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(interrobang)
for piano, harpsichord and live-electronics
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> for piano + midi-keyboard and harpsichord + midi-keyboard
> commissioned by the Rockeys Duo
> duration: $\sim 8^{\prime \prime} 30^{\prime}$

## Electronic Requirements:

- 2 midi-controller keyboards (1x 88 keys, $1 x 61$ keys; both velocity sensitive) with (usb or midi-to-usb) connection to
- 1 laptop with 1) Max MSP or Runtime, and 2) a software through which software instruments (VST or AU) are accessible; for example Logic, Cubase, Ableton Live, Pro Tools etc.
- Audio-interface with 2 outputs
- 2 Speakers and appropriate cables to the audio-output of the interface

The function of the midi-keyboards is to send note-on and note-off messages to Max MSP (patch available on request from the composer). Max then sends these messages to definable outputs which address software instruments of piano and harpsichord. Furthermore, when the patch receives a note-off, it also re-sends the information corresponding to the just-released note to the complimentary software instrument; ie. a note-off from the pianist's midi controller sends the information for that just-released note to the software harpischord, and vice versa.

## Signal Flow:




For the premier of this piece, Max MSP was linked to Logic Pro 8 via four separate IAC (Interapplication communication) busses. In Logic, busses 1 and 4 were connected to two separate Harpsichord software instruments (EXS24) on channels 1 and 2, busses 2 and 3 to two separate Piano software instruments (EXS24) on channels 3 and 4. Harpsichord and piano on Channels 1 and 3 were left unchanged, while channels 2 and 4 each go through light distortion and are assigned to simple delay plugins (piano channel $2=8$ ths, harpsichord channel 3 = 8th triplets; the overall tempo is set to 60bpm). Additionally, the piano on channel 2 is tuned down by 15Cents, the harpsichord on channel 4 is tuned up by 15 Cents (for pan etc. see screenshot of the channel-strips on the left).

As the Max MSP patch, the Logic session with all the settings described is available on request from the composer.

Setup:

(speaker placement and stereo-mix should ideally mimic the sound of the acoustic instruments)

## General Remarks:

Notes are to be held as along as indicated:
As in traditional scores, durations of held notes end in accordance to the given note value and the key is to be released. In some cases, however, diamond noteheads indicate when a key should be released. Where diamond noteheads are used, think of releasing the key equally as an action as pressing down the key. This might result also in a slightly visually more perceptible (perhaps even more "theatrical") movement of the finger(s) involved.


Boxed notes are to be played on the midi-keyboard.


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