

Oscar Bianchi
Pozzanghere | Mezzo Seccate
2023

v 1.0 / Première / Concert 50 ans Itinéraire
2024



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

- Nov. 17, 2023, France, Paris, Ircam, Espace de projection, concert des 50 ans de l'Itinéraire

Publisher : Durand

Detailed staff

- soloist: soprano
- trumpet, percussionist, accordion, piano, violin, viola, cello, double bass

Realisation

- Johannes Régnier

Useful links on Brahms

- [Pozzanghere | Mezzo Seccate](#) for soprano, eight instruments and electronics (2023), 25mn
- [Oscar Bianchi](#)

Version related information

First performance

Performance date: Nov. 17, 2023

Documentation date: Jan. 16, 2024

Version state: valid, validation date : Feb. 15, 2024, update : Feb. 15, 2024, 3:31 p.m.

Documentalist

(regnier@ircam.fr)

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

Realisation

- Clément Cerles (Sound engineer)
- Johannes Regnier (Computer Music Designer)
- Oscar Bianchi (Composer)

Version length: 25 mn

Default work length: 25 mn

No other version available

Electronic equipment list

Computer Music Equipment

- 1 MacBook Pro - *Apple Laptops* (Apple)
Macbook Pro M1 Pro, 32 GB RAM, Mac OS Monterey v. 12.3.1
- 1 Max 8 - *Max* (Cycling74)
- 1 Digiface Dante - *Sound Board* (RME)
- 1 BCF 2000 - *MIDI Mixer* (Behringer)

Audio Equipment

- 2 Microphone - *Microphone*
1x KMS105 + 1 x DPA4061 for Soprano
- 4 Microphone - *Microphone*
3 x DPA6061 for Viola, Violin, Cello, 1 x DPA4099 for Double Bass
- 1 Microphone - *Microphone*
1 x DPA4099 for Trumpet
- 2 Microphone - *Microphone*
2 x C414 for Accordion L/R
- 2 Microphone - *Microphone*
2 x MKH40 for Piano L/R
- 9 Microphone - *Microphone*
2 x C535 for Vibraphone
2 x C535 for Marimba
1 x C535 for Glockenspiel
1 x DPA4055 for Bass Drum
1 x KM184 for Bell Plates
1 x KM 184 for Springs
1 x DPA2011 for Tom
- 1 Contact microphone - *Contact Microphones*
1 x YamahaKo for Piano

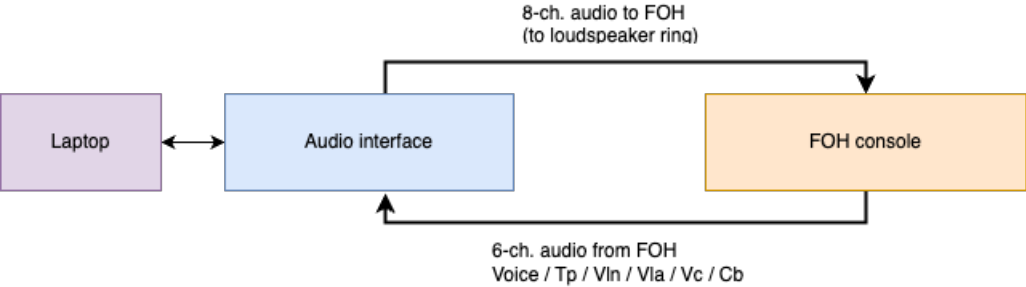
Files

File	Type	Author(s)	Comment
Oscar Bianchi_Pozzanghere_v1.dmg	Performance patch	Johannes Regnier	Concert patch , abstractions library, simulation file
IRCAM Spat library v. 5.3.2	Other		Spat Library v5.3.2. This is the one used for the performance patch v.1.0. More recent ones should work as well. Adding this version for the sake of completeness.
Pozzanghere Full Score with Cues.pdf	Score		

Instructions

1. Audio setup

Requirement: 1 laptop + 1 audio interface with at least 6 inputs/8 outputs.
The concert laptop receives 6 audio channels from the FOH console, and outputs 8 audio channels back to the FOH console.
For the premiere, a RME Digiface DANTE audio interface was used.



Input channels FOH → ADCs concert laptop:

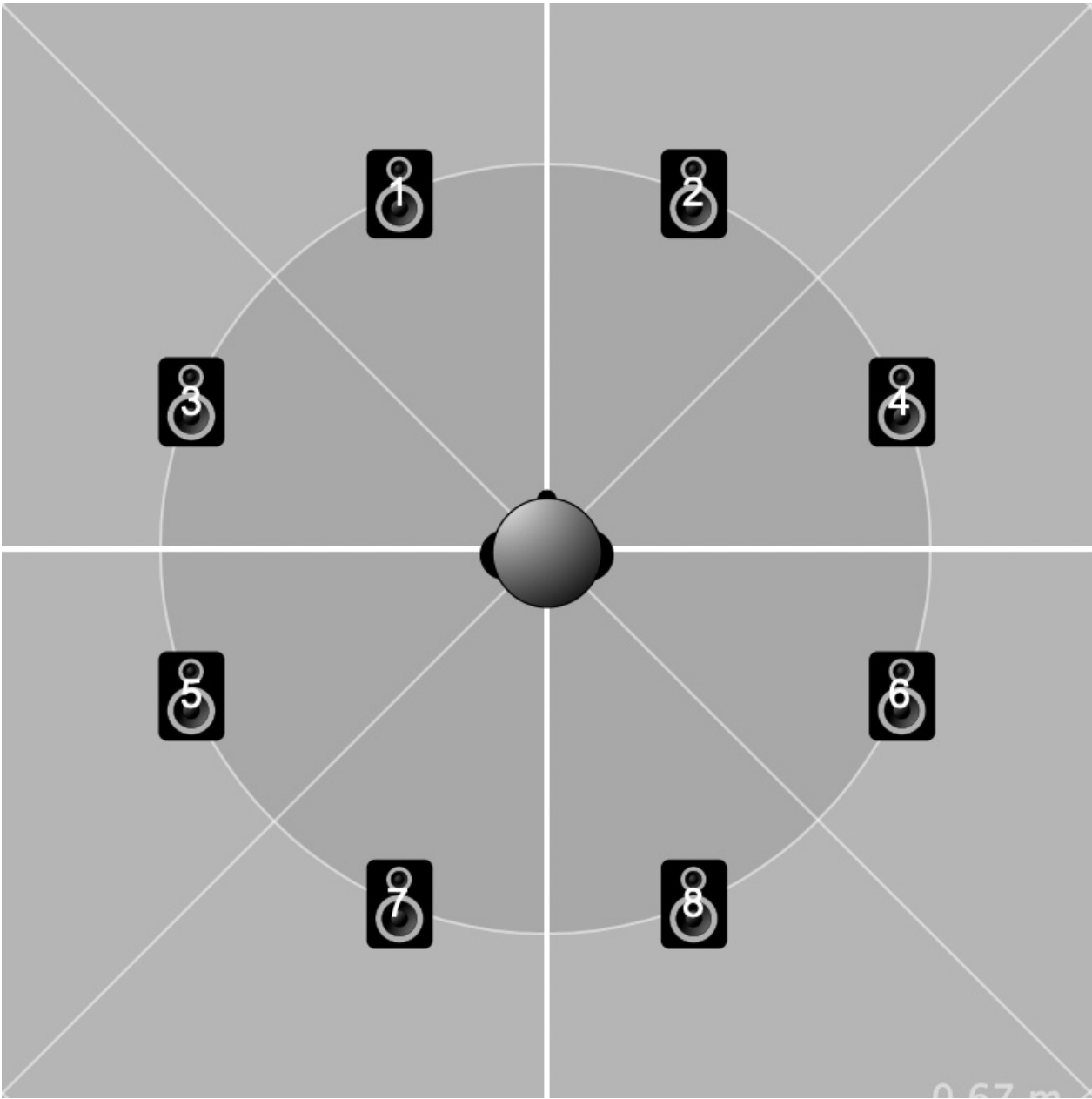
input	Max/MSP adc~	audio interface channel
1	Voice	DANTE 1
2	Trumpet	DANTE 2
3	Violin	DANTE 3
4	Viola	DANTE 4
5	Cello	DANTE 5
6	Double Bass	DANTE 6

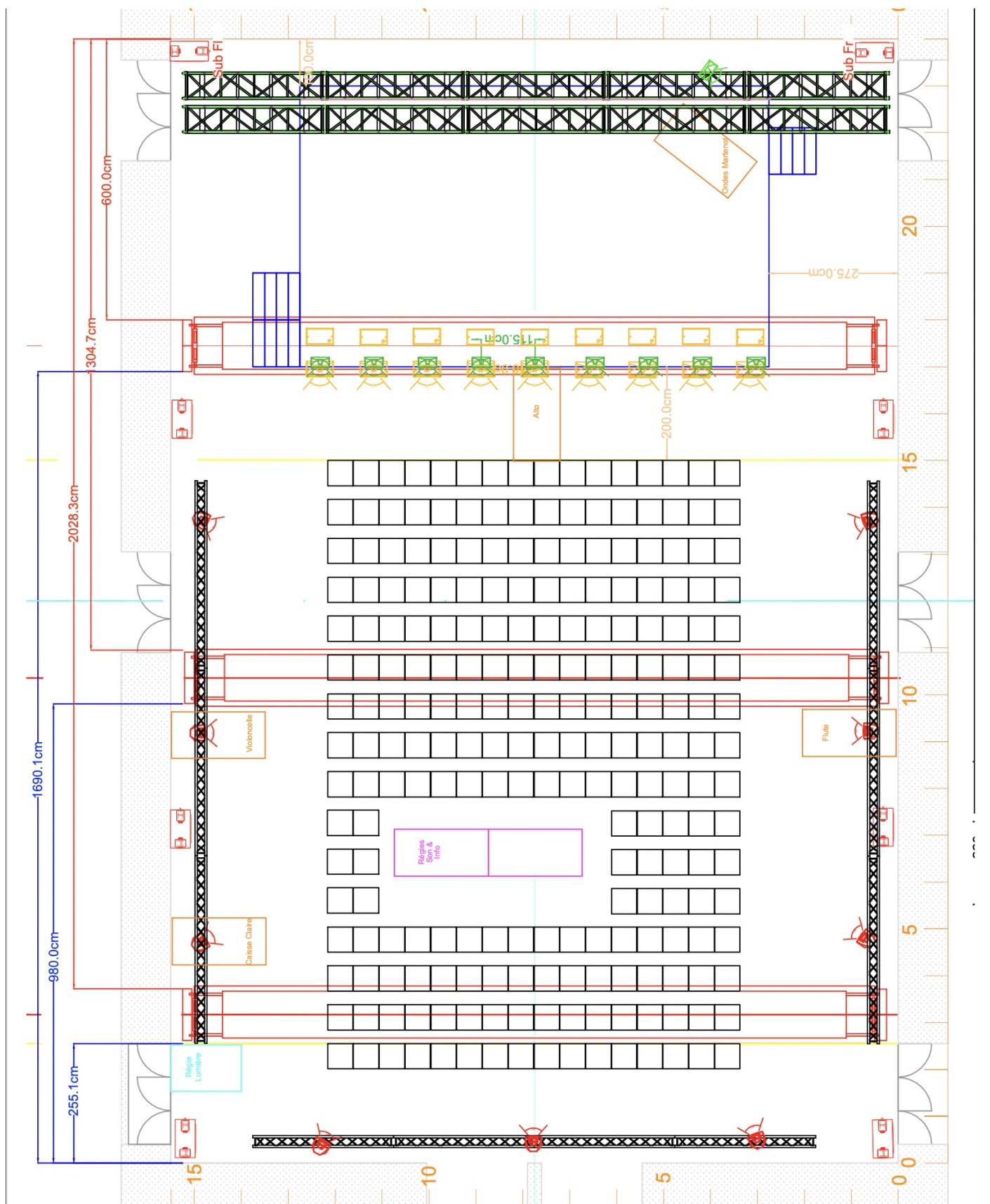
Output channels DACs concert laptop → FOH:
DACs 1 to 8 assigned to loudspeakers ring (loudspeakers 1 to 8)

output	Max/MSP dac~	audio interface channel	loudspeaker
1	main out 1	DANTE 1	LS 1
2	main out 2	DANTE 2	LS 2
3	main out 3	DANTE 3	LS 3
4	main out 4	DANTE 4	LS 4
5	main out 5	DANTE 5	LS 5
6	main out 6	DANTE 6	LS 6
7	main out 7	DANTE 7	LS 7
8	main out 8	DANTE 8	LS 8

2. Loudspeaker setup

The direct sounds of all the instruments and of the soprano are amplified directly via the FOH console, with frontal sound projection.
The laptop outputs 8 channels, to 8 loudspeakers arranged as a ring around the audience.
The arrangement consist of 4 stereo pairs:
1/2 front left / front right
3/4 front side left/ front side right
5/6 back side left/back side right
7/8 back left / back right





Care must be taken to properly balance the direct sound of the live instruments and the processed sound of the electronics, so that they fusion well together.

Subwoofers are necessary for proper reproduction of some electronic processes: they can simply be fed with a mixdown of channels 1 and 2

3. Midi setup

A simple USB MIDI controller is used to control the gain of all the sound processes, as well as the main master output gain. A MIDI controller with 8 faders is required. In the current version (v1.0), the MIDI CC numbers are hardwired to CC81 to CC88. Adapt it accordingly to your own controller in subpatcher [IO]. MIDI channel is 1.

For the premiere, a Behringer BCF2000 was used.

MIDI CC	Controlled Parameter
81	Ring modulation output level
82	Black Hole reverb output level
83	Stereo spectral blur output level
84	octophonic spectral blur output level
85	Sinewaves output level
86	Bass synth output level
87	Spat output level (8-ch)
88	Main output level

4. Software installation

2 dmg files are needed: Bianchi_Pozzanghere_v1.dmg file (concert patch, library, simulation file), and the Spat library (version 5.3.2).

- Copy both dmg files on your SSD or HD, and mount them.
- Copy their full content in a folder on your HD or SSD.
- Add that folder to the files preferences of Max/MSP (menu Options/File Preferences...), with “subfolders” checked.

a) Max/MSP patches

Open the main concert patch: 00_Pozzanghere_Main_v1.0.maxpat . It should open without errors.
All the required abstractions and gendsp files are in the “lib” subfolder.

b) Routing in Max/MSP

ADC 1 to 6 get the live instruments signals from the FOH console:

- 1 - Voice
- 2 - Trumpet
- 3 - Violin
- 4 - Viola
- 5 - Cello
- 6 - Double Bass

DAC 1 to 8 output to the ring of loudspeakers (LS 1 to 8, via the FOH console)


c) DSP Status Options (Fs, IO vs, S vs, Overdrive, Audio Interrupt, Vector Optimization)

On Apple Silicon: lower vector sizes generally result in lower CPU usage.

For Apple M1/M2/M3, audio settings should be:

48k,64 IOVS, 64 SVS, Overdrive ON, Audio interrupt OFF

Audio Status



CPU 20 %

Driver

Core Audio ▾

Input Device

Microphone MacBook... ▾

Output Device

Digiface Dante (23970... ▾

Performance and Scheduler

Sampling Rate

48000 ▾

I/O Vector Size

64 ▾

Signal Vector Size

64 ▾

Scheduler in Overdrive

✕

Audio Interrupt

✕

CPU % Limit

▶0

Input

Output

Ch 1

1 Input 1 ▾

Ch 1

1 Dante 1 ▾

Ch 2

Off ▾

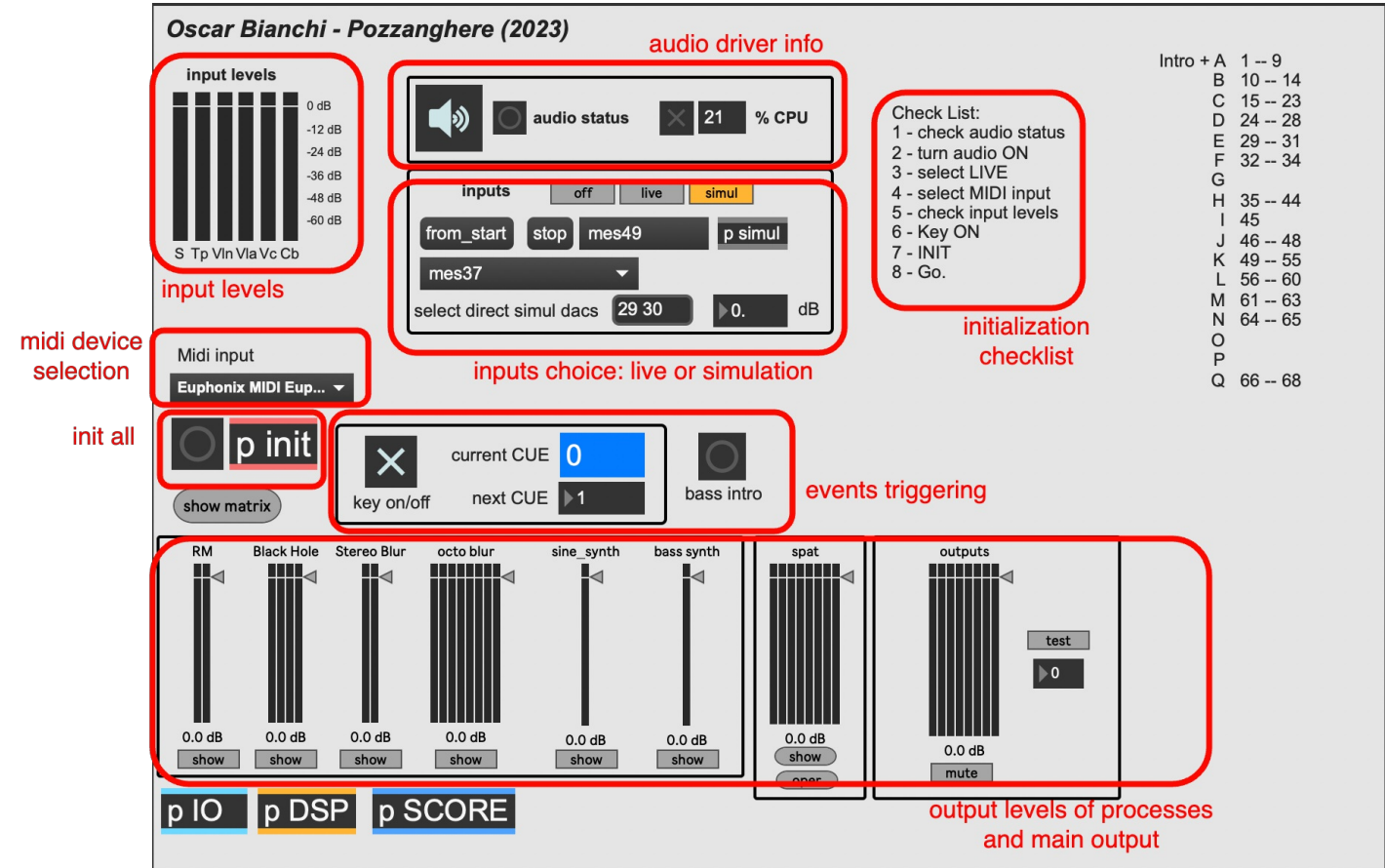
Ch 2

2 Dante 2 ▾

Audio Driver Setup

Open I/O Mappings

5. Patch presentation



a) Notations

N/A

b) Shortcuts

Once the “KEY” toggle is activated:

- space bar: trigger next cue
- right arrow: select next cue (without triggering)
- left arrow: select previous cue (without triggering)

c) Main patch

00_Pozzanghere_Main_v1.0.maxpat

The patch processes the 6 live inputs in real-time.
Here is a quick description of the audio processes:

Process	#Ins	#Outs	Description
RM	1	2	A simple ring modulator. Modulator: sine wave. mono in / stereo out
Black Hole	1	4	4-ch reverberator, with pitch-shifting in the feedback paths. mono in / 4 outs
Stereo Blur	1	2	Stereo spectral blur. mono in / stereo out
Octo blur	1	8	8-ch spectral blur, with individual delay per channel. mono in / 8 outs
Sine synth	N/A	1	polyphonic sine synthesizer. mono out.
Bass synth	N/A	1	Monophonic virtual analog synthesizer. mono out
Spat	8	8	Spatialisateur. 8 sources. 8 speakers. VBAP2D.

d) Main sub-patches

[IO] : audio inputs/outputs and MIDI inputs

[DSP] : all the audio processes

[SCORE] : electronic score (messages)

[INIT] : main initialization messages

6. Initialization routine

1 - check audio status

2 - turn audio ON

3 - select LIVE inputs

4 - select MIDI input

5 - check input levels

6 - Toggle Key ON

7 - click INIT

8 - good to go.

7. System calibration and tests

Input levels:

Check that the input live signals don't clip. Average input levels should be around -24 to -18 dBFS.

Gain staging has to be made by the FOH sound engineer on the console. No adjustments have to be made within the patch.

Checking the DAC outputs:

Click the button [test] close to the outputs slider to send a test signal to the 8 DAC outputs.

Simulation:

Select input "simul".

The simulation consists of an 8-ch audio file corresponding to soprano/Tp/Acc/Vln/Vla/Vc/Cb and the 8th channel for the rest of the ensemble.

These 8 channel are mixdowned and sent unprocessed to the DAC outputs 33 & 34 by default.

This simulates the frontal sound projection of the amplified instruments and the soprano, unprocessed.

Important –> Choose the DAC outputs for the unprocessed sound of the instruments and the soprano corresponding to your own audio setup during testing.

6 channels of the simulation file (Sp Tp Vln Vla Vc Cb) are sent to the DSP processes, identically to the 6 live inputs in a performance situation.

Adjust the level of the unprocessed mixdown (via the numbox) so that unprocessed sound and processed sounds are roughly equally loud, and are fusioning well.

Click (from start) to play the simulation from the beginning, or select a specific position in the score using the umenu.

For now, the simulation file is only a rough draft rendered from Sibelius + some recordings of the soprano.

8. Performance notes

The piece has a strong dynamic range : it is good to adjust accordingly the levels of the processes, so that the electronics can go from subtle and quiet to loud and rough.

The parts with the Black Hole reverberation should be very subtle, to only add a layer of gentle electronic texture to the instruments.

It is important in section H, measures 158 to 167, to closely follow the dynamic of the live instruments. Make sure to start with the sine fader fully down before triggering the cue #37.

In version 1.0 of the patch, at the very beginning of the piece, a first event has to be triggered independently, on a signal of the conductor, by clicking on "bass intro". Similarly, at measure 26, the same event should be triggered manually, before entering section A. For the rest, it simply consists in triggering the cues, and adjusting the levels when necessary.

Program note

pozzanghere | *mezzo seccate* (flaque d'eau | à moitié à sec) emprunte les mots de son titre, ainsi que l'inspiration de son livret, à *I Limoni* (Les citrons), qui ouvre le célèbre recueil *Ossi di seppia* (Os de seiche) du poète et prix Nobel italien Eugenio Montale (1896-1981). Ces trois mots y servent de métaphore au temps qui passe : les flaques d'eau sont évidemment liées au temps, à la météo, et « l'à moitié à sec » renforce le sentiment de la transition, tout en évoquant la nature même de l'eau, qui s'évapore sous l'effet de la chaleur. En italien, le mot « seccate », par sa dureté phonétique même, est puissamment évocateur.

Dans l'œuvre de Montale, et particulièrement dans ce poème, son écriture à la fois extrêmement subtile et raffinée témoigne d'un soin infini aux détails, pour décrire le plus souvent la simplicité concrète et sans apprêt du quotidien. Ce déploiement de moyens poétiques pénétrants, cette profondeur sémantique, cette recherche infinie de la langue, mis au service d'une image pure et apparemment banale, constitue un univers qui présente de grandes affinités avec mes idéaux musicaux.

pozzanghere | *mezzo seccate* flirte parfois avec un univers sonore homogène articulé par le quatuor avec contrebasse et l'accordéon qui, en fusionnant, amplifient et dramatisent cet espace du mystère que savent si bien convoquer les instruments à cordes. Par opposition, le piano et la percussion incarnent du concret, le terrestre, le primordial : certains modes de jeu (avec des archets frottés sur les métaux, ou des crins de cheval glissant sur les cordes du piano) génèrent toutefois des éléments de résonance pure, qui transcendent la gravité et l'enracinement dû à leur nature percussive. Posés sur le discours évocateur des cordes et de l'accordéon, ils évoluent ainsi en équilibre entre le concret et l'épure, le tactile et l'éthéré – à l'instar de la poésie de Montale.

Ce petit ensemble est l'écrin dans lequel s'inscrivent les deux voix étroitement enlacées de la soprano et de la trompette.

Le rôle de la soprano est assez ambigu, voire amphibie : elle est bien sûr la voix, c'est-à-dire cet outil qui exprime langages et désirs, concepts et sentiments, mais elle aussi vecteur abstrait de sons, parfois dénués de sens. Son expressivité peut être lyrique et dramaturgique – donc élaborée, fabriquée selon des codes hérités de l'histoire – mais aussi le résultat d'une impulsion pure, débridée de toute pression sémantique.

Soulignant l'ambivalence de la soprano en même temps que libérant son champ d'action, la trompette est tour à tour son ombre ou son reflet (dans la flaque d'eau). Elle joue le jeu trouble du dédoublement et de l'accompagnement, de la tricherie et de l'antithèse : elle est la némésis de la voix, offrant sa propre version du discours, plus abstraite et insaisissable.

Se déployant telle un continuum, cette pièce est en quête d'un nouveau paradigme relationnel entre la voix et l'ensemble instrumental : jusqu'où peut-on aller, que peut-on raconter, donner à vivre, via la voix ? Comment la voix ouvre-t-elle l'écoute vers d'autres perceptions d'elle-même – au-delà du sémantique ou du lyrique ? Comment peut-elle nous éclairer, nous aider à avancer à l'intérieur de nous-mêmes, à vivre subjectivement cette expérience du son, cette expérience sonore, comme un voyage intérieur plutôt qu'un voyage d'observation ?

Oscar Bianchi, note de programme du concert des 50 ans de l'Itinéraire à l'Espace de projection de l'Ircam le 17 novembre 2023.

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