=6"9	1	77	S L->R		
55	371	ev55-A2 dur=9"2	1	78	S R->L		
56	372	ev56-A2 dur=13"7	1	79	S L->R		
57	373	ev57-A2 dur=57"6	1	80	R + L		dispersion dans la salle aléatoire puis envahissement
57 bis	393	Sampler PGM7			1 2		celeste
58	413	ev58-A2 dur=18"5	2	81	Scène->Salle	K	impression d'avaler le son
59	419	ev59-A2 dur=22"8		82			coupé par 59 bis
59 bis		ev59bis-A2 dur=19"2		83	S 3->4->5->6		coupe le précédent avec crosfade
60	424	ev60-A2-hp_1-2 et 5-6	4	84	1 2 + 5 6		sera coupé par 61
		dur=1'27"					
61	428	ev61-A2-hp_1-2 et 5-6	4	85	1 2 + 5 6		se superpose au premier qui fait un release de 5"
		dur=30"1					
62	428	ev62-A2-hp_1-2 et 5-6	4	86	12 + 56		se superpose au 2eme qui fait un release de 3"
		dur=49"					
63	430	ev63-A2 dur=35"4	1	87	7 8->salle		tous les HP en 6" coupé par 64 reste 9 " puis release 2"
64	430	ev64-A2-L-R dur=37"2	2	88	Random		2 fichiers mono qui vont dans 2 random violents
65	430	Sampler PGM9		89			coupe 4 pistes (62)+ random (64) / DADI(7) + respiro(8)
66	433	Sampler PGM10			1 2		etymo PASSAC
67	438	ev67-A2 dur=22"2	1	90	1 2 3 4 5 6		partout
68	445	ev68-A2-hp_3-4 et 5-6	4	91	3 4 + 5 6		sera coupé par 68 bis

		dur=1'06"2					
68 bis	448	STOP ev68		92			coupe le 68 avec release de 2"
69	451	Sampler PGM9		93	1 2		DADI + respiro
70	457	Sampler PGM11		94	3 4		ppnew alone sortie 3 4 DADI sortie 7
71		sampleur spat		95	7 8		pour le spat des DADI
72	466	sampleur spat		96			pour le spat
73	468	ev73-A2 dur=22"6	1	97	S 1 2		prolonger la partie ff
74	477	sampleur spat		98	1 2		PGM 8 ppnew complexo
75	479	sampleur spat		99	3 4		PGM3 ppnew alone
76	485	Sampleur		100			
77	490	?		101	1 2		rires bimboride#1
78	491	?		102	1 2		rires bimboride#2
79	491	?		103	1 2		rires bimboride#3