Philippe Manoury
Partita II
2012

CollegeDeFrance2017
2017

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

- July 21, 2012, France, Briançon, Église des Cordeliers, Festival Messiaen au Pays de la Meije

Publisher : Durand

Detailed staff

- violin

Realisation

- Serge Lemouton

Useful links on Brahms

- ***Partita II*** **for violin and electronics (2012), 17mn**
- **Philippe Manoury**

Version related information

Performance date: June 16, 2017
Documentation date: June 17, 2017
Version state: valid, validation date : Dec. 18, 2017, update : May 6, 2021, 3:09 p.m.

Documentalist

Serge Lemouton (Serge.Lemouton@ircam.fr)

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

Realisation

- Philippe Manoury (Composer)
- Serge Lemouton (Computer Music Designer)
- Julien Aléonard (Sound engineer)

Version length: 21 mn
Default work length: 17 mn

Upgrade Motivation

Antescofo score merged with B_partita (june 2016 version)

Other version(s)

- Philippe Manoury - Partita II - Max8 2021 (Aug. 5, 2021)
- Philippe Manoury - Partita II - La Meije 2019 (Sept. 13, 2019)
- Philippe Manoury - Partita II - Musica-2014 (Oct. 13, 2014)
- Philippe Manoury - Partita II - Renater (Feb. 8, 2013)
- Philippe Manoury - Partita II - premiere (Oct. 7, 2012)

Electronic equipment list

Computer Music Equipment

- 1 MacBook Pro - *Apple Laptops* (Apple)
  OSX 10.11
- 1 iPad - *Tablets* (Apple)
- 1 Max 7 - *Max* (Cycling74)
  7.3.3 32 bit
- 1 antescofo~ - *External objects* (Ircam)
  antescofo 0.91-53 (2016)
- 1 Ircam Spat - *Library* (Ircam)
- 1 Mira - *Library* (Cycling74)
- 1 synful orchestra - *Virtual Instruments* (Synful)
- 1 Fireface 800 - *Sound Board* (RME)
- 1 BCF 2000 - *MIDI Mixer* (Behringer)
  can be replaced by an ipad running Mira

Audio Equipment

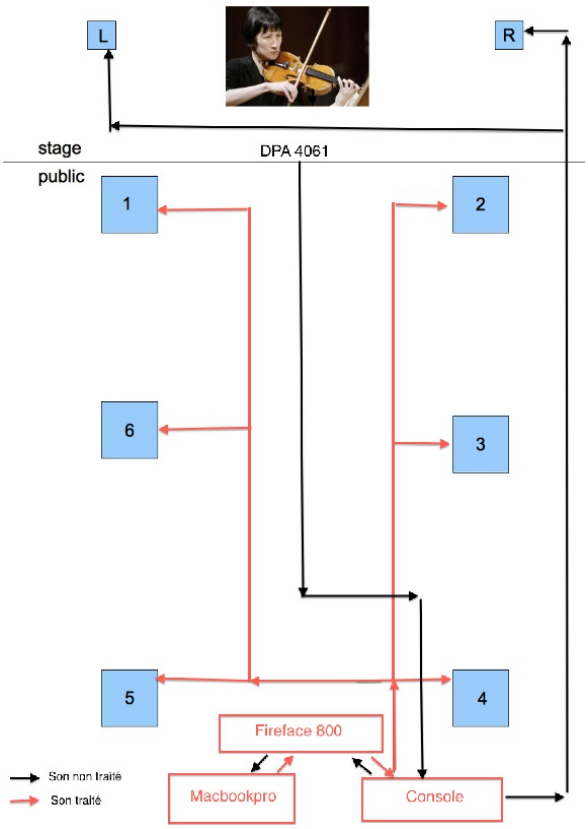
- 1 DPA 4061 - *Condenser Microphones* (DPA)
- 6 Loudspeaker - *Loudspeakers*
- 1 subwoofer - *Subwoofers*

Files

File	Type	Author(s)	Comment
Manoury_PartitaII_HSK_CordelierMeije_21072012.aiff	Recording(s)	Hae Sun Kang	Radio-France recording of the premiere
manuscript first part	Score	Philippe Manoury	with electronics
manuscript second part	Score	Philippe Manoury	with electronics
Partita2-CDF-2017.dmg	Other	Serge Lemouton	Contains all the max patches and applications to perform the piece (original archive)
Partita2-CDF-2017.dmg	Patch	Serge Lemouton	Contains all the max patches and applications to perform the piece
PARTITA2-multitrackProject.zip	Recording(s)	Serge Lemouton	Multitrack recording of the DAC, for reference or future portings
Partita ll_partition.pdf	Score	Serge Lemouton	

Instructions

Audio and Loudspeaker setup



Software installation

For CPU performance reasons, the electronic software is split in four patches running in parallel on the same computer :

1. *Partita-Deux-+3FC-08-2017.maxpat*: The main patch

- score following (using antescofo)
- control of all the synthesis and transformation processes.
- The "three frequencies chord" ("3FC") is an additive synthesis patch controlled by a continuous sound analysis of the violin.

2. _P2_synful_01: Synful synthesis used to play musical sequences.

3. _P2_spat*01b:* hexaphonic spatialisation

4. _P2_string*04:* Two virtual physical model strings

_P2_synful*01*, _P2_spat*01b* and _P2_string*04* are applications (built in max).

All the required applications and patches can be laung at once by executing the Partita2-max-2017/_P2-2017-run.sh script in a terminal.

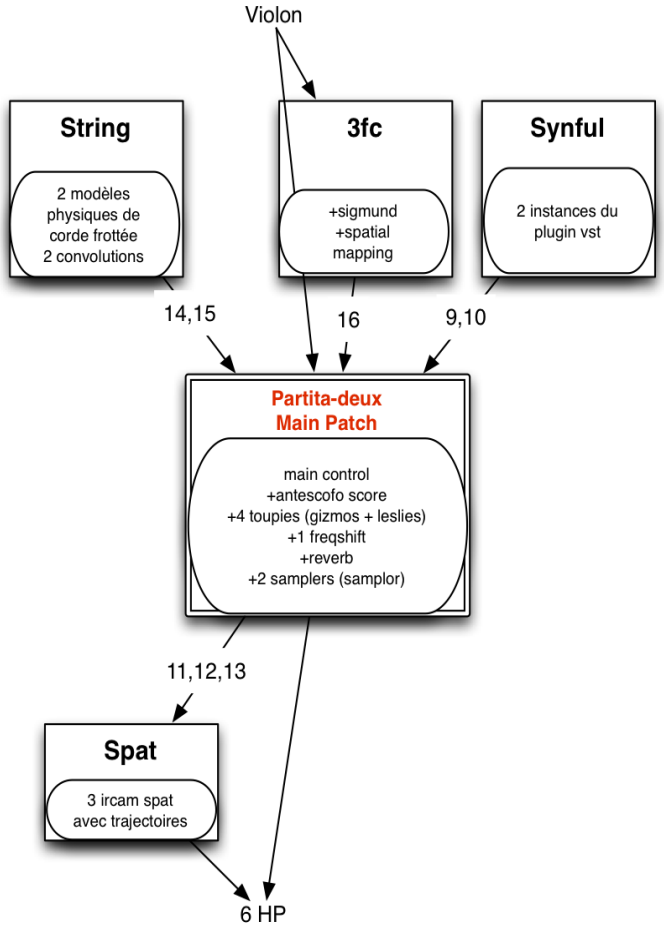
files preferences:

Max file preferences should point to :

- /Partita2-max-2017/*

DSP Overview:

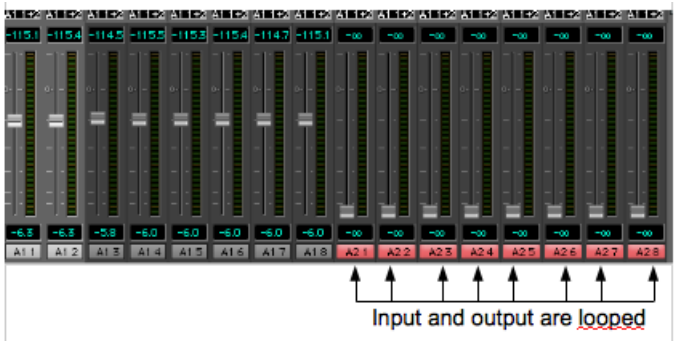
This diagram shows the audio routing between the applications:

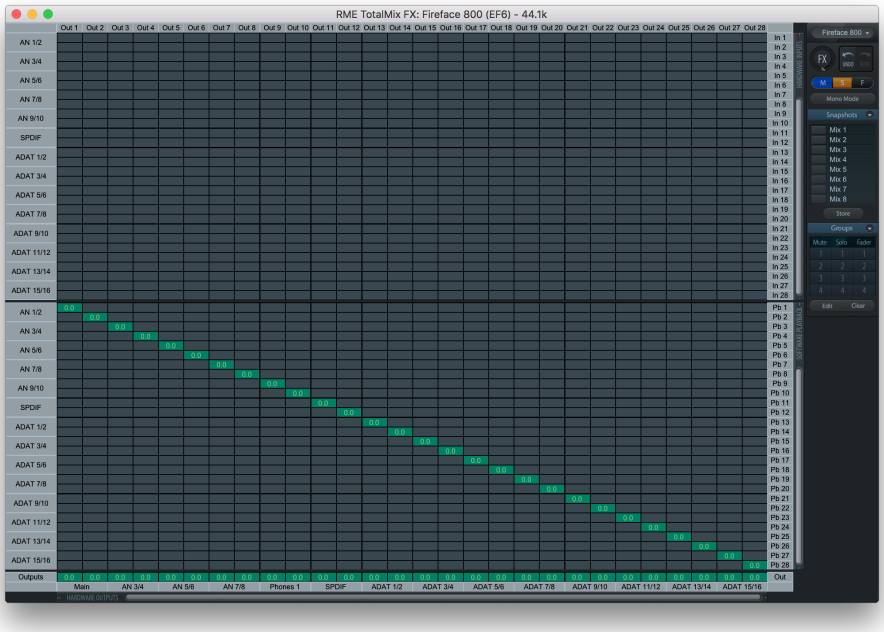


The audio lines from 9 to 16 are used to communicate between the different applications. The inputs should be connected to the outputs of the audio soundboard.

You can do it :

- with an optical fiber loop.
- or as loopbacks in the TotalMix fireface software :





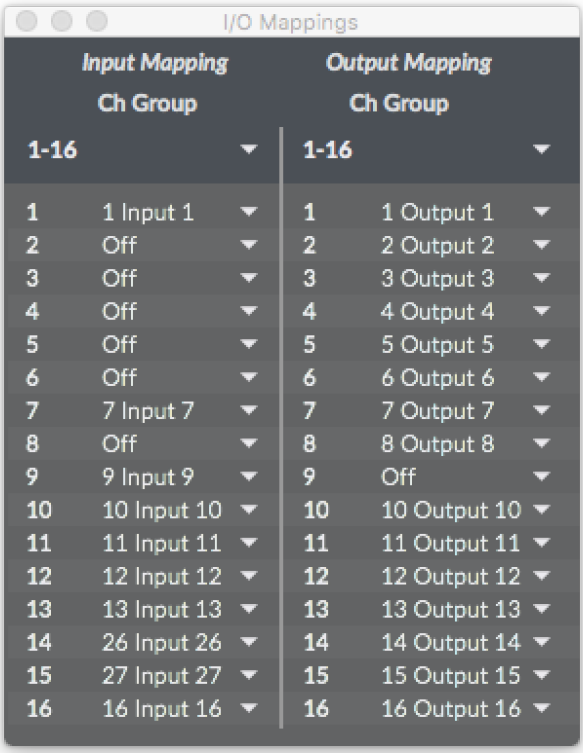
The patches (or applications) communicate via Open Sound Control commands through network (UDP) messages and with audio via loopback or optic fiber link on the audio card.

DSP status and IOSetup:

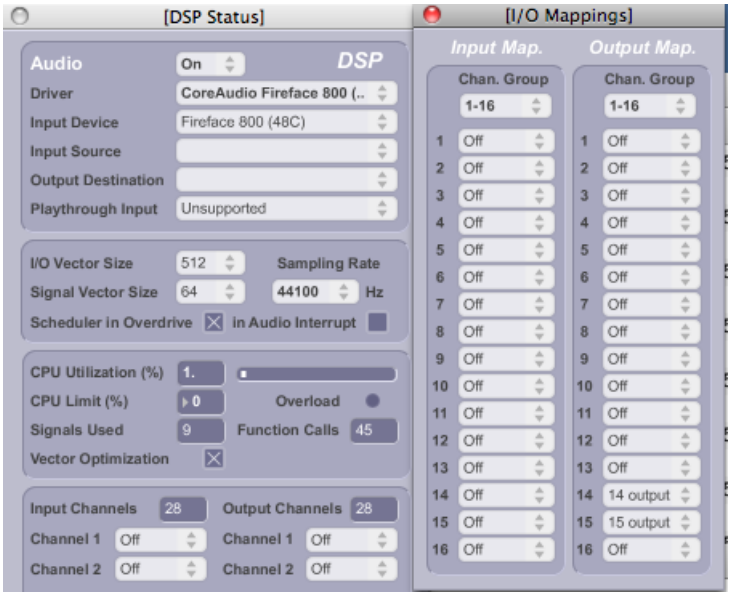
The IO mappings for each application should be set as shown below

Max:

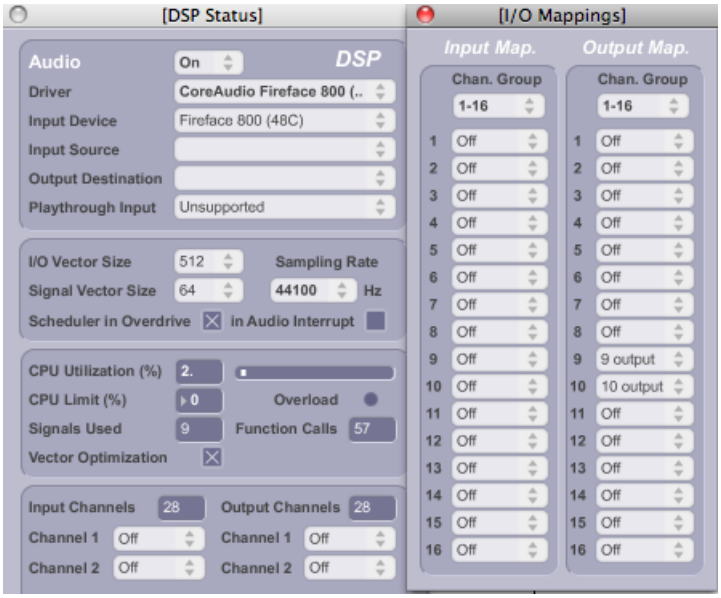
- IO VS : 1024
- VS : 128
- SR : 44100
- overdrive : on
- Scheduler in audio interrupt : off



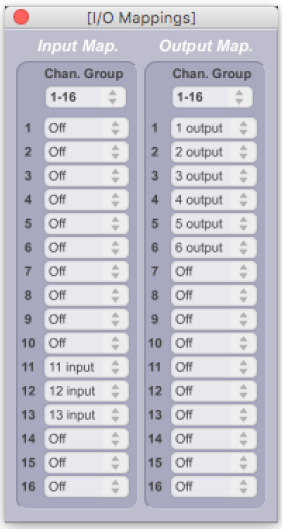
String:



Synful:



Spat:



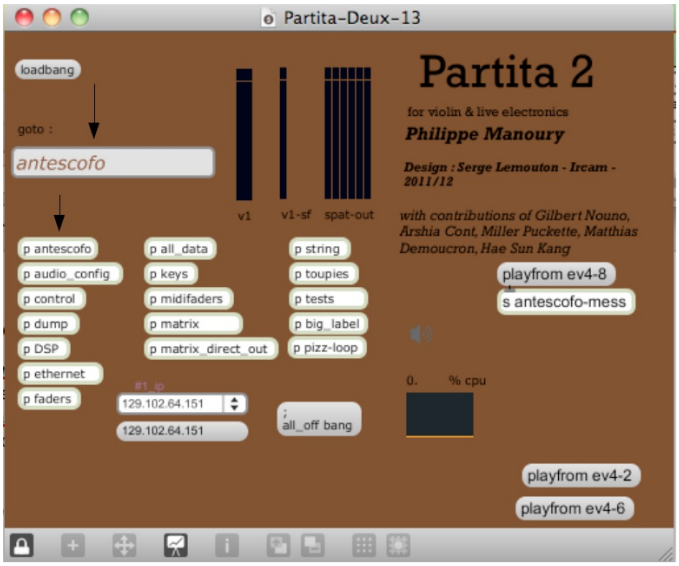
After setting the DSP status, quit every application in order to save the settings.

System calibration and tests

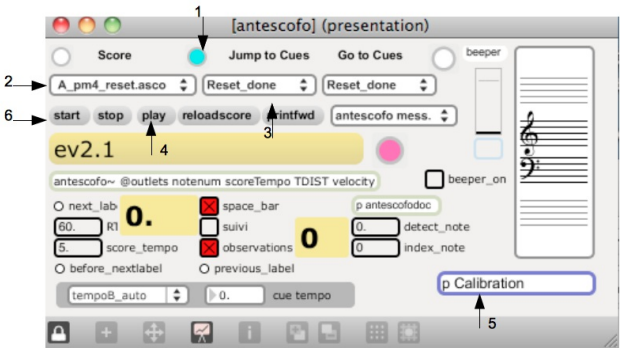
test "antescofo" *with the* "testrecording" *in* "p antescofo":

On the main patch "Partita-Deux-+3FC-09-2017", *select* "antescofo" in the menu "go to".

(This menu contains shortcuts for easy access to important subpatches)



a window appears:



1) Click on the bang (Number 1). It resets everything in antescofo.

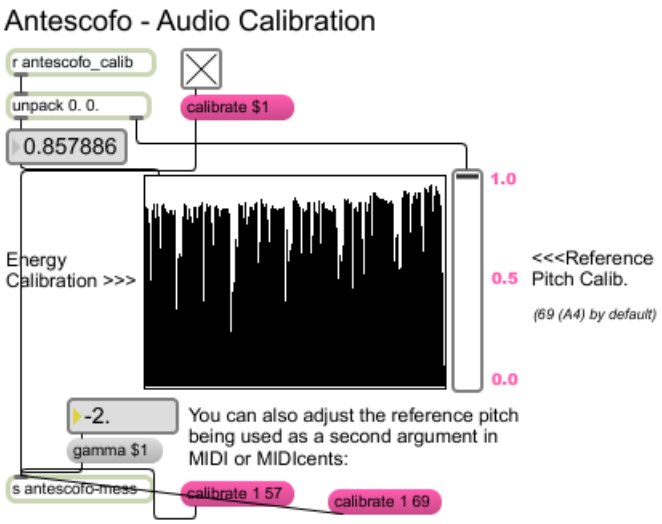
2) Choose a score (for example *"Partita2.1.asco"*).

3) Choose the event you want to go to.

4) Click on play and check that it commands all other patches.

5) Calibrate antescofo by clicking in the *"p calibration"* in *"p antescofo"*.

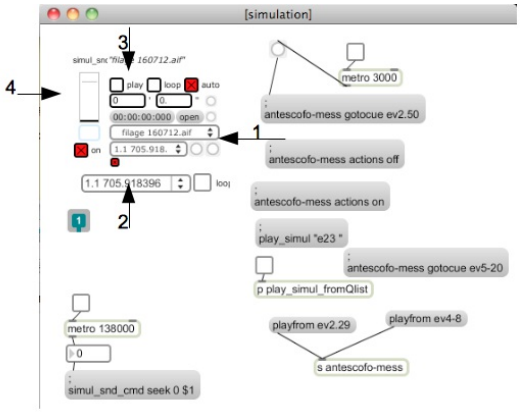
Check the toggle "Calibrate $1", the waveform must be close to 1:



Simulation test:

in "*Partita-Deux-+3FC-08-2017*", choose *"simulation*" in the "go to" menu.

This window opens:



We have done 2 recordings of the solo violin part, in *"snd/filage160712"* and "***snd/***filage170712".

- Start the follower in the antescofo window as it is explained in the ***"initialization routine"***,
- Choose *"filage160712"* for example (arrow number1),
- It will automatically check *"play*" in the simulation window(number 3), and you will see sound on the meter (number 4).

There are also markers on the recordings called *"filage 170712" and "filage 160712"*.

To begin for example at part 2, number 50 in the score, you can choose it in the window below the file name (number 2).

The simulation violin sound is routed to dac7.

Initialization routine

Run all the patches (2) and applications (3). (see ***"Software installation"***)

Open the antescofo window located in the main patch with the "go to" menu

1. Reset antescofo by clicking on the bang between *"score"* and *"jump to cue"* (arrow number 1)

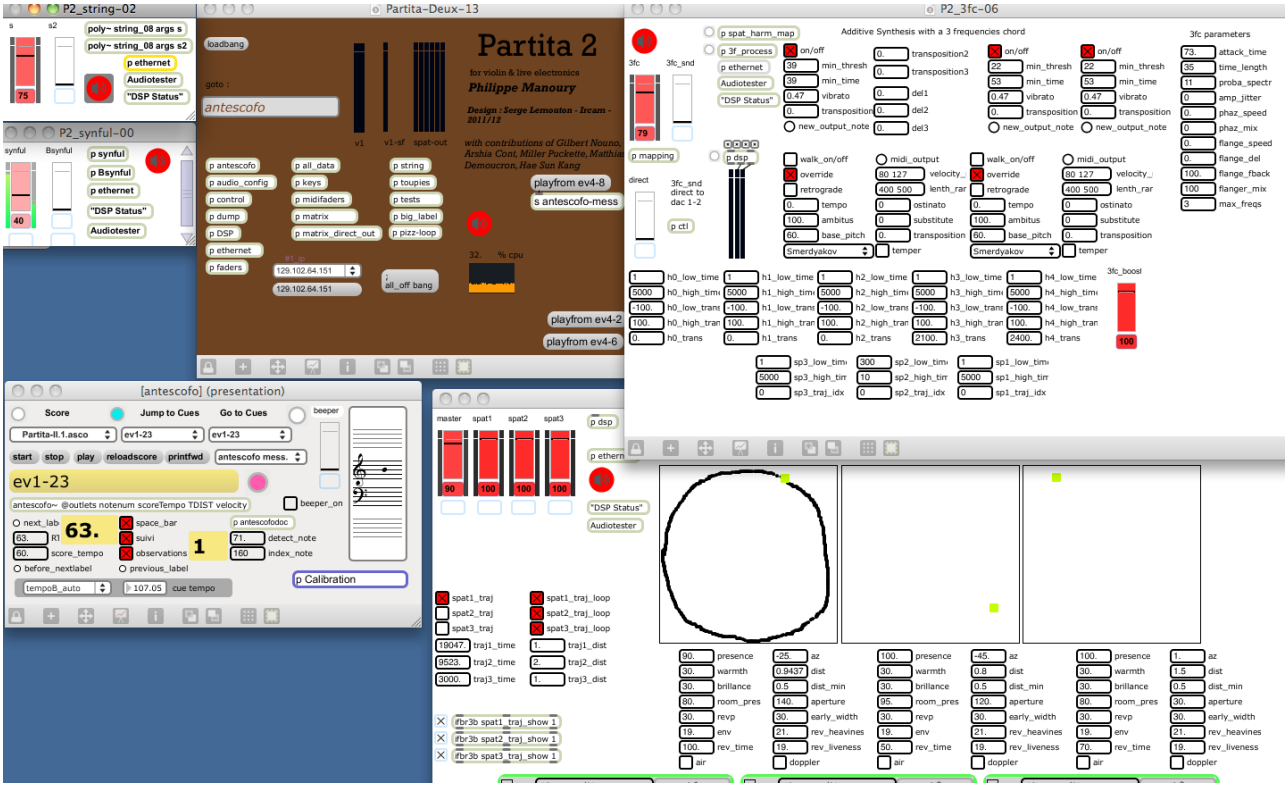
2. Choose the antescofo score "partita2.1.asco".

3. Then you can :

- "start" (arrow number 6 in ***System calibration and tests, test "antescofo")*** if you follow the musician or
- *"play"* (arrow number 4 in ***System calibration and tests, test "antescofo")*** if you want to play the electronic part alone without

following anything.

Patch presentation



You can stop the follower by unchecking "*suivi*" and follow evenements manually with the space bar.

MIDI mixer Setup

Faders of the midi mixer (BCF2000) are programmed to control some parameters during the concert:

fader	initial value	ctl	chan
Master	127	7	1
Direct	100	7	2
string1	64	7	3
string2	64	7	4
3fc	64	7	5
sampler	64	7	6
synful	64	7	7
fx (effects level)	64	7	8

NB : There is also the possibilité to control the internal mix with mira on an ipad instead of the midi mixer.

Performance notes

For the sound engineer: The violin must be amplified throughout the whole piece except between event I.5 and event I.18 with a crescendo between I.18 and I.19.

For the Computer Music Designer:

The "Direct" fader controls also the level of the infinite reverb, it should be controlled carefully.

The level of the 3f synthesis process should be also carefully controlled with the "direct" fader during the "Perpetuum Mobile" section.

Score following (with antescofo) is automatic in most of this work except :

- event 5.1

Program note

Partita II, pour violon et électronique en temps réel, fait suite aux travaux et recherches que j'ai entrepris sur *Tensio* pour quatuor à cordes et électronique. J'ai voulu approfondir les relations qui peuvent se créer entre les instruments à cordes et les nouvelles lutheries électroniques. Si les outils électroniques utilisés sont semblables à ceux utilisés dans le quatuor, la direction que prend la musique au cours de *Partita II* est très différente. J'ai surtout exploré diverses manières avec lesquelles le violon a le pouvoir d'engendrer plusieurs structures électroniques autonomes qu'il viendra ensuite commenter, contrepointer, puis modifier. Plusieurs couches sonores indépendantes se déroulent simultanément, dans des tempi différents, entre lesquelles le violon navigue. Le soliste est donc l'origine et l'ordonnateur de toute la musique électronique qui l'environne. À la fin de la pièce, le violon reste seul avec une toupie sonore qu'il fait tourner dans l'espace, à la manière d'un prestidigitateur qui jonglerait avec des éléments en suspension dans l'air libre.
Partita II est dédiée à sa créatrice, la violoniste Hae-Sun Kang.

Philippe Manoury
Note de programme du concert du 16 juin 2017 au Collège de France dans le cadre du festival ManiFeste.

Version documentation creation date: June 17, 2017, 9:01 a.m., update date: May 6, 2021, 3:09 p.m.