

UnsuK Chin
Double Bind?

2007

2013-max6
2013



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

- Feb. 12, 2007, France, Paris, Théâtre des Bouffes du Nord

Publisher : Boosey & Hawkes

Detailed staff

- violin

Realisation

- Benoît Meudic

Useful links on Brahms

- [*Double Bind?*](#) for violin and electronics (2006-2007), 17mn
- [Unsuik Chin](#)

Version related information

Documentation date: Nov. 10, 2013

Version state: valid, validation date : May 3, 2018, update : May 6, 2021, 3:09 p.m.

Documentalist

Benoit Meudic (Benoit.Meudic@ircam.fr)

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

Realisation

- Benoit Meudic (Computer Music Designer)

Version length: 15 mn

Default work length: 17 mn

Upgrade Motivation

Max6 update

Other version(s)

- [Unsus Chin - Double Bind? - Max8 48kHz without sensors \(Feb. 11, 2020\)](#)
- [Unsus Chin - Double Bind? - transfert_mustica_ftp \(April 14, 2010\)](#)
- [Unsus Chin - Double Bind? - seoul-2009 \(Oct. 22, 2009\)](#)
- [Unsus Chin - Double Bind? - Révision \(Oct. 12, 2009\)](#)
- [Unsus Chin - Double Bind? - Creation \(Feb. 12, 2007\)](#)

Electronic equipment list

Computer Music Equipment

- 1 MacBook Pro - *Apple Laptops* (Apple)
- 1 Max 6 - *Max* (Cycling74)
- 1 Fireface 800 - *Sound Board* (RME)

Audio Equipment

- 1 DPA 4021 - *Condenser Microphones* (DPA)
- 1 Hot Spots - *Contact Microphones* (K&K Sounds)
- 6 Loudspeaker - *Loudspeakers*
- 1 DMC1000 - *Digital Mixers* (Yamaha)

Musical Instruments

- 1 Ethersense - *Captation* (Ircam)
Ethersense + 2 accelerometer sensors

Files

File	Type	Author(s)	Comment
chin-cablage.pdf	Document		
chin-console.pdf	Document		
chin-plan.pdf	Document		
double-bind-umea.aif	Audio file(s)		recording of the concert in Umea
double-bind-video	Video		video of the concert in Umea
double-bind2013.dmg	Patch		
Double_Bind.pdf.zip	Score	Unsuk Chin	The Computer Music Designer 's Score
simul-double-bind.dmg	Simulation files		

Instructions

Hardware setup - cablage console and loudspeaker

See documents 'chin-cablage.pdf', 'chin-console.pdf' and 'chin-plan.pdf'.

Installation of the mics & sensor:

Connect the sensor to the ethersense.

Connect the ethersense to the computer with an ethernet cable. Give an ip adress to your computer. Give this adress to the ethersense (in the 'client ip' configuration panel). The ethersense should now display 'connection ok'.

BE CAREFUL that the alimentation of the ethersense is on the same power supply than the one of the computer, otherwise you will get a buzz. The alimentation should also have an internal transformer to avoid non wanted buzz.



(see picture 'violin-double-bind')

The aërian microphone (DPA 4021) was put on a string attach VH4000 behind the bridge.

The piezoelectric microphone was put on the bridge.

The tridimensional sensor was put on the "string attach" of the DPA 4021.

Patch documentation:

Inputs/Outputs:

There are 2 inputs: adc1..2 respectively for aërian microphone (adc1) and for piezoelectric microphone (adc2).

There are 6 outputs: dac 1..6 respectively on loudspeakers 1-front-left, 2-front-right, 3-middle-left, 4-middle-right, 5-back-left, 6-back-right.

Outputs 1-2 should be played behind the musician.

Output 3-4 of the patch are the main outputs, these sounds should be played on the main front speakers.

Outputs 5-6 are rear speakers.

Patch installation:

Copy the folder 'double-bind2013' on your hard disk.

Launch max/msp 6, and select this folder (and only this one) in the 'file preferences' menu of max/msp.

Startup Folder	max-startup	
Help Folder	./max-help	Choose
Timeline Action Folder	tiAction	
Other Folders	(folders inside these folders will be searched)	
	./patches	Choose
	./examples	Choose
	Data:/prod/chin/double-bind?/	Choose
		Choose
		Choose
Path List	Print	Print Current File Paths in Max Window

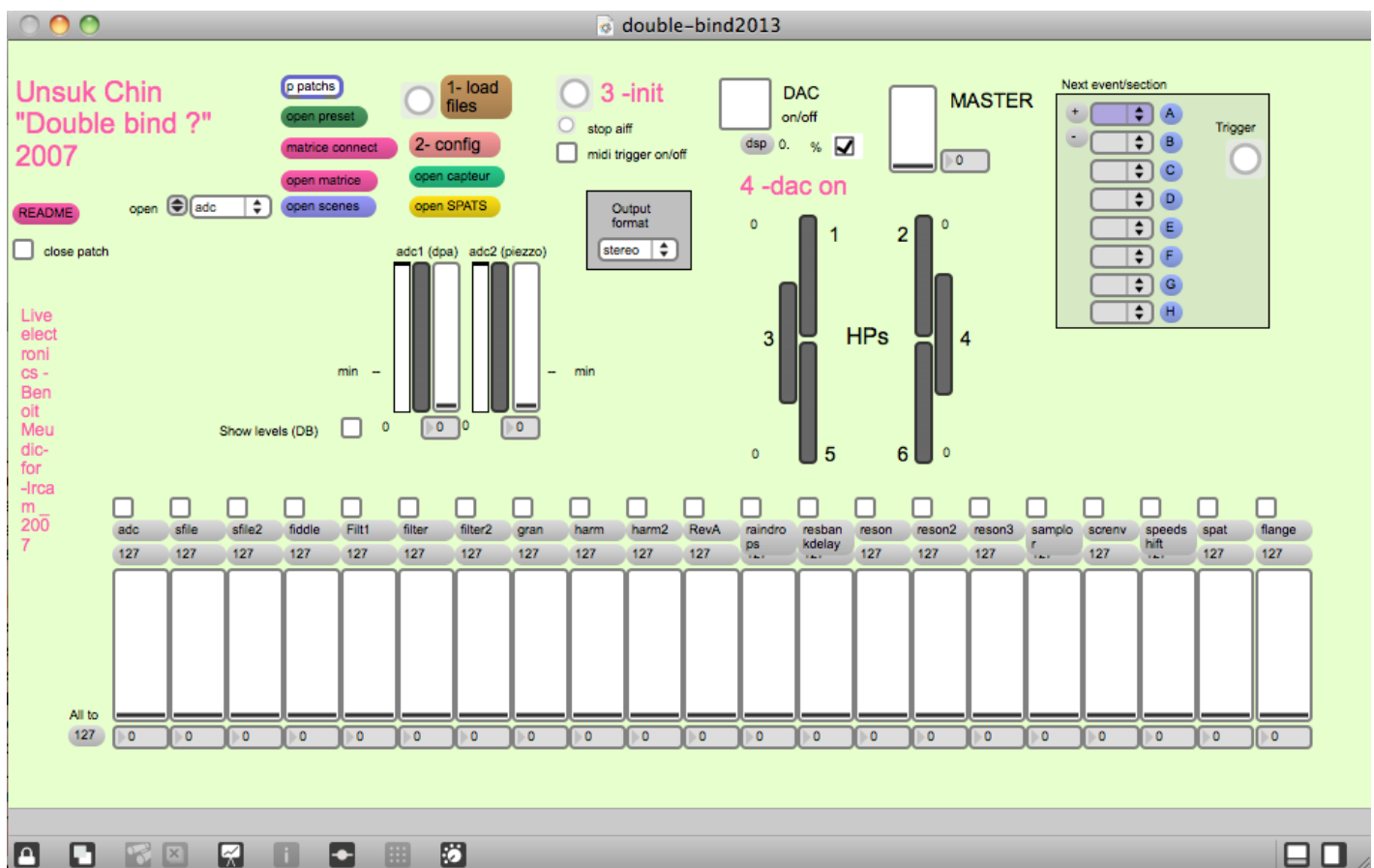
(figure 'file preferences')

Open the file 'double-bind2013' in max-msp 6.

Patch description (figure 'main patch'):

The concert patch is composed of:

- Top right: interface for events triggering (figure 'events'). Events are represented by a unique number reported in the instrumental score. The highlighted number corresponds to the next event that will be triggered.
- Top left: main sub-patchers (audio, midi, libraries, events counter, reset, matrix connections).
- Bottom: live mixing faders.

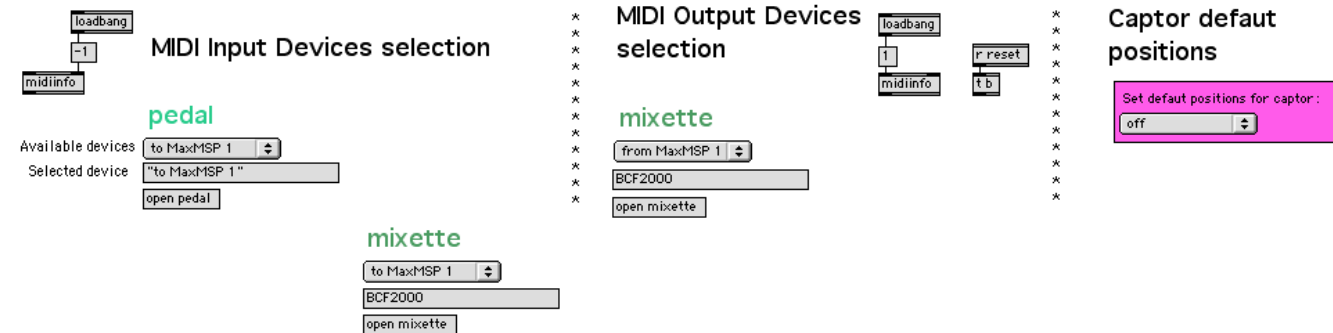


Patch initialisation:

To initialize the patch:

1. Click on '1-load files'

2. Click on '2-config' (figure 'config') and config your MIDI setup if you use a mixette. Define the neutral positions for the violin: once the captor is installed on the violin, keep it horizontal and click on 'a-plat'. The position is recorded in a coll. It is used twice in the piece (event 20 and event 75). Then put the violin vertical (take it by its head) and click on 'pendule'. This position is used at the end of the piece to spatialise the soundfile (event 169). Save the main patch.
- The configurations will be saved even if you quit max.
3. click on '3-init' and wait for the message 'ok bang' in the max message window.
4. turn the DSP on



Execution Instructions

BCF2000 mapping:

The BCF2000 is mapped as follows:

fader1 (adc & adc2), fader2 (reson1..3), fader3 (sfile), fader4 (gran), fader5 (sampler), fader6 (raindrops), fader7 (speedshift), fader8 (resbankdelay), potard9 (spat azimuth for last section)

Mixing of electronic treatments:

There is a score (A4 format called 'Double_Bind.pdf') for the one who triggers the events. Events are numbered in an increasing order, and should be triggered with the space bar.

Part A: keep control on the resonators. Event 12 must be triggered just before the violonist takes the violin up.

Part C: keep control on the resonators and resbankfilter (we must hear them but not the larsen :).

Part E: event 95 plays a soundfile triggered when the amplitude of the violin is higher than a given value. Keep control on the adc in order the sound to be played only when the violonist puts its fingers on it.

Part F: keep control on the adc in order to hear correctly the harmonizers.

Part G: it is the most difficult part for you. You trigger the treatments with some keys of the computer keyboard:

key a-z: starts/stop freeze

key q-s: starts/stop freeze+sampler

key w-x: starts/stop harmonizer

key o-p: starts/stop sampler

key l-m: starts/stop sampler louder

key :=(written /-+ on the score): starts/stop soundfile

key d-f: starts/stop transposition of freeze+ soundfile

We must hear the freeze fading out at the end of the part, so control it with the fader.

At last section the RIM should spatialize the violin with the bcf potard9 following the movements of the violin.

Amplification & playback of electronics:

(there is a score with some annotation from the sound engineer called 'partition ingénieur du son')

Routing and loudspeakers disposition used for the creation are indicated on attached documents.

Piezoelectric sensor and microphone should be hi-pass EQed and sent pre-fader to the patch at all times.

Outputs 1-2 should be played behind the musician.

Output 3-4 of the patch are the main outputs, these sounds should be played on the main front speakers.

Outputs 5-6 are rear speakers.

The Sound engineer should follow levels of violin direct sound and electronics master, according to musical indications on score.

By default, you must use the aërian mic (DPA4021) for amplification except:

- part A: amplify piezzo until event 20

- part C: first four glissandi

For level of amplification: -20 db for part G (it should be louder than other parts, but not too much)

Part H: no amplification.

End of part H: fadeout of the electronic synchronised with lights


Violin execution:

Part A: use an abrasive sponge fixed to your finger. Be carefull not to have sound when putting off your finger from the string. The glissandi of the finger should be louder and louder.

Part B: before event 20, take the violin up and down. Event 20 is triggered when violin is down.

For shaking parts: the neutral position of the violin is the horizontal. From that position, each time youn turn the violin along one of the two horizontal axis, a sound is triggered.

At the end of the piece, the pendulum movement of the violin must describe a circle centered on the head of the instrument in order to hear the spatialisation effect.

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Program note

Dans *Double Bind?*, mon souhait est d'offrir, d'une part un aperçu de la vie intérieure des sons et, d'autre part, un regard fabulé, manipulé, altéré de la relation entre le musicien et l'instrument ainsi que de la vie « dans les coulisses » du musicien.

Comme dans mon œuvre précédente pour instruments live et électronique, je me suis intéressée ici à un enchevêtrement ludique des limites entre « le naturel » et « l'artifice ».

Unsub Chin.

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