

# Eclair de Lune - 2020

**Bruno Mantovani (composer)**

**Sébastien Roux (computer music designer)**

May 2020 version - Manuel Poletti

## Upgrade motivation

Porting of the original patch into an Ableton Live session. The session hosts soundtrack, audio and visual click-tracks, and facilitates the navigation in the timeline when rehearsing. This allows the sound engineer to mix the live-electronics, without the need for a computer music designer.

## What was achieved in this version

- technical setup drawing & documentation
- separate the 3-channels soundtrack into one stereo file for the live-electronics and one mono file for the click-track, so these may be imported into any DAW
- reported all tempo and time-signature changes according to the audio click-track in the session
- created a Max For Live device which displays a visual click-track with tempo, time-signature, bars, beats and smpte timing, to be displayed on a remote screen on stage
- created a MIDI file containing notes for click-track, which may be used into any DAW

WARNING: due to the lack of musical score in the previous versions, the new Live session needs to be checked and compared to the original score, when available.

## Global description of the live-electronics

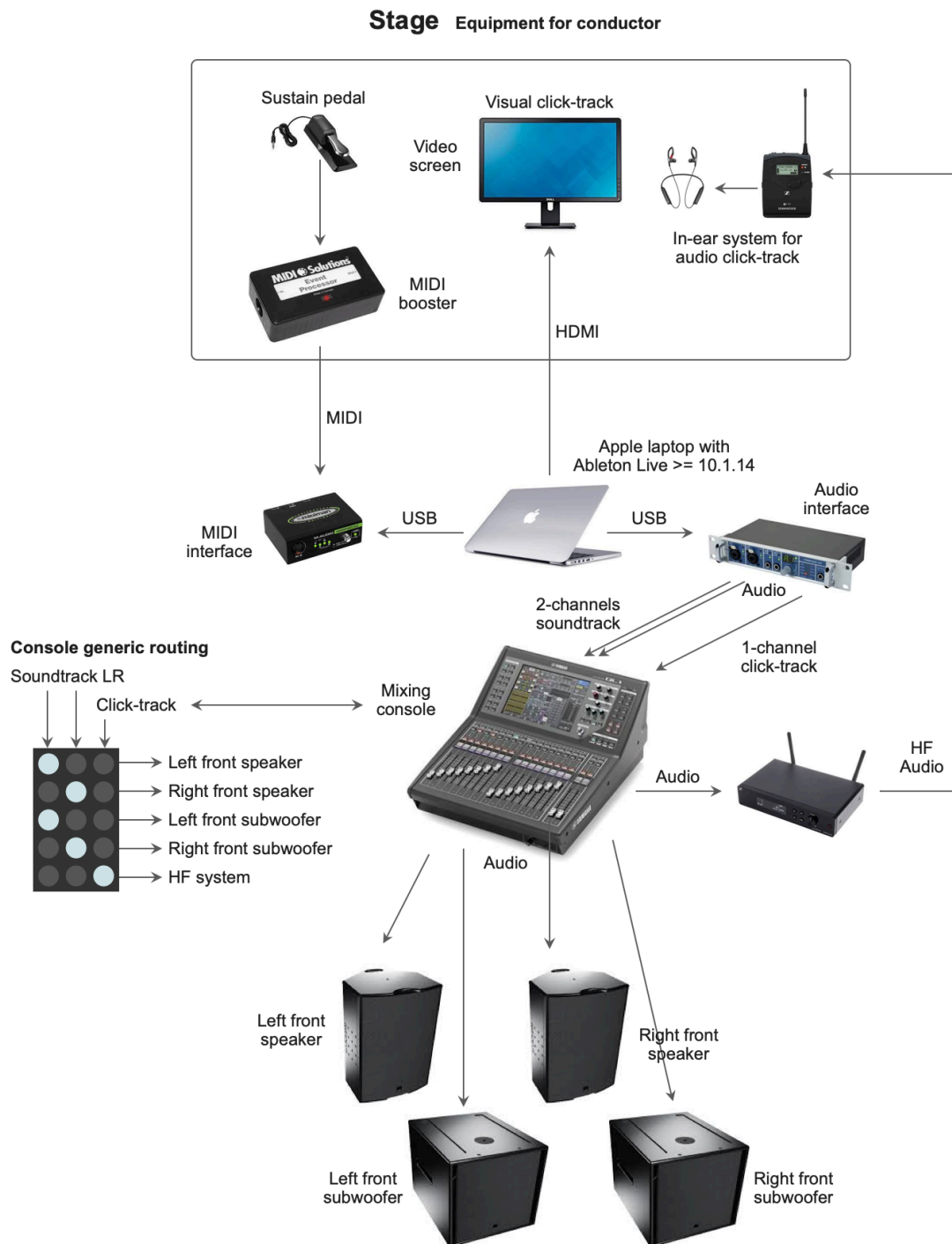
An Ableton Live session plays a stereo soundtrack through a stereo P.A., in sync with the conducting.

The synchronisation is achieved using an audio and/or visual click track.

The click track is sent to the conductor using an in-ear module, via a wireless (HF) connection, while the visual display is broadcasted using a video signal from the computer (HDMI recommended) to a video screen placed on stage.

An optional on-stage MIDI pedal allows the conductor to trigger the start of the piece, if required.

## Technical setup



The laptop computer runs the Live session, and outputs the following signals:

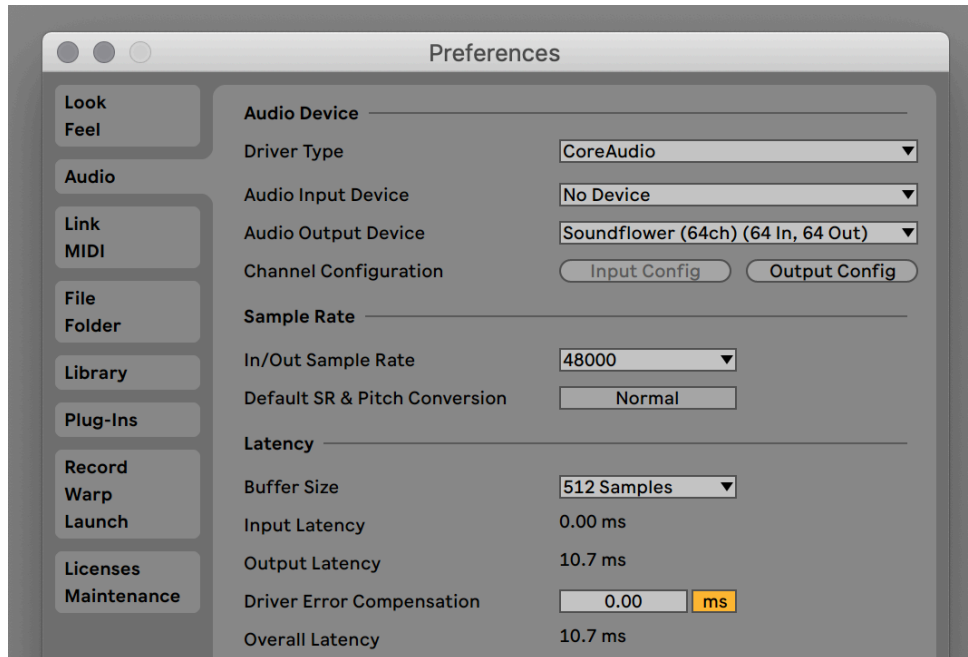
- a stereo audio soundtrack, to be diffused on two L/R front speakers (plus subwoofers)
- a click track signal, remotely sent (HF) to the conductor's in-ear on stage

The Live session includes a visual monitoring of the click track, which can be displayed on a remote screen placed on stage, if the conductor requires a visual feedback in addition to the audio click track. The MIDI pedal is optionally used to trigger the start of the piece.

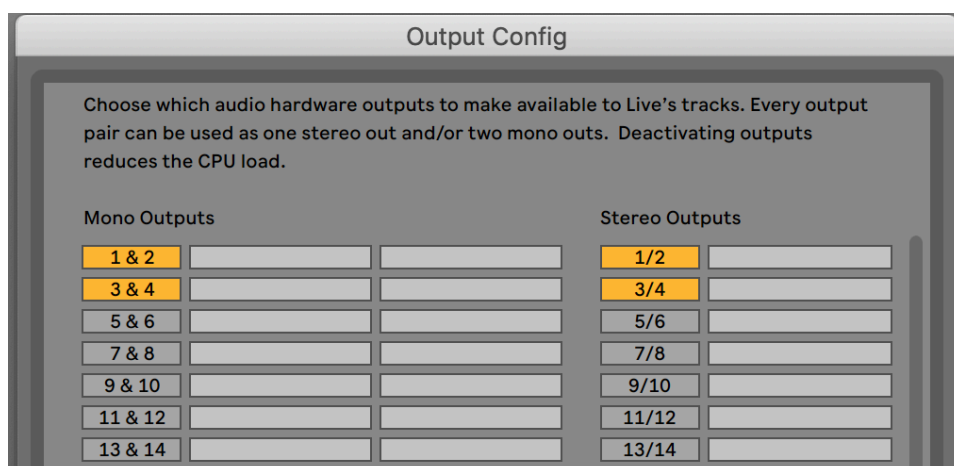
## Software requirements & installation

The piece requires a copy of Ableton Live 10.1.14 or later, with Mac OS Mojave 10.14.6 or later installed, running on any Apple laptop or desktop machine supporting both above Mac OS and Live versions.

Launch Ableton Live, and open the Preferences panel under the Live menu.  
In the Audio pane:



- select your soundboard as the Audio Output Device (Soundflower driver is used above as an example)
- set the In/Out Sample Rate to 48000 Hz
- set the Buffer size to 512 samples
- click the Output Config button and enables audio outputs like this:



The 1 & 2 outputs are used for the stereo soundtrack, and output 3 is used for the click track.

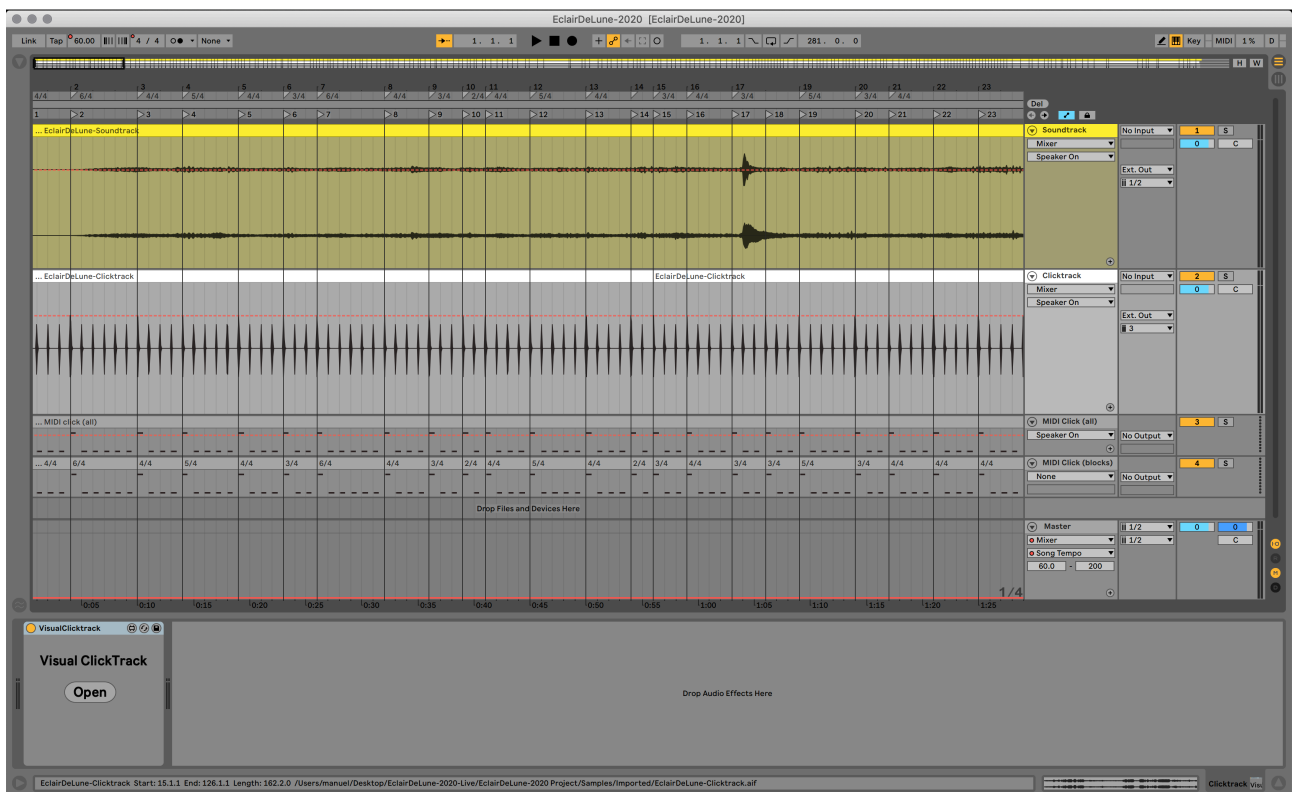
In the MIDI pane:

Enable the “Remote” function for your MIDI interface (IAC driver is used below as an example) - this will be eventually used later to map the sustain pedal to Live’s transport, if required:

MIDI Ports		Track	Sync	Remote
► Input:	IAC Driver (IAC Bus 1)	Off	Off	On
► Input:	IAC Driver (IAC Bus 2)	Off	Off	Off
► Input:	IAC Driver (IAC Bus 3)	Off	Off	Off
► Input:	IAC Driver (IAC Bus 4)	Off	Off	Off
► Output:	IAC Driver (IAC Bus 1)	Off	Off	Off
► Output:	IAC Driver (IAC Bus 2)	Off	Off	Off
► Output:	IAC Driver (IAC Bus 3)	Off	Off	Off
► Output:	IAC Driver (IAC Bus 4)	Off	Off	Off

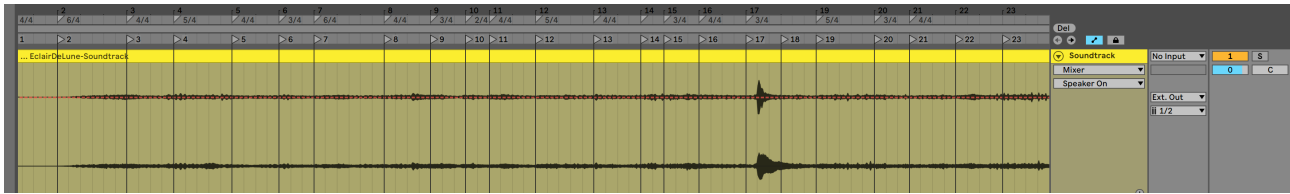
## Install & launch the Live session

To install the Live session, double-click on the “EclairDeLune-2020-Live.dmg” disk image, and copy its content into your hard drive. Then launch the **“EclairDeLune-2020.als”** Live set from the “EclairDeLune-2020 Project” folder:

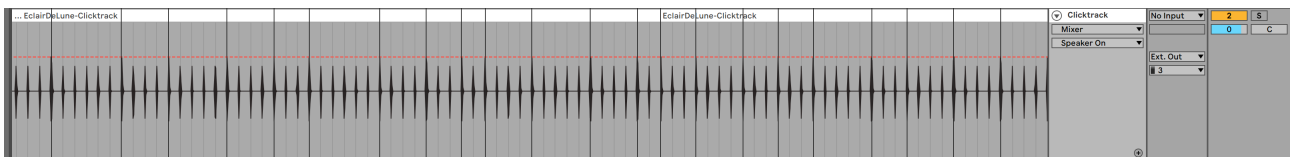


## Description of the content of the Live session

The yellow track contains the stereo soundtrack, sent to audio outputs 1 and 2:



The white track contains the audio click track, sent to audio output 3:

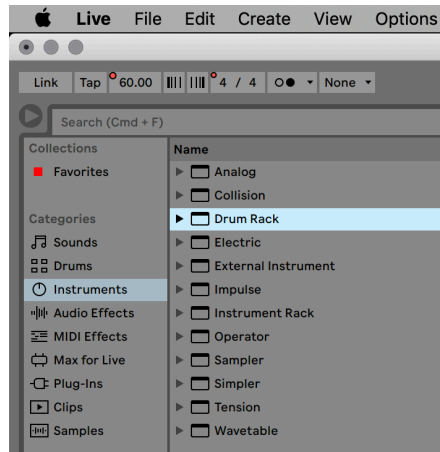


The white click track also contains a Max For Live device, used for visual click track monitoring, described later in this document.

The two gray MIDI tracks are a MIDI representations of the click track, which can be used to change the samples of the audio click track:



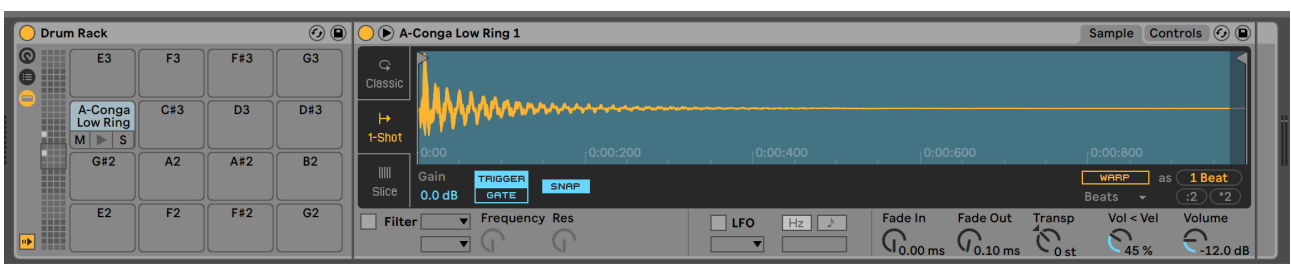
To do so, insert (for instance) a Drum Rack device into the MIDI track:



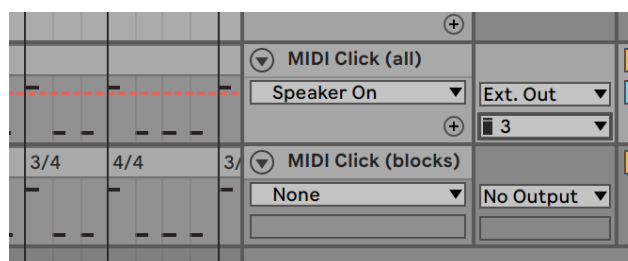
Then add the sounds of your choice for note C4 (bar event):



And a sound for not C3 (beat event):



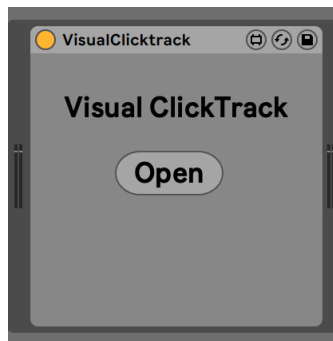
Then route the audio from the Drum Rack to audio output 3 (click track's track):



Note: the MIDI Click (blocks) track is a model for understanding the click track's structure.

## Visual click track

In the click track's track, locate the VisualClickTrack device and click the Open button:

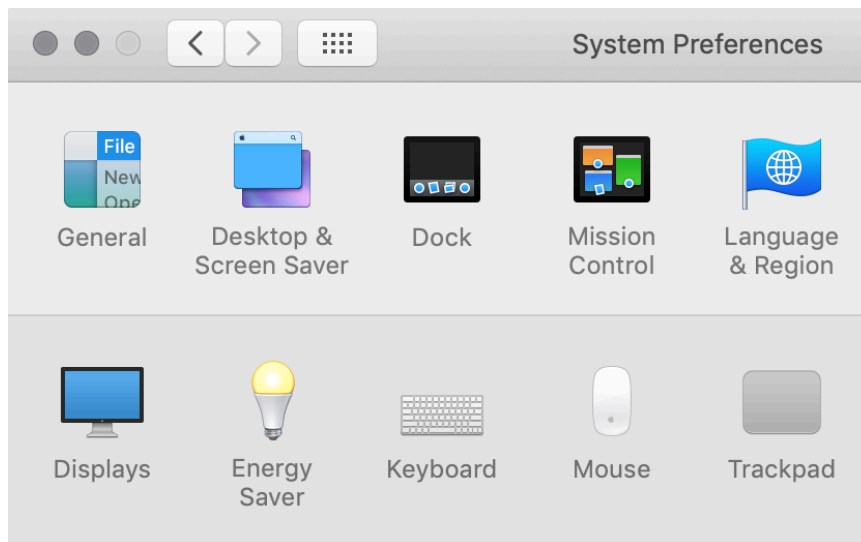


This should open the VisualClickTrack display window:

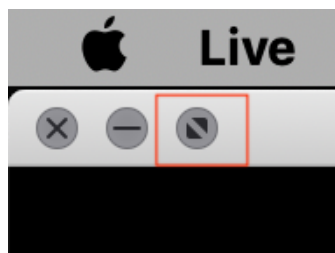


This reflects the state of the transport of Live, tempo, time-signature, bar and beat numbers, and SMPTE-like absolute time.

To display the visual click track window in the on-stage screen, open the Mac's System Preferences and select the Displays pane:



Your second screen should appear. as second screen. Tweak the disposition and the resolution of the second screen so that the click track visuals fit the screen's window when you drag it to the second screen. You may then click on the Fullscreen button of the window title bar to display the visuals in fullscreen mode:

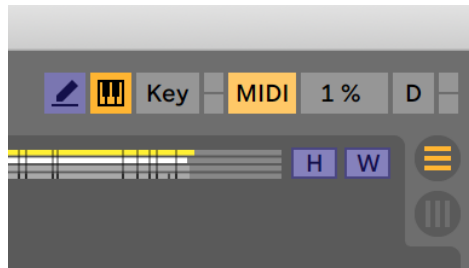




## MIDI pedal

If required - i.e. if the conductor wants to trigger the start of the piece - it is possible to MIDI-map the action of the on-stage sustain pedal.

To do so, enter the MIDI-mapping mode in Live by clicking on the “MIDI” button at the top-right side of the Live window (mappable parameters turn blue):



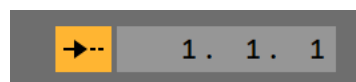
Then click on the Play (arrow) button of Live's transport (top-middle side of the window):



Then press the sustain pedal once. A controller number should appear on the top of the Play button, enabling the remote control of the transport through the MIDI pedal.

## Navigation & rehearsal

While rehearsing, just enter the bar number in Live's Arrangement Position pane (top-middle side):



Or browse the timeline and click on the desired bars marker:

