# Emmanuel Nunes

# *Wandlungen*

# 1986

# 1992,

2021-Max8
2021


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

- Oct. 18, 1986, Allemagne, Donaueschingen, festival
- Nov. 16, 1992, Paris, Festival d'automne à Paris

Publisher : Ricordi

## Detailed staff

- flute (also piccolo), alto flute (also piccolo), oboe, English horn, 2 clarinets, bass clarinet, bassoon, horn, trumpet, trombone, 3 percussionists, glockenspiel, harp, celesta, 3 violins, 2 violas, 2 cellos, double bass

## Realisation

- Eric Daubresse

## Useful links on Brahms

- ***Wandlungen*** **five passacailles for twenty-six instruments and live ad libitum electronics (1986), 29mn**
- **Emmanuel Nunes**

# Version related information

Documentation date: May 20, 2021
Version state: valid, validation date : June 3, 2021, update : Dec. 9, 2021, 11:22 a.m.

## Documentalist

Joao Svidzinski (Joao.Svidzinski@ircam.fr)

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: 29 mn

## Upgrade Motivation

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

## Comment

This patch corresponds to the latest version of the events noted in pencil by Nunes and Daubresse (contact Ircam Production if necessary). The other versions have been lost, but it is still possible to change version by accessing [patcher midi i / o] and switching to "version 2".

## Other version(s)

- Emmanuel Nunes - Wandlungen - premiere 1992 archive NeXT (Nov. 27, 2020)
- Emmanuel Nunes - Wandlungen - 2011 version (max5) (Nov. 27, 2020)
- Emmanuel Nunes - Wandlungen - Documentation for archive (Nov. 27, 2014)

# Electronic equipment list

### Computer Music Equipment

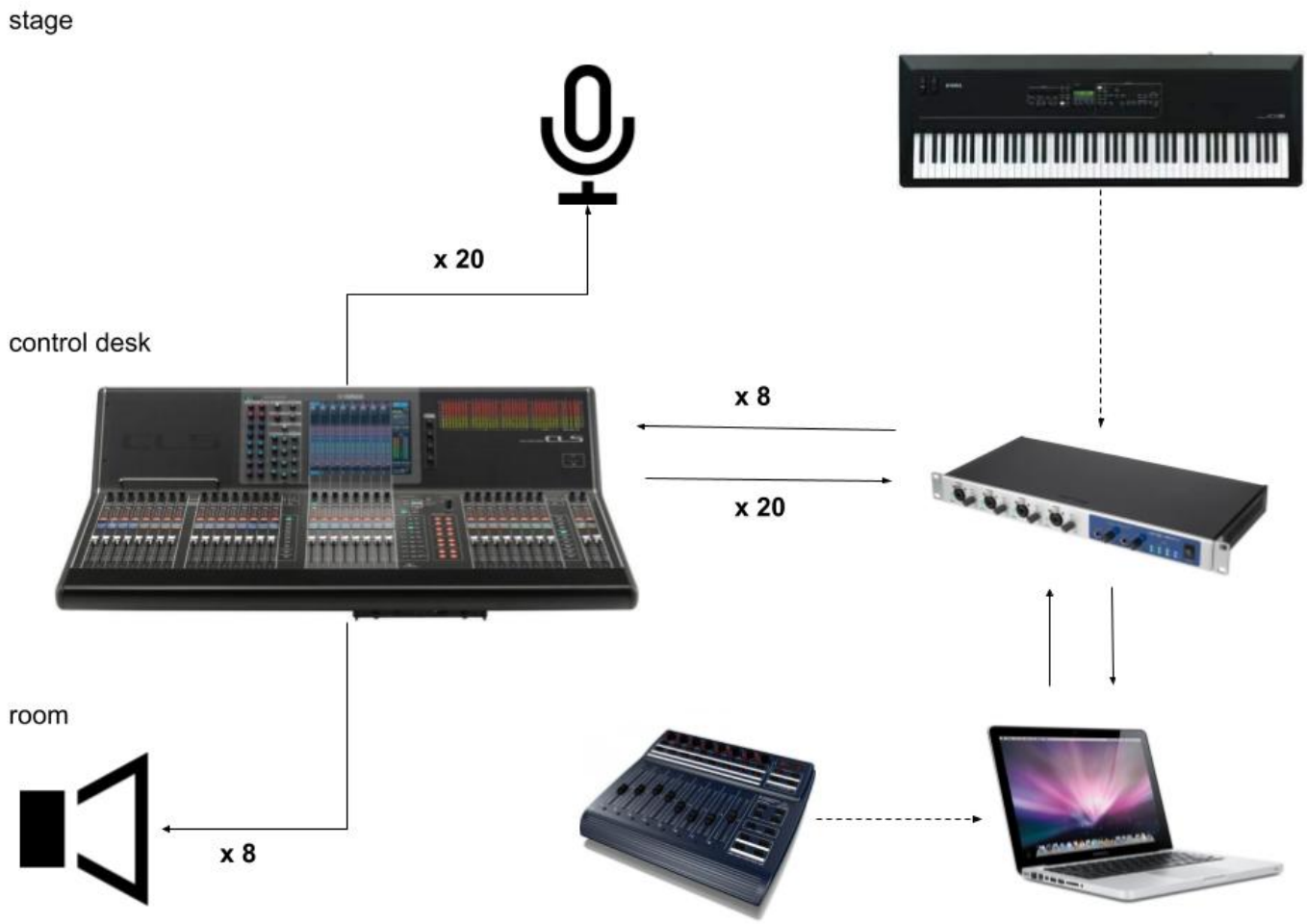
- 1 MacBook Pro - *Apple Laptops* (Apple)
- 1 Max 8 - *Max* (Cycling74)
- 1 Fireface 802 - *Sound Board* (RME)
- 1 KX 88 - *MIDI Keyboard* (Yamaha)
- 1 MIDI Mixer - *MIDI Mixer*

## Files

| File | Type | Author(s) | Comment |
|---|---|---|---|
| Wanlungen-Simulation | Simulation files | | ATTENTION !! The simulation sound file are not complete. The file starts in the middle of the first Passacaglia. |
| Wandlungen-Patch | Patch | | |
| Wanlugen_Midi-Score | Performance documentation | | keyboard midi score to trigger events |

# Instructions

**Audio setup**

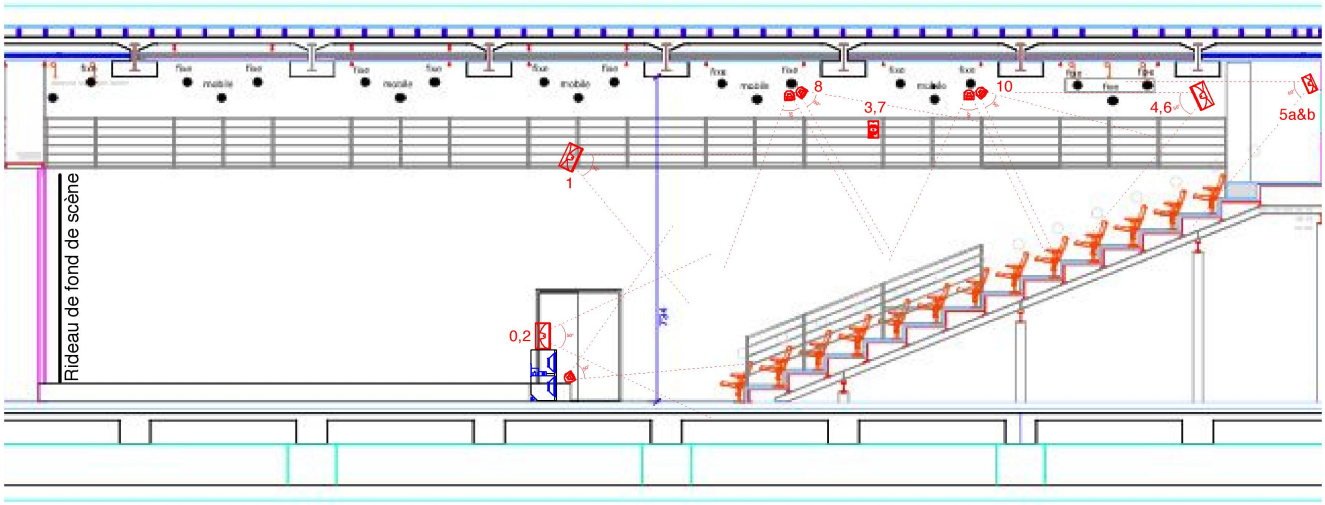


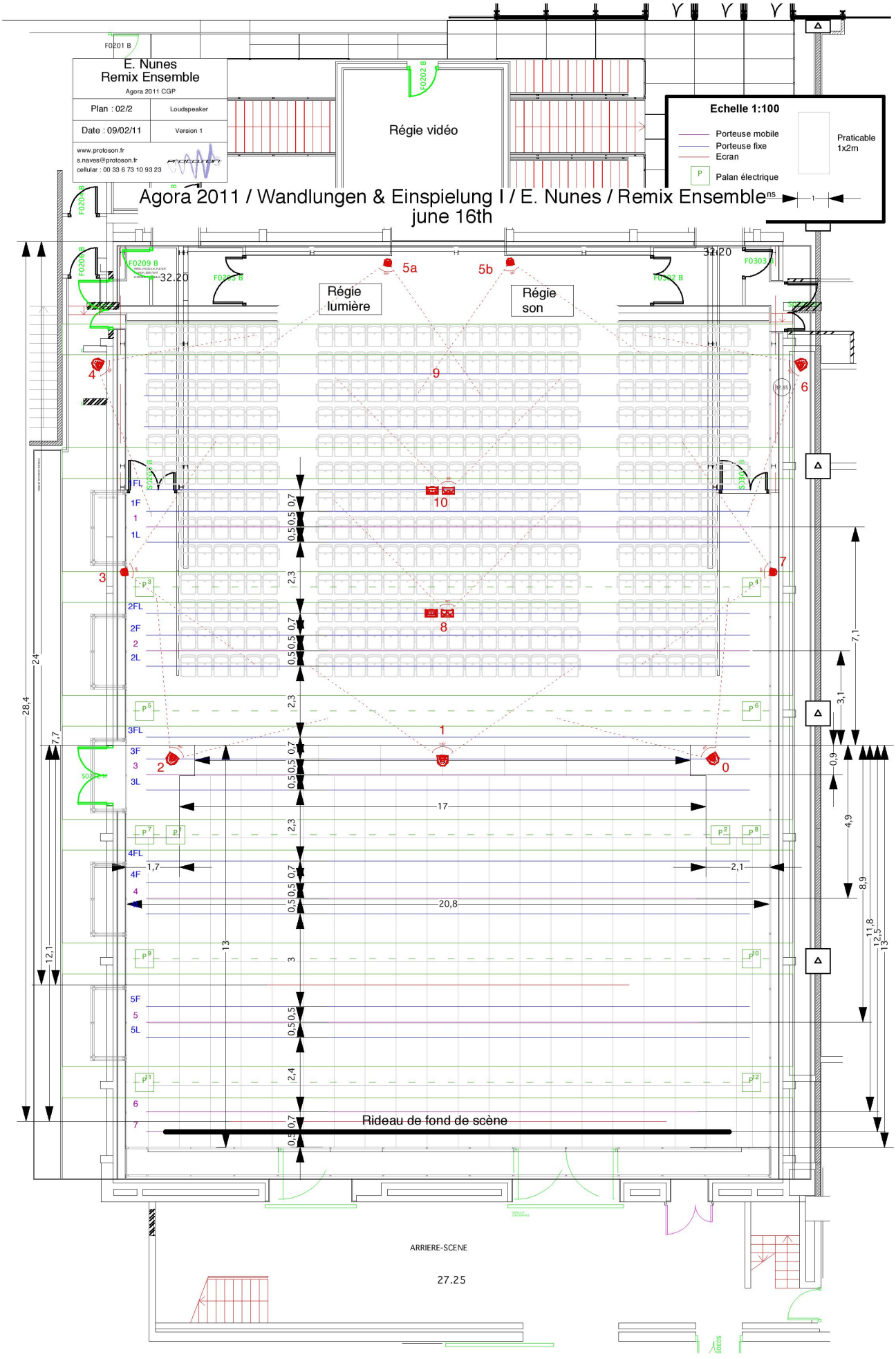

**Loudspeaker setup**

| E. Nunes<br>Remix Ensemble<br>Agora 2011 CGP | |
|---|---|
| Plan : 01/2 | Loudspeaker |
| Date : 09/02/11 | Version 1 |

www.protoson.fr
s.naves@protoson.fr
cellular : 00 33 6 73 10 93 23

# Agora 2011 / Wandlungen & Einspielung I / E. Nunes / Remix Ensemble
june 16th




E. Nunes
Remix Ensemble
Agora 2011 CGP
Plan : 02/2
Loudspeaker
Date : 09/02/11
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Agora 2011 / Wandlungen & Einspielung I / E. Nunes / Remix Ensemble
june 16th
Echelle 1:100
Porteuse mobile
Porteuse fixe
Ecran
Palan électrique
Praticable 1x2m
Régie vidéo
Régie lumière
Régie son
Rideau de fond de scène
ARRIERE-SCENE
27.25
32.20

**Midi setup**

A Master Midi Keyboard with 88 keys (type Yamaha KX88) is required to trigger programs/events. Download the Midi Keyboard score with all instructions.
It's also possible to change the events by pressing spacebar.

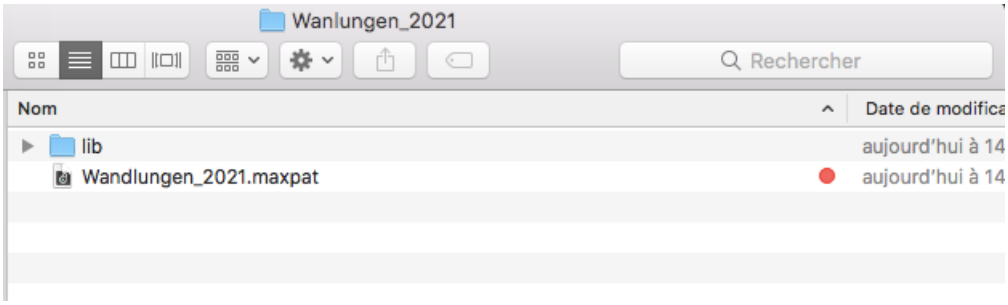
Use BCF-2000 or Lemur to control levels of treatment (change the "Midi device" menu and choose the midi input)

**Sliders**

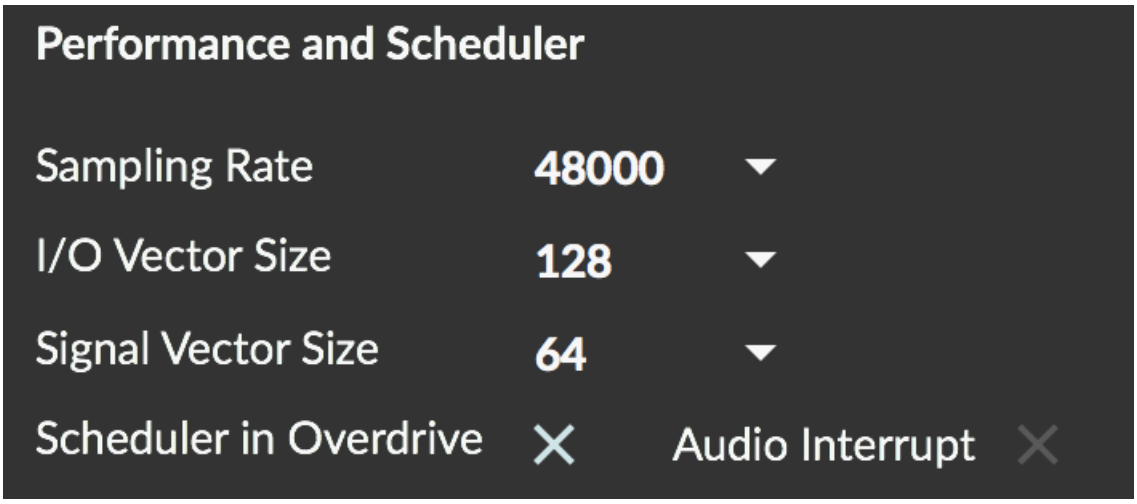
- Control 1 [ctlin 7 1] = Direct level in dB
- Control 2 [ctlin 7 2] = Spatialization level
- Control 3 [ctlin 7 3] = Ring modulation level
- Control 4 [ctlin 7 4] = Harmonizer level in dB
- Control 5 [ctlin 7 5] = = reverb level in dB
- Control 6 [ctlin 7 6] = = delay level in dB
- Control 7 [ctlin 7 7] = Factorization envelopes length (1 normal length, 2 two times longer, 0.5 two times shorter)

**Software installation**

1. Download *Wandlungen-Patch.dmg* and *Wandlungen-Simulation.dmg*files.
2. In *Max 8*, choose *.../Wandlungen_2021* in *option > File preferences*
3. Check the *Audio status* in *option > Audio Status* (see below)
4. Close max and open *Wandlungen_2021.maxpat* (red label)

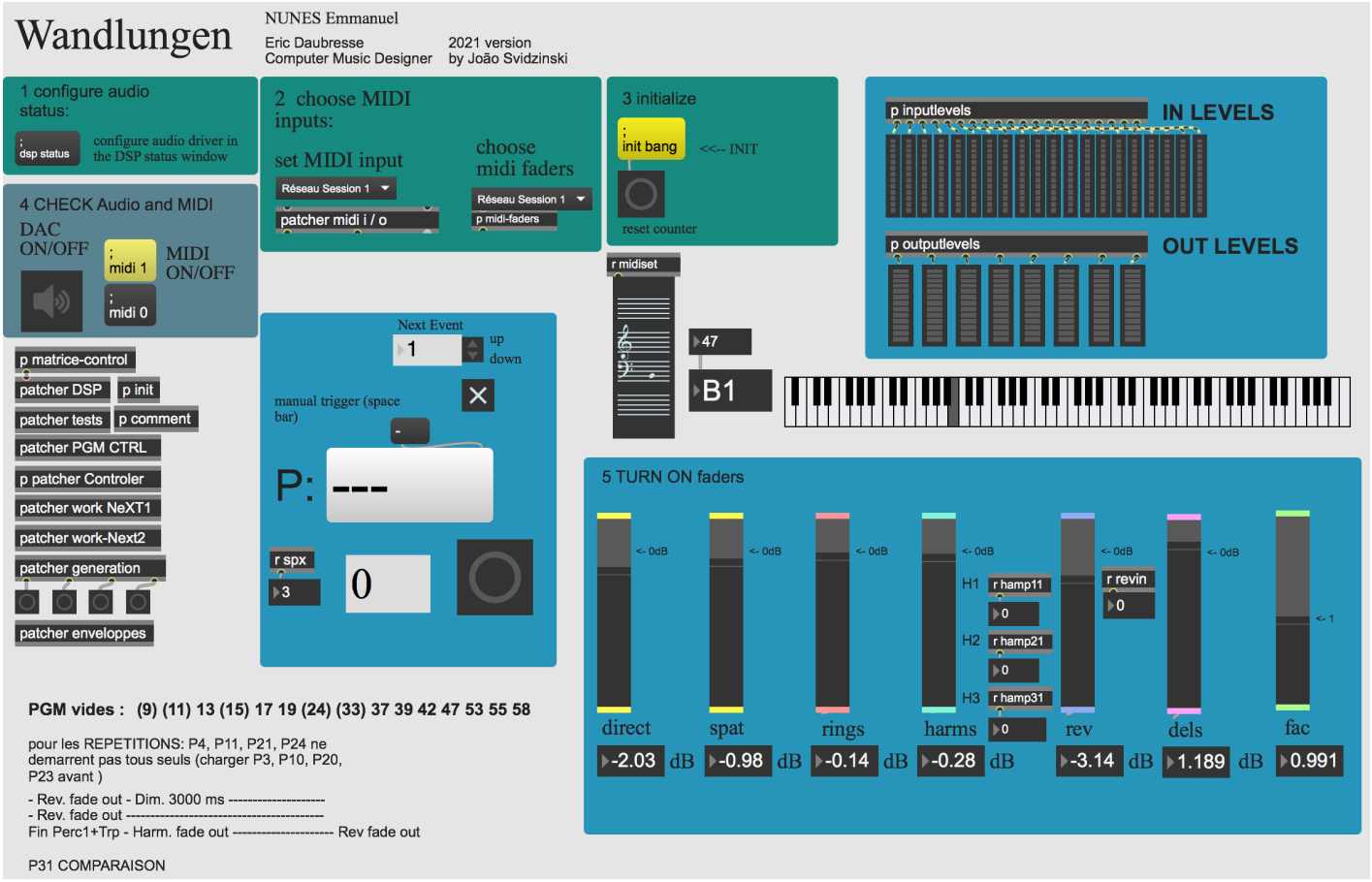



**DSP status**




**Patch presentation**

The concert patch layout, as well as the DSP and control system, are based on the original version.

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#### DSP engine

The DSP part consists of ring modulation, delay, harmonizer and reverb. They are based in 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

### Initialization routine

Check all the points as specified in the main patch:

1. Configure audio status (see DSP status above).
2. Select the midi controller and the keyboard input.
3. Press “init” and “reset bang” buttons.
4. Turn on the DSP and midi.
5. Turn on faders.
6. Trigger the events to start (using the keyboard or the space bar, check the gate to allow it).

### System calibration and tests

1. Follow the Initialization routine.

2. Check the DSP status.
3. Check the Midi controller input.
4. Check the Midi keyboard input.
5. Adjust the instruments input level.
6. 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 *Wandlungen-Simulation* .
2. Open *Wandlungen-Simulation.maxpat.*
3. Use it as a simulation of the adc mic input

**Warning !!** The simulation sound file are not complete. The file starts in the middle of the first Passacaglia.

# Program note

Bien plus courant que *Einspielung*, *Wandlungen* signifie « transformations », « transmutations », « métamorphoses » (cette dernière acception étant plus précisément rendue par *Verwandlungen*). Dans mon cas, ces *Wandlungen* sont plurielles, tout simplement parce que le concept s'appliquait aussi aux traitements en temps réel, que je mettais en œuvre pour la première fois.

Il y avait donc deux *Wandlungen* simultanées : la première était la pièce elle-même, et l'autre, ma rencontre avec le temps réel. J'y aspirais à une grande clarté harmonique, parfois crue. Il y a donc de nombreuses superpositions de quintes et de quartes, qui lui donnent cette couleur immédiatement identifiable, comme d'une silhouette éclairée à contre-jour. Dans son développement, j'ai voulu une base rythmique d'une grande simplicité : on ne s'en rend pas toujours compte, mais on peut avoir des pages entières remplies de doubles croches qui, par la manière dont chaque double croche est rendue (changement ponctuel de timbre, de groupe, d'espace, de registre, etc.), peuvent masquer leur régularité première et devenir très *accidentées* et d'une grande complexité rythmique à l'audition. Enfin, un dernier élément très important de la pièce : le *dispatching* spatialisé des timbres donne naissance à cette double orchestration, dont nous avons déjà parlé.

La pièce elle-même est composée de cinq passacailles – la dimension « passacaille » y est assez présente, d'une manière ou d'une autre. Les passacailles 1, 2, 4 et 5 se développent sur un même matériau – sous différentes formes. Seule la troisième – un trio à cordes *monodique* – a un matériau différent, qui est aussi présent dans *Aura* pour flûte seule.

Emmanuel Nunes, festival Agora 2011.

Version documentation creation date: May 20, 2021, 5:01 p.m., update date: Dec. 9, 2021, 11:22 a.m.