Emmanuel Nunes
Lichtung II
1996
2000,
2021-Max8
2021

ircam
Centre
Pompidou

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

Table of Contents

Work related information

Performance details

- May 16, 1996, création partielle : Portugal, Lisbonne, vingtièmes rencontres Gulbenkian de musique contemporaine
- June 22, 2000, création intégrale : France, Paris

Publisher : Ricordi

Detailed staff

- 2 clarinets, bass clarinet, horn, trombone, tuba (also euphonium), 4 percussionists, harp, strings, violin, viola, cello, double bass

Realisation

- Eric Daubresse
- Ipke Starke

Useful links on Brahms

- *Lichtung II* **for ensemble and live electronics (1995-2000), 31mn**
- **Emmanuel Nunes**

Version related information

Performance date: Sept. 8, 2007
Documentation date: May 20, 2021
Version state: valid, validation date : Dec. 9, 2021, update : June 27, 2022, 8:47 a.m.

Documentalist

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

Realisation

- Emmanuel Nunes (Composer)
- Eric Daubresse (Computer Music Designer)

Default work length: 31 mn

Upgrade Motivation

2021 port (Max8 64bit with 48Khz SR) of the 2004 version

Other version(s)

- Emmanuel Nunes - Lichtung II - premiere 1996 archive NeXT (Nov. 27, 2020)
- Emmanuel Nunes - Lichtung II - 2007 version (Max4) (Nov. 27, 2020)

Electronic equipment list

Computer Music Equipment

- 1 MacBook Pro - *Apple Laptops* (Apple)
- 1 Max 8 - *Max* (Cycling74)
- 1 Fireface 802 - *Sound Board* (RME)
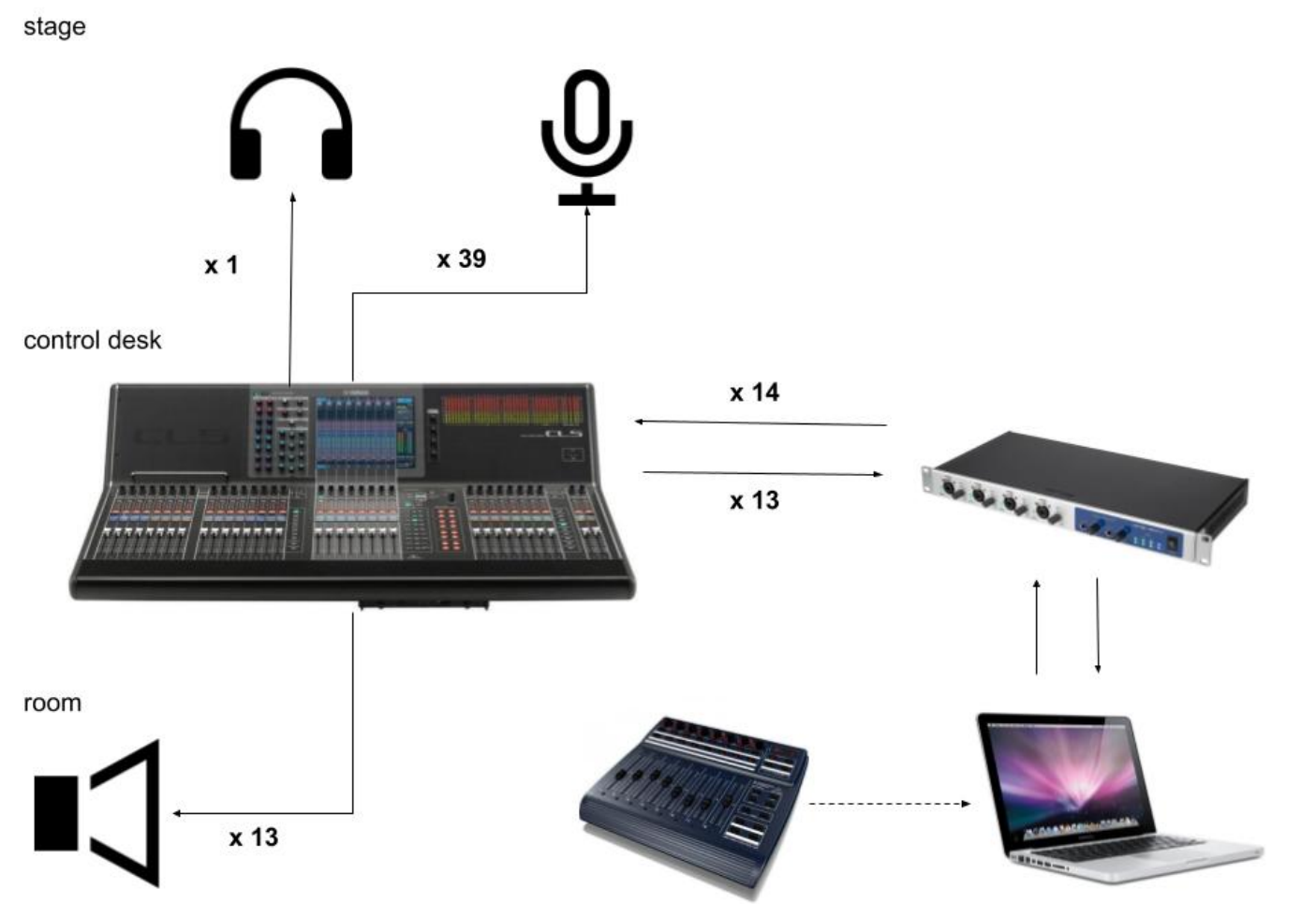- 1 MIDI Mixer - *MIDI Mixer*
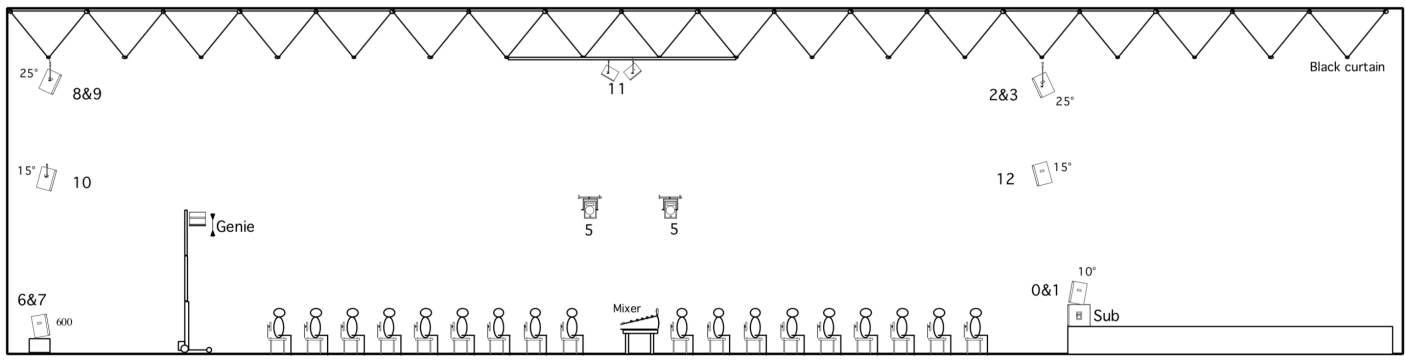
Audio Equipment

- 14 Loudspeaker - *Loudspeakers*

Files

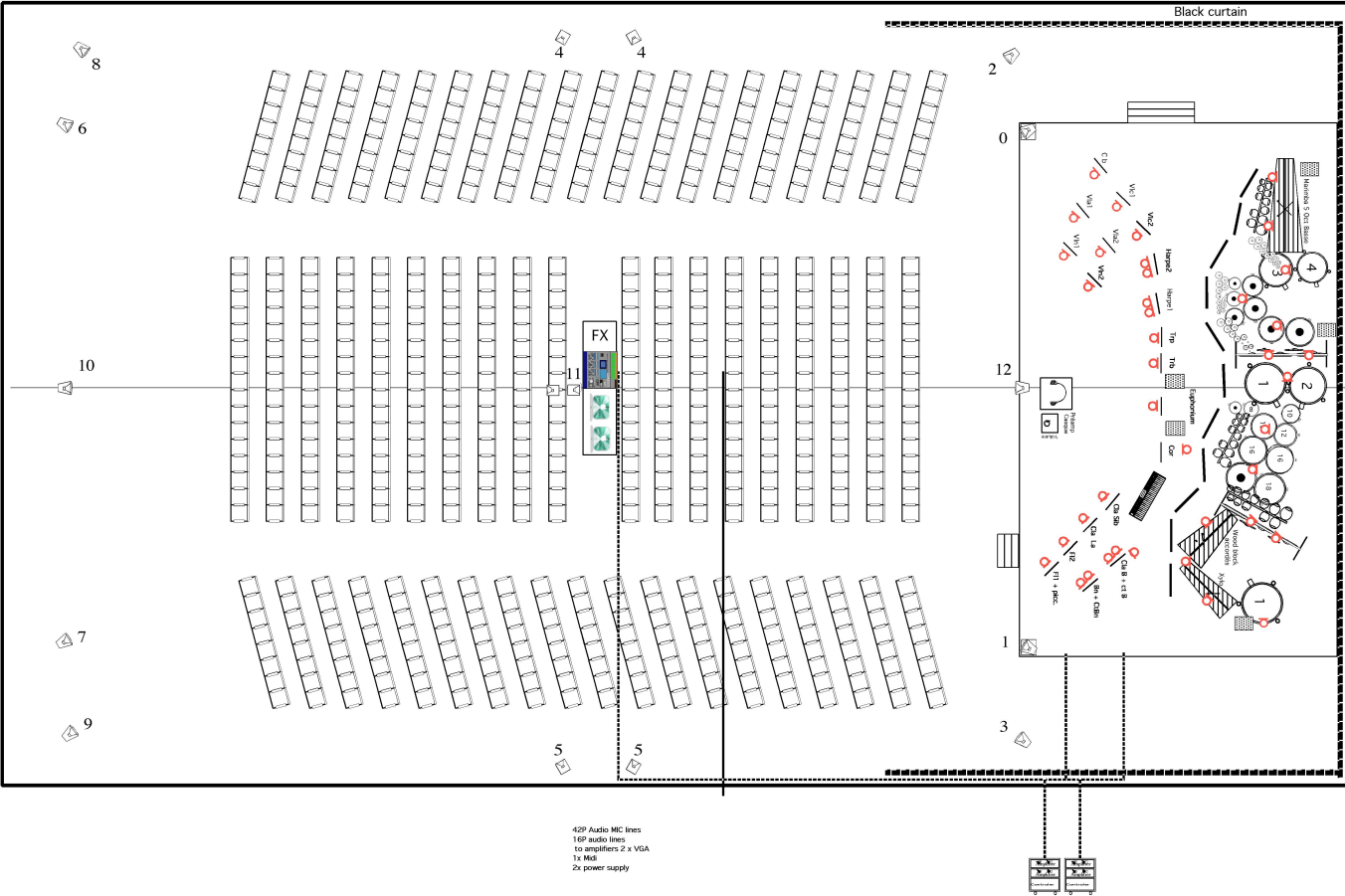| File	Type	Author(s)	Comment
L2-Score	Score		Ricordi
L2-Simulation	Simulation files		WARNING !! The simulation sound files are only for testing. These are not real recordings.They were generated with virtual instruments from the midi file. Some differences with the the score may happen.
Midi files	Simulation files		
L2-Patch	Patch		

Instructions

Audio and MIDI setup

Loudspeaker setup

Black curtain

FX

8

6

10

7

9

4   4

2

0

12

1

3

5   5

42P Audio MIC lines
16P audio lines
to amplifiers 2 x VGA
1x Midi
2x power supply

	Instr/Source	Mic/Device	Mic stands		Mics
1	flute 1	DPA 4088	no	2	DPA4088
2	flute 2	DPA 4088	no	9	DPA4061 + preamp
3	Clar Si b	KM150	yes	7	DPA string holder (4061)
4	Clar La	KM150	yes	2	KM150 Neumann
5	Clar Basse/CtB H	C535	yes	2	KM184 Neumann
6	Clar Basse/CtB M	C535	yes	2	Akg C535
7	Clar Basse/CtB L	M88	small	1	Beyer M88
8	Contrebasson 1	KM184	yes	2	Pl20 Electrovoice
9	Contrebasson 2	KM184	small	2	Pl10 Electrovoice
10	Cor	re10	small	2	Re10 Electrovoice
11	Trompette	re10	small	9	e609 Sennheiser
12	Trombone alto	re20/Pl20	small	8	MD421 Sennheiser
13	Euphonium	re20/Pl20	yes		
14	Harpe 1	4061	no		
15	Harpe 2	4061	no		
16	violon1	4061	no		
17	Violon 2	4061	no		
18	Alto 1	4061	no		
19	Alto 2	4061	no		
20	Cello 1	4021/4061	no		
21	Cello 2	4021/4061	no		
22	Ct Basse	4021/4061	no		
23	percu A Mar Hi	MD421	yes		
24	percu A Mar Lo	MD421	yes		
25	percu A Timpany	MD421	yes		
26	percu A Roto Hi	PL10	small	8 ch Preamp	
27	percu A Roto Lo	PL10	small		
28	percu A Gong Hi	e609	no		
29	percu A Gong Lo	e609	no		
30	percu B Timpany1	MD421	yes		
31	percu B Timpany2	MD421	yes		
32	percu B Tom Hi	MD421	yes		
33	percu B Tom Lo	MD421	yes		
34	percu B Gong Hi	2xe609	no	8 ch Preamp	
35	percu B Gong Lo	2xe609	no		
36	percu B WB	e609	yes		
37	percu B WB/Xylo	e609	yes		
38	percu B Xylo	e609	yes		
39	percu Timpany	MD421	yes		
40					

18 stands with boom
8 small stands with boom

Midi setup

Use BCF-2000 or Lemur to control levels of treatment (change the "Midi device" in the main patch).
Sliders:

- Control 1 [ctlin 7 1] = Direct level in dB
- Control 2 [ctlin 7 2] = Frequency Shifter level
- Control 3 [ctlin 7 3] = Harmonizer 0 1 2 level
- Control 4 [ctlin 7 4] = Harmonizer 3 and FFT level in dB
- Control 5 [ctlin 7 5] = = Filters and reverb level in dB
- Control 6 [ctlin 7 6] = Synthesis level in dB
- Control 7 [ctlin 7 7] = Factorization envelopes length (1 normal length, 2 two times longer, 0.5 two times shorter)

Software installation

1. Download *L2-Patch.dmg* and *L2-Simulation.dmg* files.
2. In *Max 8*, choose *.../Lichtung2_2021* in *option > File preferences*
3. Check the *Audio status* in *option > Audio Status*:
4. Close max and open *_L2-2021.maxpat* (red label)

DSP status

Patch presentation

The concert patch layout, as well as the DSP and control system, are based on the original version. The orignal patchs have been put together in a single patch.

The DSP patch is accessible in the [patcher DSP~], at the left, just bellow "OUT LEVELS"
The two control system are in the middle [DATA-1-80b] and [DATA-2-78].

DSP engine

The DSP part consists of ring modulation, frequency shifter, harmonizer, reverb and FFT. They are based on the original version.
See the Eric Daubresse's document for more information regarding DSP and spatialization.
http://brahms.ircam.fr/media/uploads/EN_L_92-FR.pdf

Spatialization

Sounds are fixed or they move using rhythmic movements.

Movements are controlled by patchs called circuit, BNP and lope. Rhythms are controlled by the patcher generation. The three ways of moving can be used at the same time.

The sound envelope could be controlled with the fader "Factorization envelopes length" which controls factorization of the envelope duration. The bigger superfac is, the longer will be the sound envelope in each HP.

See the Eric Daubresse's document for more information regarding spatialization.
http://brahms.ircam.fr/media/files/2021/05/24/Lichtungen-eric.pdf

System calibration and tests

1. Follow the Initialization routine (see it bellow).
2. Check the DSP status.
3. Check the Midi controller input.
4. Adjust the instruments input level.
5. Listen to the spatialisation. If the sound which goes from one to another HP is too long, decrease the superfactor. However, if you have holes of sound when the sound goes from an HP to another, increase the superfactor (see patch presentation, spatialization above for more details).

Simulation system

The simulation files could be used to test the setup before the rehearsal.

1. download *L2-Simulation* .
2. open *L2-Simulation.maxpat.*
3. Use it as a simulation of the adc mic input (the [r go] button in the main patch is synchronized with Simulation Patch).

WARNING !!
The simulation sound files are only for testing. They are not real recordings. It was generated with virtual instruments from the midi file. Some differences with the the score may happen.

Initialization routine

Check all the points explained in the main patch:

WARNING: Opening the main patch may take a long time due to the size of the file.

1. Configure audio status (see DSP status above).
2. Select the midi controller
3. Press "init" and "reset bang" buttons.
4. Turn on the DSP and midi.
5. Set the section according to the score. In the case of playing from the beginning, set "1" by pressing message 1, just below "start".
6. Press "Go" button (it must be synchronized with the conductor).

All the events are trigged automatically. The conductor must follow the click track whose output is the Dac 13.