Orchestrator

for Mac and PC-Windows computers

Manual V2.3 11/4/2019

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Credits

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a) the terms of the license described herein shall be transferred in their entirety;
b) the client shall transfer all copies of the software to the new licensee, including the data storage devices and documentation belonging to them;
c) the client shall delete the installed software so that recovery is impossible; and
d) the new licensee shall agree to these licensing terms.

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The preceding limitations of liability shall not apply in the case of death, bodily injury, or illness, for a defect covered by a guarantee that has been given for the condition of the product, and in the case of fraudulent concealment of a defect. Liability in accordance with the Product Liability Act remains unaffected.

D. Applicable Law

The licensing terms described herein are subject to the law of the Federal Republic of Germany to the exclusion of the United Nations Convention on Contracts for the International Sale of Goods and private international law.

Introduction

The conTimbre orchestrator is an interface to arrange complex orchestration and produce reliable audio simulations of the contemporary orchestra. It comprises of a database with more than 150 Instruments, sorted by their group and family. More than 4,000 playing techniques are available, from simple ordinario to sophisticated new music techniques. The diversity of modern instrumental techniques has become increasingly difficult to survey. The orchestrator presents an opportunity to make this diversity more tangible and easier to organise according to the needs of the user. How does a tone sound? How can one notate it? What acoustical properties does it possess? How does it sound in an orchestral context? What does the instrument producing the sound look like?

Compatibility

The orchestrator standalone application runs on
- Apple computers running MacOS 10.11.or newer.
- PC-Computers running windows 8 or newer.
- Minimum RAM 4GB.

The orchestrator maxmsp patch (ePlayer_maxmsp/#contimbre ePlayer) needs additionally MAX8 (www.cycling74.com) runtime version or full version installed.

Getting started

- Please make a copy of the complete database onto your computer or your external drive. Do not place the conTimbre database in higher folder hierarchies as the software might not find files with long names.
- Insert the conTimbre USB stick or authorise conTimbre online using the conTimbre InstallerUpdater.
- Start

  i) Mac: Start *Orchestrator_standalone/#conTimbre Orchestrator*
  windows: Start *Orchestrator standalone*

  or

  ii) Start *MAX/MAX-runtime* and then load *Orchestrator_maxmsp/#conTimbre Orchestrator.maxpat*. Be careful not to load more than one instance of *#conTimbre Orchestrator.maxpat.*

Important: For proper functionality, the conTimbre USB stick must be inserted while you are using the orchestrator, if you didn't authorise online.

Main Window

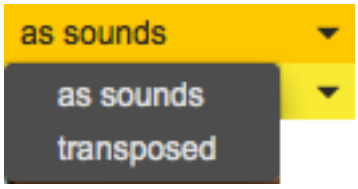

#conTimbre...
conTimbre
orchestrator V2.0
about conTimbre
as sounds
48kHz_24bit
Editor
VU Meter
Mini Play
Load/Save
MIDI
Audio Settings
Stereo
Record

Language Selection

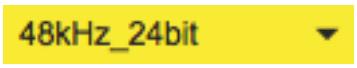
Click to select your preferred language.

Notation Mode

Select the notation mode, as sounds or transposed.

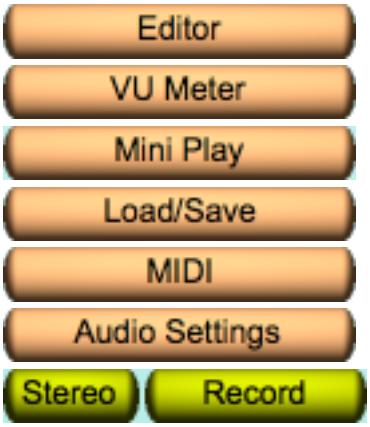


Qualitiy of Samples



The first value indicates the sample rate in kHz of the samples used.
The second value indicates the bit depth of the samples used.
Higher values have high quality, but take more RAM.

Open Windows



opens the orchestration editor.

opens the VU meter window.

opens the Mini Play window.

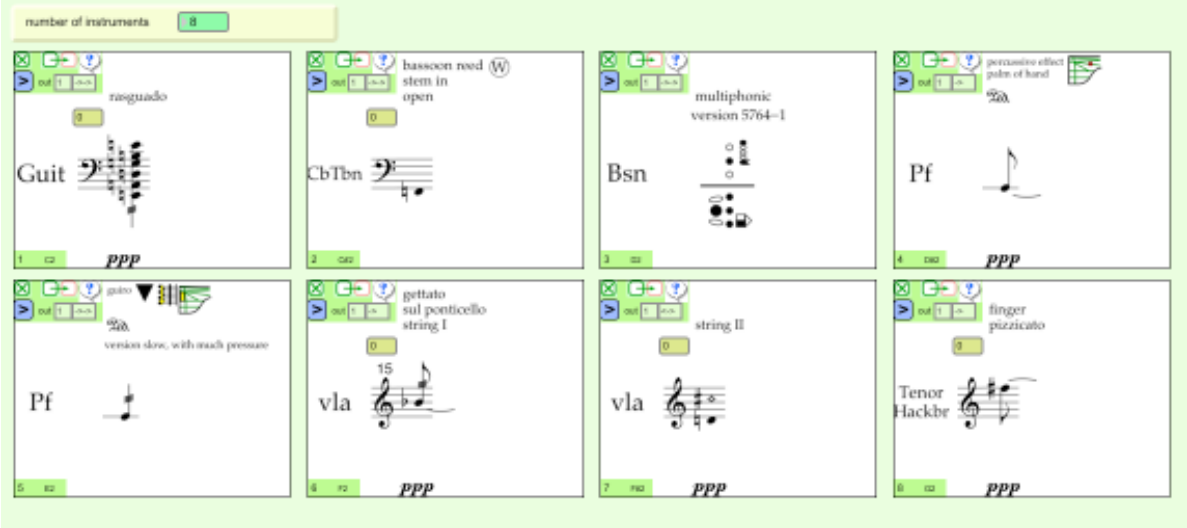
opens the window to load and save orchestrations.

opens the window to select MIDI input devices.

lets you edit the audio settings in your environment.

records sound files.

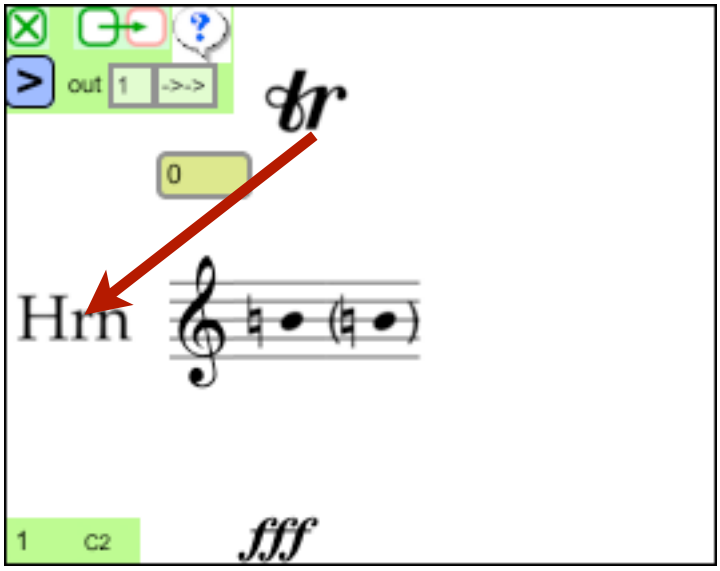
Orchestration Editor



Each rectangle represents a voice. In the orchestrator, the voice is a sound to be played. You may change the number of voices. Click into the number box on top and type in the desired number:

Editing a Voice

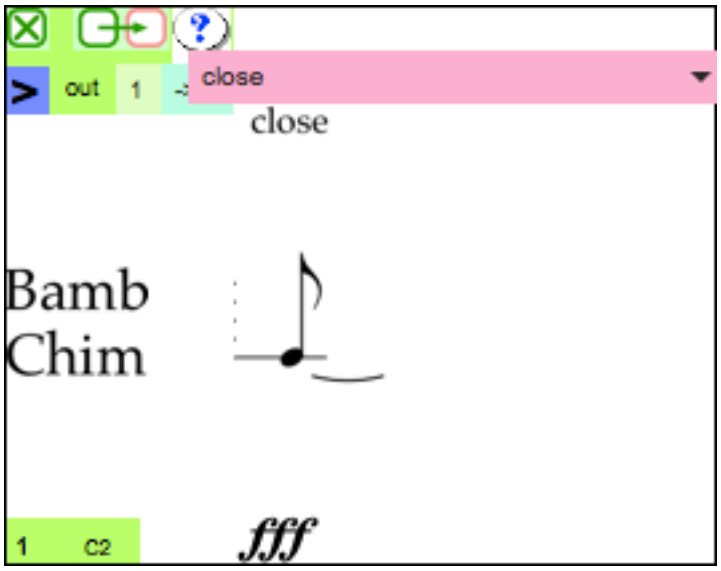
It is possible to edit a voice while playing.
Click onto the instrument to select a new instrument (group, family, instrument).



Set group, family and instrument in the instruments editor menu:

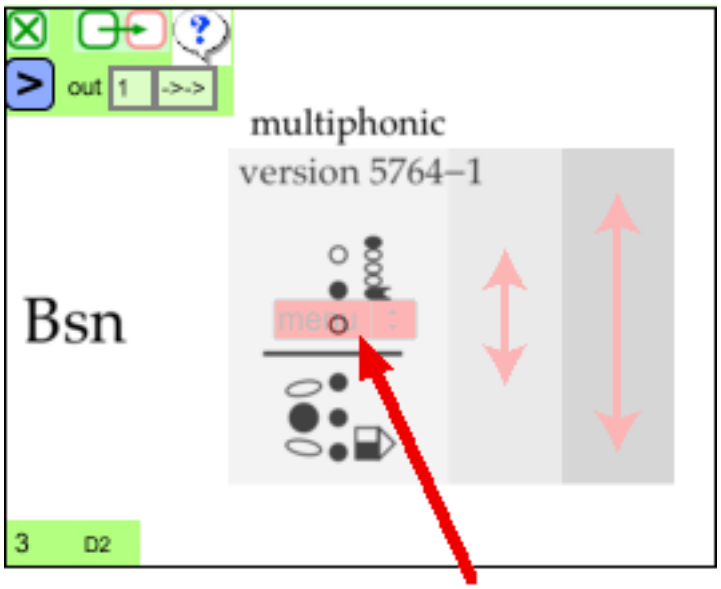
Editing the Playing Mode

Click in the modes area and set the desired mode.

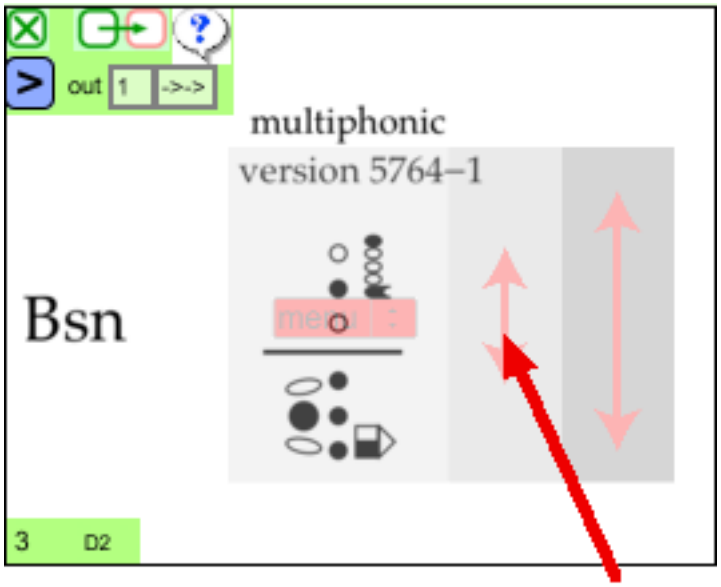


Editing the Note

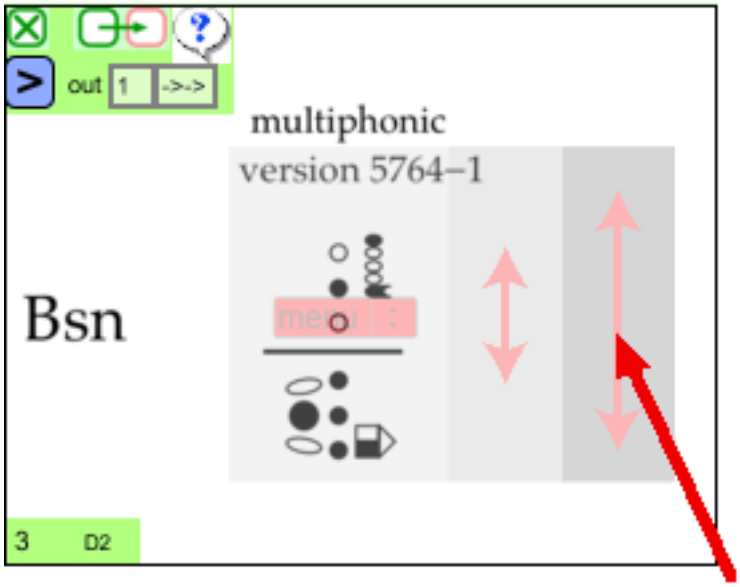
Clicking in the left part of the note area lets you edit the note through a note menu:



Clicking in the middle right part of the note area and dragging up or down lets you step slowly through the menu:

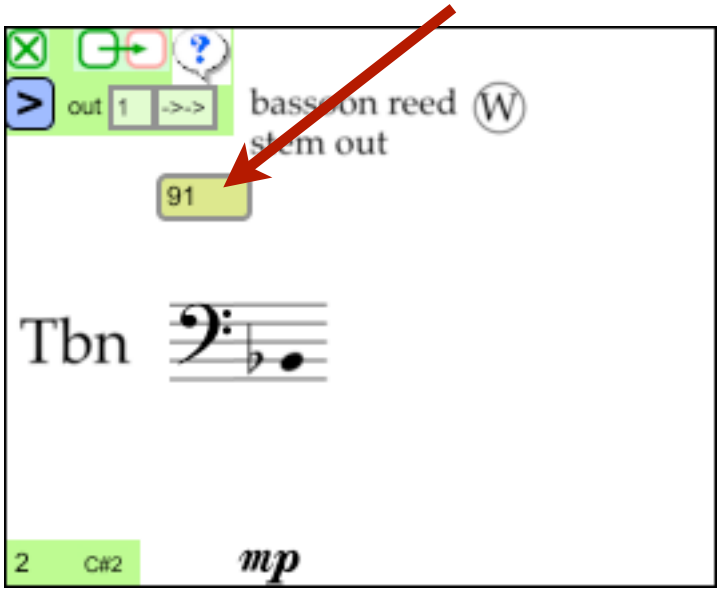


Clicking in the right part of the note area and dragging up or down lets you step quickly through the menu:



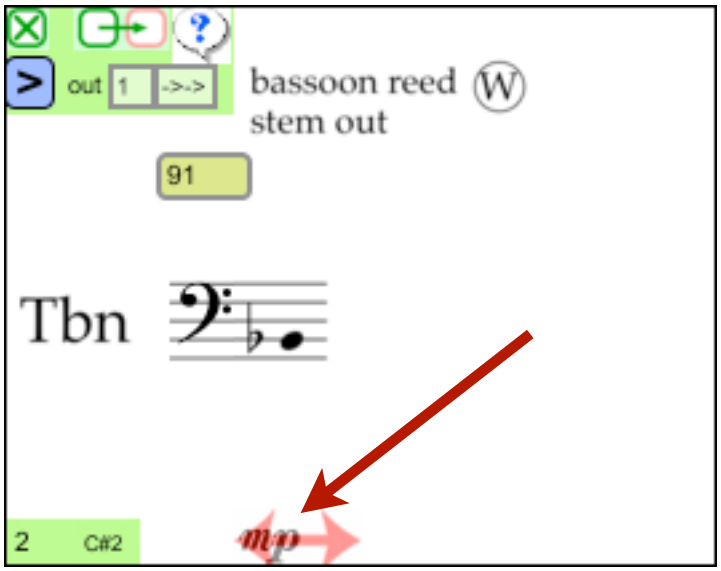
Microtonal Detuning

The sound may be detuned to get microtonal pitches. The detune is in cents.
100 cents equals a semitone.
Detune is only possible if the sound of the real instrument may be detuned.



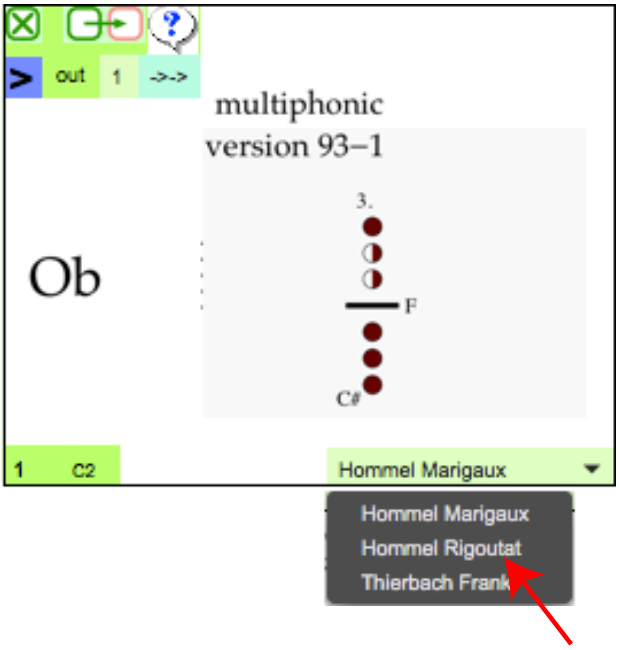
Editing the Dynamic

Click on the dynamic (if available) and drag left/right to change it:



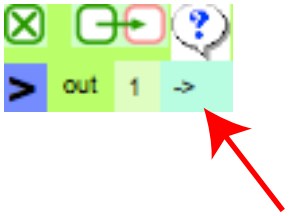
Editing the Type

If there exist different types of sounds (different interpreter, different instrument model...), you may choose the type:



Loop Mode

You can select between 3 loop modes:
- no loop (-> Just play once, then stop)
- normal loop (->->)
- loop forwards and backwards (<->. Sound is first played forwards, than backwards, than again forwards a.s.o.)



If the loop mode is off (->), the sound will stop after a while by itself.

Output Channel

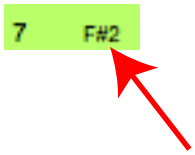
Click here to set the physical output channel for this voice.

Play a Sound

Play/stop the sound with this button:

Play/stop a sound with a MIDI keyboard

In the lower left corner, a pitch is indicated in international pitch notation (C4 is middle C). See also Mini Play.



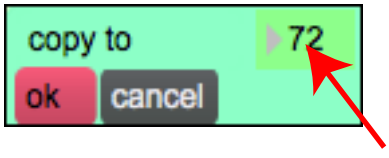
If you play the pitch on a keyboard, this voice will be playing. Select the MIDI device in the MIDI window. The MIDI velocity will affect the loudness of the sound.

Delete a Voice

Copy a Voice

Click here to copy a voice to another one

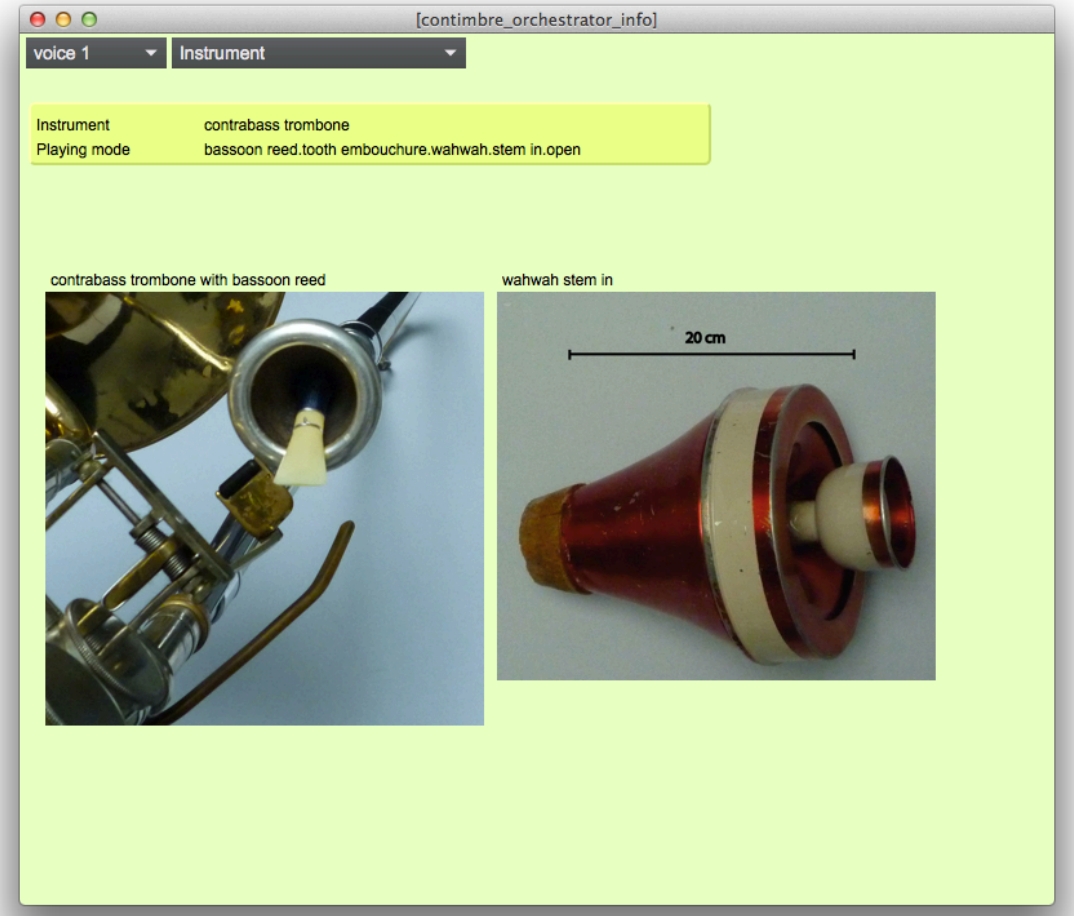
Then select the target channel:



Info Window

Clicking on the info icon

opens the info window:



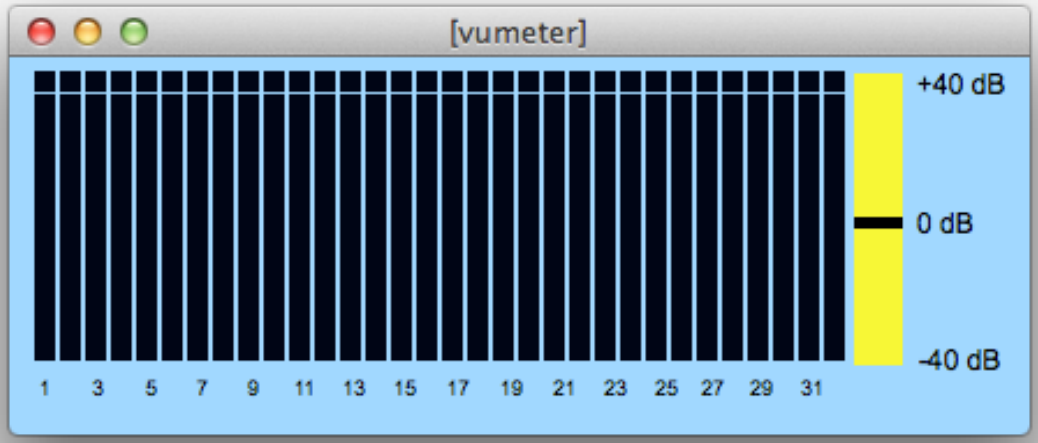
In the popup menu, you may select different types of information:

- Option Instrument. The instrument and eventual accessories or describing photos are presented.
- Option Comments
- Option Partials.
- Option Spectrum. The spectral envelope and the spectral center is displayed. The spectral center is musically equivalent to the brilliance of a sound. A sound with a high spectral center sounds clear, a sound with low center sounds dull.

- Option Other. It is displayed:

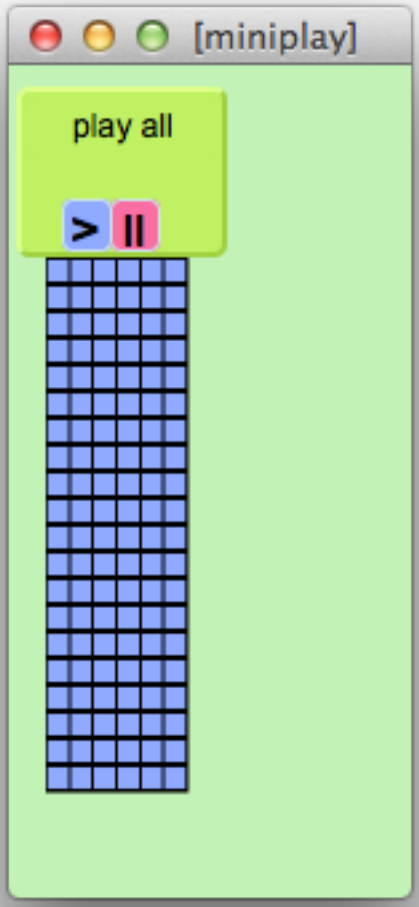
- the absolute intensity. The absolute intensity of a sound is the maximal intensity in dBA at a distance of 1m.
- the nominal intensity. This is the maximal intensity within the sound file. The maximum is 0 dB.
- the attack time.
- the spectral complexity. A sound with low spectral complexity (close to zero) resembles a sine wave. A sound with high complexity (close to 1) resembles white noise.

VU-Meter

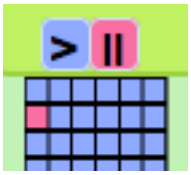


The black bars indicate the VU meter for each audio channel (not voice number!). The slider on the right side corrects the overall loudness.

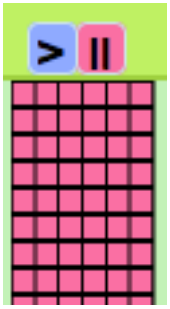
Mini Play



This window is a miniature version of the orchestration editor window. The small rectangles represent a voice each. Clicking into a rectangle will play/stop a sound. In the following example, voice 2 is playing:



Pressing the large play or stop button, will play/stop all voices:



Load/Save

In this window, you may store orchestrations in banks and save the banks on disk. First, open load/save window from the main window.

Store

You may store orchestrations in a bank of orchestration. Just select the orchestration number and press store:

.

Non empty programs have a program number ending with a star.

Load

Select a program (with star) and press "load".

Delete

Select a program (with star) and press "delete".

Save Orchestration File

The complete orchestration bank may be saved into a file.

Load Orchestration File

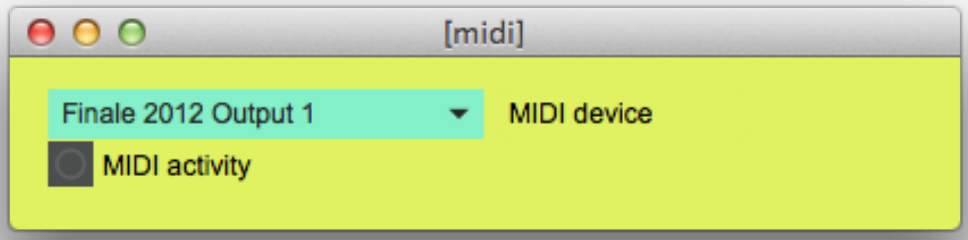
You can load orchestration banks from file.

Algorithmic Orchestrations

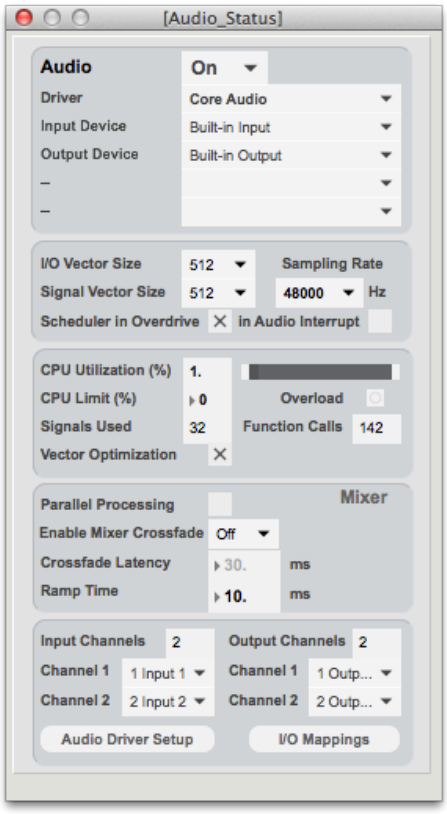
On Mac, it is possible to algorithmically generate orchestration banks with CommonLisp. These orchestrations may be loaded into the orchestrator. Install sbcl (www.sbcl.org) and use the file orchestrator_CommonLisp/ orchestration_search.lisp.
Follow the instructions in this text file.

MIDI

You can play voices from a MIDI keyboard or another MIDI device. Just select the MIDI device from the MIDI window



Audio Settings



This window is also described in the MAX manual (www.cycling74.com).

Driver Select your preferred audio interface.

I/O vector size, Signal Vector size: Small I/O vector sizes and small Signal vector sizes will decrease the time latency and increase the CPU utilization.

Sampling rate: High sampling rates increase the sound quality of the sample playback, when high resolution samples were loaded. High sampling rates increase the CPU utilization.

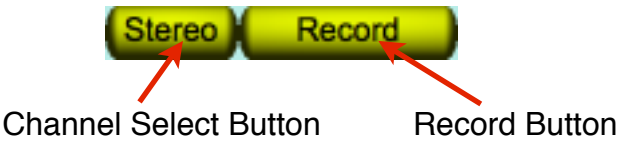
Scheduler in Overdrive: When switched on, the the latency of notes played is lowered. However, the graphics will update slower. It is recommended to switch on "Scheduler in Overdrive".

Scheduler in Audio Interrupt: When switched on, the the latency of notes is lowered. On the other hand, chords with high number of notes may provoke clicks. It is recommended to switch on "Scheduler in Audio Interrupt".

CPU utilization: Try to keep the CPU utilisation as low as possible. High CPU utilization may provoke clicks in sound.

Vector Optimization: Should always be on.

Record



With the record buttons, you may record the ePlayer output to a sound file.

First, click on the Channel Select button to select the number of audio channels you wish to record. The following possibilities exist:

- Mono (output channel 1)
- Stereo (output channel 1 and 2)
- 8 channels (output channel 1 through 8 in one mutlichannel file).
- 32 channels (output channel 1 through 32 in 4 8-channel files).

Secondly, click on the Record button. You will be asked for a sound file name. In the case of 32 channel recordings, four 8-channel sound files with the following names will be created:

soundfilename1
soundfilename2
soundfilename3
soundfilename4

After selecting a sound file name, the recorder is ready and blinks:

Clicking on „Start Record“ will start the recording. The elapsed time in hours:minutes:seconds.milliseconds is indicated:

Clicking again the record button/elapsed time button will stop the recording.

Glossary

Orchestration

An orchestration is a set of voices each playing one sound. The orchestrator only presents orchestrations which may also played by a real orchestra - if not detuned too strongly - and which would sound the same way also in reality.

Voice

A voice plays one sound from one instrument at a time.

Instrument

An orchestrator instrument corresponds to a real musical instrument. Often hundreds of different playing modes are available for an instrument.

MIDI Pitch

The MIDI pitch 60 represents middle c on a keyboard. A step of one represents a semitone. Hence, 61 codes the c sharp, 62 d and 72 the c one octave higher than the middle c. Microtones may be achieved by using floating point numbers. 59.5 would be a quarter tone lower than the middle c.

MIDI Velocity

The MIDI velocity represents the loudness of a note. The MIDI velocity 1 represents the softest possible loudness, velocity 127 the loudest possible velocity.