

# Terre d'Ombre - 2020 / Tristan Murail (composer)

May 2020 version - documentalist: Manuel Poletti @ IRCAM

**Upgrade motivation** : porting of the original Max4 patch to Max8 64bit

## What was achieved in this version

- created technical setup drawing & present documentation
- converted all sound files from 44.1KHz to 48KHz current standard
- created an independent Max Project
- fixed a potential crash when loading sound files twice
- tested all sound files

## Warning

The present version was made in studio and needs to be tested in a real performance situation.

## Global description of the live-electronics

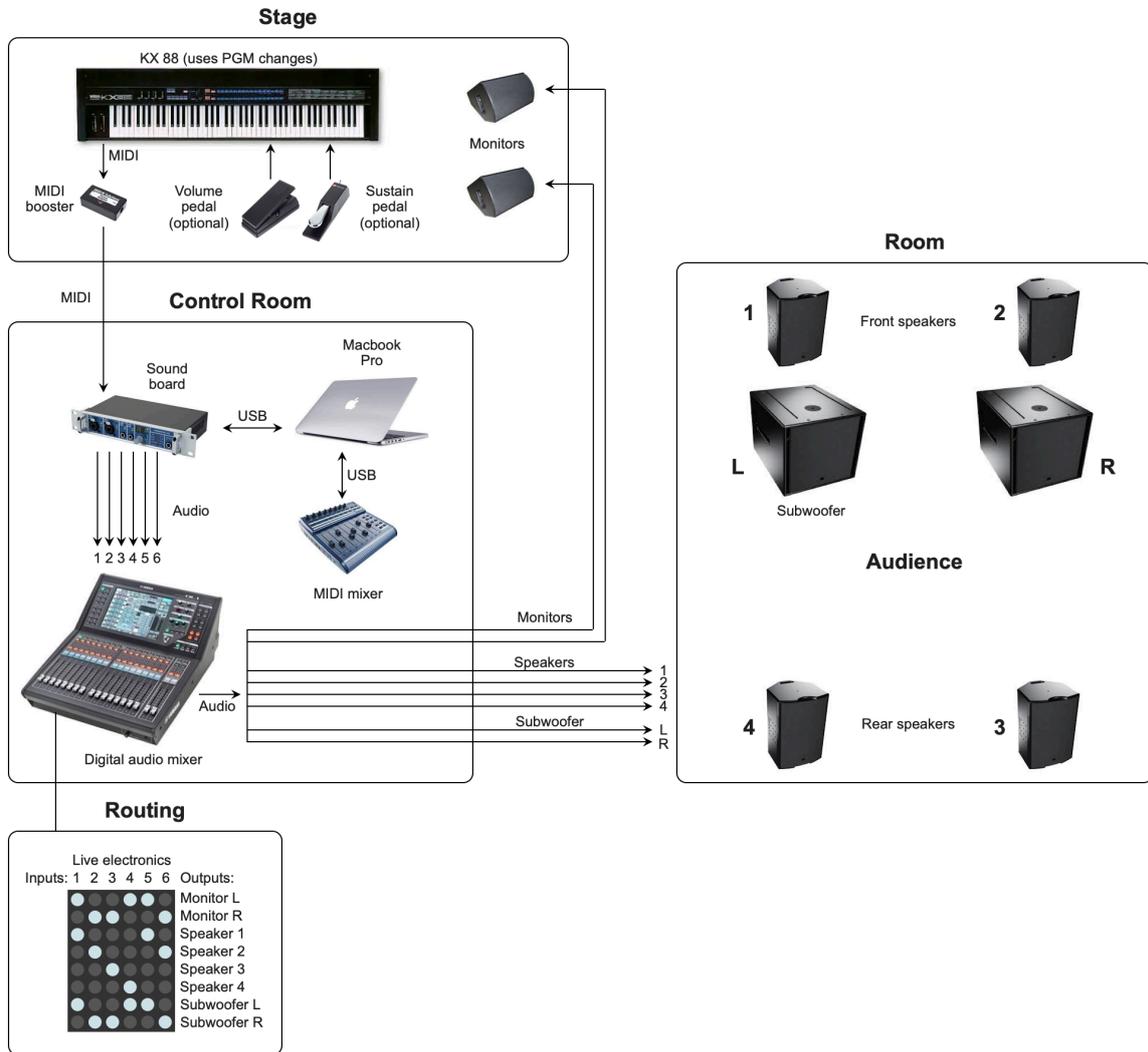
The Max patch plays some stereo sound files which are dynamically spatialized through 4 speakers placed around the audience, and mono sound files played through frontmost speakers . Sound files are triggered from a keyboard player on stage.

The keyboard is linked from the stage to the live-electronics computer in the control-room through a MIDI connexion. The keyboard player triggers MIDI notes together with the conducting, and MIDI program-changes to select different banks of sound files. Therefore the keyboard needs to have the possibility to send some MIDI program-changes easily. A Yamaha SY77 or KX88 model is recommended.

The role of the computer music designer is to set up the live-electronics, install and run the Max patch, monitor the MIDI input while following the score, and mix the live-electronics during the performance.

# Live-electronics technical setup

The below describes the gear needed to run the piece and how devices are connected together.

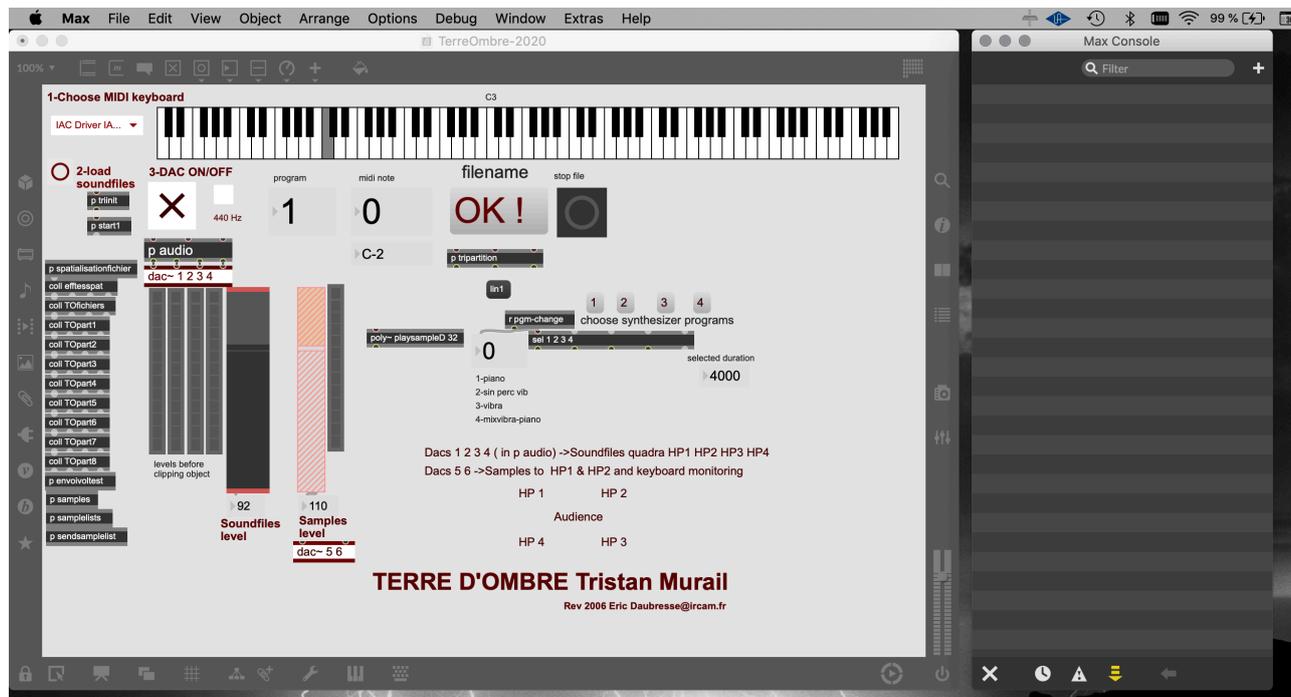


## Software requirements & installation

The piece requires a copy of Cycling'74's Max 8 - or later - software installed and authorized - temporary subscriptions are available on [www.cycling74.com](http://www.cycling74.com) - running under Mac OS Mojave 10.14.6 or later.

Download and copy the content of TerreOmbre-2020.dmg archive into your hard drive. Locate the **TerreOmbre-2020.maxproj** Max document in the folder and open it in Max.

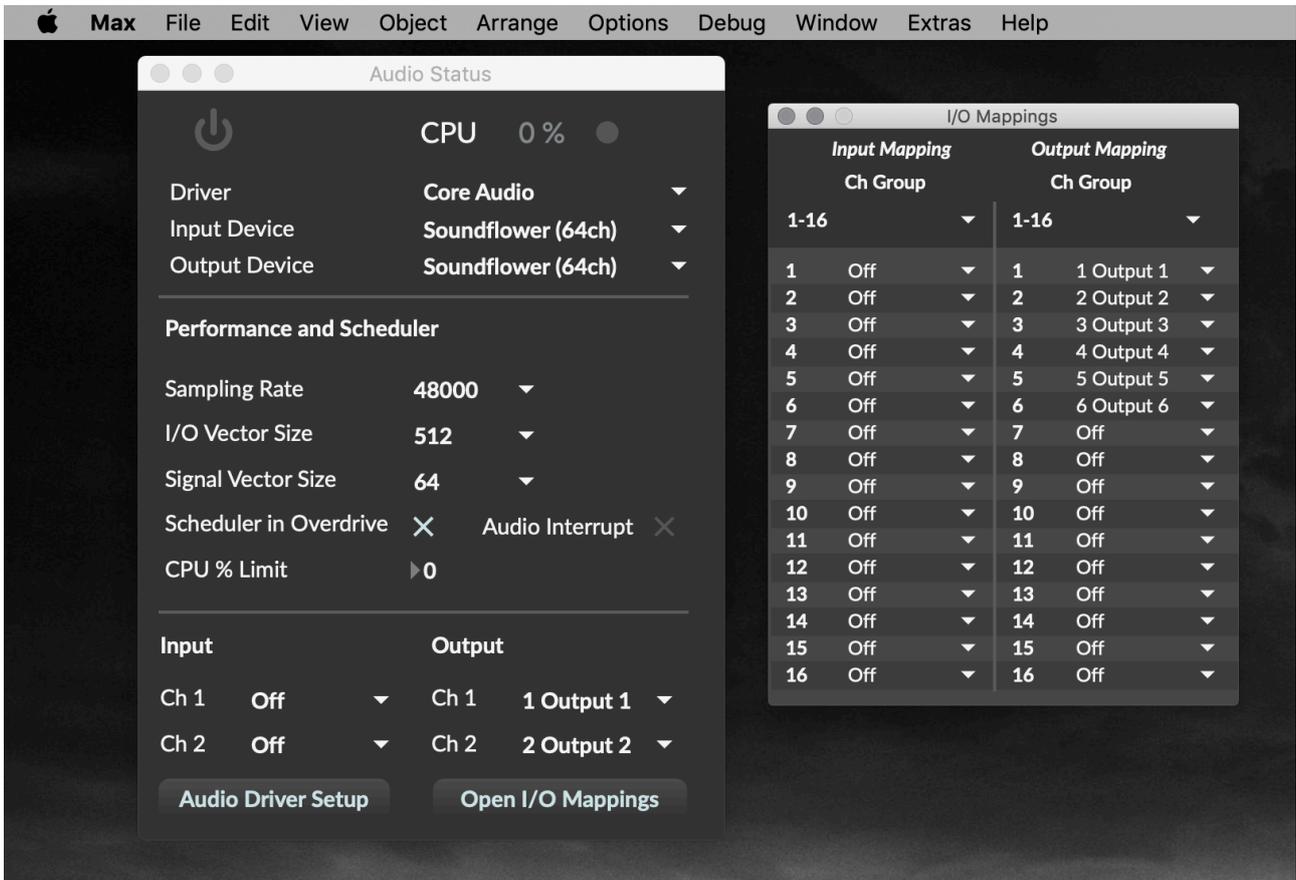
This is what you should see:



There should be no error nor warnings at all displayed in the Max window. If any error should appear, please check your Max version and preferences, embedded packages, etc, that might conflict with the actual content of the patch.

## Max: DSP settings & I/O routings

Under the Options menu of Max, select Audio status. In the Audio Status Window, select your soundboard as Output Device (Soundflower driver is used here as an example):

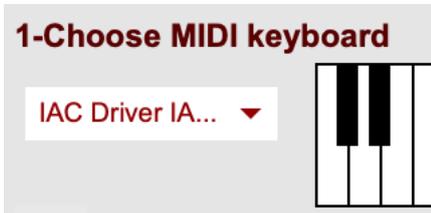


Click the "Open I/O Mappings" button, and route Max's first 6 audio outputs to the desired output channels of your soundboard.

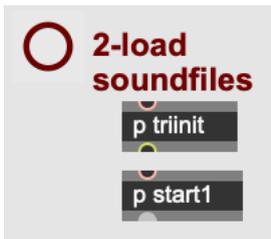
## Patch instructions

In the main patcher, follow the indicated steps:

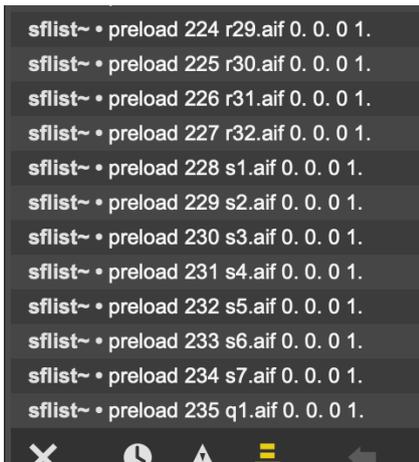
- 1) Choose the MIDI input port the keyboard is connected to:



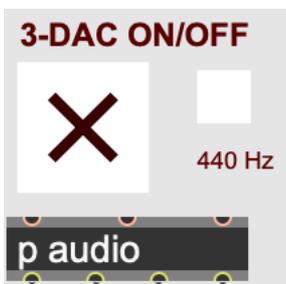
- 2) Load soundfiles:



When sound files are loaded, the Max console should display the following:



- 3) Turn Dacs (dsp) on:



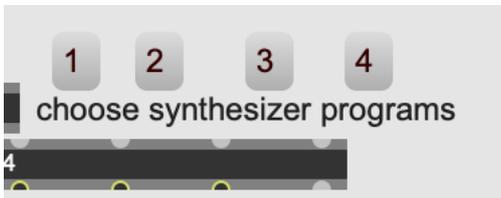
Test with the keyboard that MIDI notes trigger sound files and that program changes change the sound files banks. If test is successful, you should be ready to run the piece:



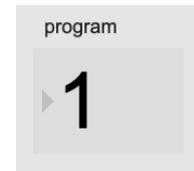
## Details

If you wish to test the different program changes and sound files, here is how to proceed:

Select a program (i.e. sound file bank) using the four dedicated buttons:

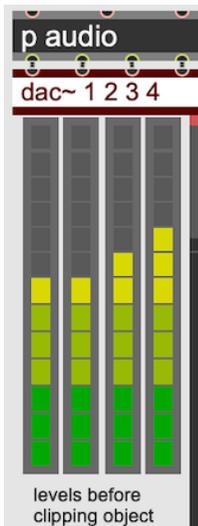


or using the MIDI in number box:

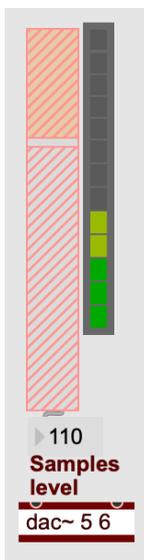


MIDI notes 21 to 28 are used to change banks, in the case where the keyboard has no program change facility. Notes 21 to 28 select programs 1 to 8, which correspond to a selection of the 4 different banks available in the patch, accordingly to score instructions.

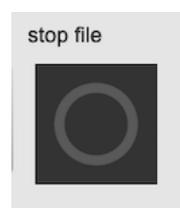
In the different banks, the keyboard is splitted in two distinct parts, whose ranges may vary depending on the current bank being selected: lower notes - starting at note 36 - trigger Direct-From-Disk sound files which are output to dacs 1 to 4 and spatialized between all four speakers:



Higher notes trigger mono RAM samples which are output through dacs 5 & 6 and sent to speakers 1 & 2 (front) only:



You may stop any playing sound file using the “stop file” button:



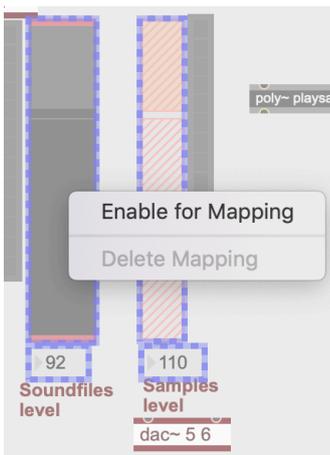
## MIDI mixing

If you own a MIDI mixer, you may easily map the master gains of both DFD and RAM sound files using the MIDI mapping feature available in Max 8:

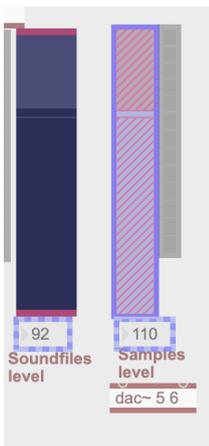
Click in the keyboard icon in the patcher's toolbar:



Select the gain faders, and for each enable MIDI-mapping:



Click one gain fader, and move a MIDI slider on your mixer - the gain fader should then be mapped:



Proceed as described for both faders, then turn MIDI mapping back off.

If you don't own any MIDI mixer, you may group audio channels 1-2-3-4 in the mixing console, in order to control the gain of the DFD quadraphonic sound files, and audio channels 5-6 to control the gain of the dual-mono RAM samples.