Is There an If?

for flute and electronics

documentation for electronics

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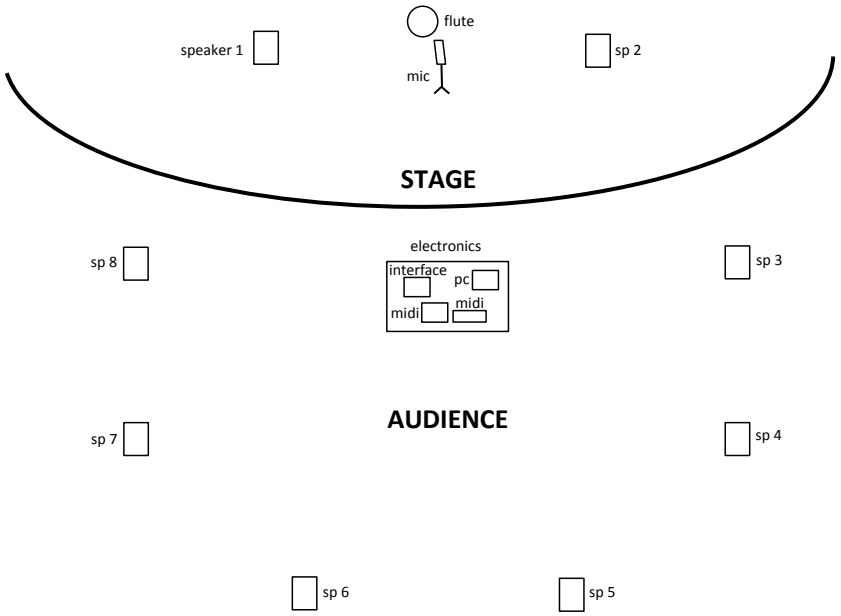
Technical specification
Akai LPD 8
Akai APC mini
8 genelec speakers
Laptop computer running SuperCollider Programming environment
Audio interface with at least 8 outs and 1 in
1 Shure SM58 dynamic microphones

Link to script
This link directs to the repository of script and pre-recorded sound materials of this piece.
https://github.com/shuyulin/isThereAnIf

The script generates electronics part in the 'Is There an If?'. Electronics performer controls electronics using Akai APC mini and Akai LPD 8, according to cues on the score. This piece involves 8 speakers in which 2 speakers are placed at the right and left of the stage. A dynamic microphone, Shure SM58, is placed in front of the flute in order to pick up flute sound.

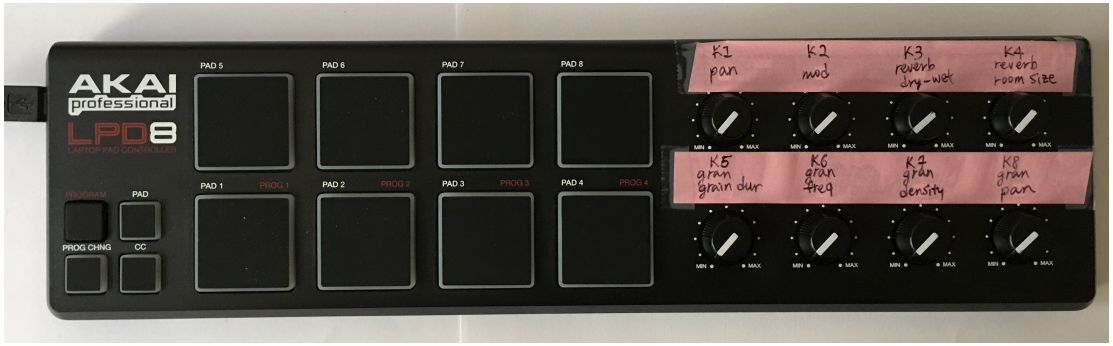
Stage plan



Labels on midi controllers

Akai APC mini

Akai LPD 8



Explanatory notes for score

1	Press button 1 on controller to trigger electronics; '2' refers to press button 2 etc. Press it again to stop processing.
f-1-8	Press button f-1-8 to amplify flute through speakers 1, 2, 3, 4, 5, 6, 7 and 8. Button f1 refers to amplify flute through speaker 1, f2 through speaker 2 etc. Button f-o refers to amplify through odd number speakers. Button f-e refers to amplify through even number speakers. f1-p amplification consists of panning function which can be controlled using knob 1 (further explanation see below regarding knobs). Press it again to stop amplification.
rec1-17s	Press button rec1-17s to start record flute for 17 seconds; rec1-2s refers to record flute for 2 seconds, rec1-5s refers to record flute for 5 seconds etc. Names of the recording buffers are in sequence. For example, rec1-2s and rec2-2s both record for 2 seconds but into separate buffers. Button will be auto off at the end of the recording. There is no need to press it again to stop.
p-rec1-17s	Press button p-rec1-17s to playback recording rec1-17s. Button will be auto off at the end of the playback. There is no need to press it again to stop.
k1	Turn knob 1 (k1) on controller accordingly to modify computer-generated sound; k2 refers to knob 2 etc. See below for further detail on the knob control parameter.
s	Adjust slider on controller accordingly to modify output amplification. See below for further detail on the slider control parameter.

Electronics control parameter

Knob:
Knobs 1 and 8s should be turned to 0 as the default before the performance.
Knobs 3, 4, 5, 6, 7 should be turned to 1/2 (63.5 of 127) as the default. Electronics performer is free to adjust the reverberation according to the characteristics of the performance venue.

Knob 1 (k1) controls the panning of the input signal and knob 8 (k8) controls the panning of the granular synth output. On the score, speaker number is specified with midi output number, which is shown in the console, for panning precision. If the panning midi number specified 71, pan to values between 69-73 is acceptable.

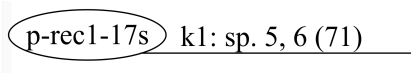


figure showing playback button p-rec1-17s with k1 pan to speaker 5 and 6 in which the midi value is 71

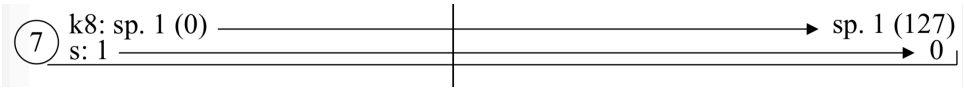


figure showing processing button 7 with granular panning control k8 with specified starting speaker 1 in which the midi number is 0, and pan to speaker 1 to complete a panning cycle with midi number 127

Knob 3 (k3) controls the dry and wet gain of the reverberation, in which 0 represents the driest, 127 the wettest.
Knob 4 (k4) controls the room size of the reverberation, in which 0 represents the smallest and 127 the largest.
Knob 5 (k5) controls the duration of grain in granular synth. Midi number 0 represents the shortest duration and 127 the longest. Values are written between 0, the minimum and 1, the maximum. For example, the value 1/4 indicates to adjust k5 to 1/4 of 1 etc.
Knob 6 (k6) controls the frequency of grain in granular synth. Midi number 0 represents the lowest and 127 the highest. Values are written between 0 the minimum and 1, the maximum. For example, the value 2/4 indicates to adjust k6 to 2/4 of 1 etc.
Knob 7 (k7) controls the cloud density in granular synth. Midi number 0 represents the lightest and 127 the densest. Values are written between 0, the minimum and 1, the maximum. For example, the value 3/4 indicates to adjust k7 to 3/4 of 1 etc.

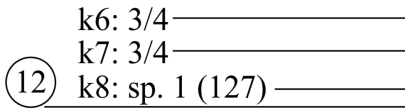


figure showing k6 and k7 adjust to 3/4 of 1 for button 12 processing

Slider:
The sliders controls the amplitude of the specific processing output. They should be turn to the maximum as default before the performance.

Slider values are written between 0, the minimum and 1, the maximum. For example, the value 1/4 indicates to adjust slider to 1/4 of 1.

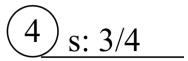


figure showing slider adjust to 3/4 of 1

Electronics numbering

Brief explanation of instructions of each button number

Movement	Electronics button number	Brief description
I	1	Playback pre-recorded tape recording wind_low.wav through speakers 1, 3, 5, 7. Knob controls: k1, k3, k4.
	2	Playback pre-recorded tape recording wind_low.wav through speakers 2, 4, 6, 8. Knob controls: k1, k3, k4.
	3	Playback pre-recorded tape recording wind_high.wav through speakers 1, 3, 5, 7. Knob controls: k1, k3, k4.
	4	Playback pre-recorded tape recording wind_high.wav through speakers 2, 4, 6, 8. Knob controls: k1, k3, k4.
I, II, III	5	Granularize input signal. Knob controls: k3, k4, k5, k7, k8.
I	6	Granularize recording rec1_17s. Knob control: k5, k6, k7, k8.
II	7	Granularize recording rec4_5s. Knob control: k5, k6, k7, k8.
	8	Granularize recording rec5_5s. Knob control: k5, k6, k7, k8.
	9	Granularize recording rec1_4s. Knob control: k5, k6, k7, k8.
	10	Granularize recording rec1_22s. Knob control: k5, k6, k7, k8.
III	11	Granularize recording rec3_2s. Knob control: k5, k6, k7, k8.
	12	Granularize recording rec6_4s. Knob control: k5, k6, k7, k8.
	13	Granularize recording rec1_8s. Knob control: k5, k6, k7, k8.
	14	Granularize recording rec2_8s. Knob control: k5, k6, k7, k8.
I, III	15	Reverb for 12 seconds on input signal through sp. 1, 2, 3, 4, 5, 6, 7, 8.
I	Rec1-2s	Record input signal for 2 seconds.
	Rec2-2s	Record input signal for 2 seconds.
	Rec1-5s	Record input signal for 5 seconds.
	Rec2-5s	Record input signal for 5 seconds.

	Rec3-5s	Record input signal for 5 seconds.
	Rec1_17s	Record input signal for 17 seconds.
II	Rec4-5s	Record input signal for 5 seconds.
	Rec5-5s	Record input signal for 5 seconds.
	Rec1-4s	Record input signal for 4 seconds.
	Rec2-4s	Record input signal for 4 seconds.
	Rec3-4s	Record input signal for 4 seconds.
	Rec4-4s	Record input signal for 4 seconds.
	Rec5-4s	Record input signal for 4 seconds.
	Rec1-22s	Record input signal for 22 seconds.
III	Rec3-2s	Record input signal for 2 seconds.
	Rec6-5s	Record input signal for 5 seconds.
	Rec1-3s	Record input signal for 3 seconds.
	Rec1-8s	Record input signal for 8 seconds.
	Rec2-8s	Record input signal for 8 seconds.
	Rec6-4s	Record input signal for 4 seconds.
I	p-rec1-2s	Playback rec1-2s. Knob control: k5, k7, k8.
	p-rec2-2s	Playback rec2-2s. Knob control: k5, k7, k8.
	p-rec1-5s	Playback rec1-5s. Knob control: k5, k7, k8.
	p-rec2-5s	Playback rec2-5s. Knob control: k5, k7, k8.
	p-rec3-5s	Playback rec3-5s. Knob control: k5, k7, k8.
	p-rec1-17s	Playback rec1-17s. Knob control: k5, k7, k8.
II	p-rec2-4s	Playback rec2-4s. Knob control: k5, k7, k8.
	p-rec3-4s	Playback rec3-4s. Knob control: k5, k7, k8.
	p-rec4-4s	Playback rec4-4s. Knob control: k5, k7, k8.
	p-rec5-4s	Playback rec5-4s. Knob control: k5, k7, k8.
	p-rec1-22sb	Playback rec1-22s backwards. Knob control: k5, k7, k8.
III	p-rec1-3sb	Playback rec1-3s backwards. Knob control: k5, k7, k8.
	p-rec6-5s	Playback rec6-5s. Knob control: k5, k7, k8.
I, II, III	f1	Amplify flute through speaker 1. Knob control: k4, k5.
I, III	f2	Amplify flute through speaker 2. Knob control: k4, k5.
II, III	f3	Amplify flute through speaker 3. Knob control: k4, k5.
I, II, III	f4	Amplify flute through speaker 4. Knob control: k4, k5.
I, III	f5	Amplify flute through speaker 5. Knob control: k4, k5.

I, III	f6	Amplify flute through speaker 6. Knob control: k4, k5.
I, II, III	f7	Amplify flute through speaker 7. Knob control: k4, k5.
II, III	f8	Amplify flute through speaker 8. Knob control: k4, k5.
I	f-o	Amplify flute through speaker 1, 3, 5, 7. Knob control: k4, k5.
I	f-e	Amplify flute through speaker 2, 4, 6, 8. Knob control: k4, k5.
I, II, III	f-1-8	Amplify flute through speaker 1, 2, 3, 4, 5, 6, 7, 8. Knob control: k4, k5.
I, II, III	f1-p	Amplify flute through speaker 1 initially for panning. Knob control: k1, k4, k5.

Source of tape recording

Sound files wind_low.wav and wind_high.wav are made from the original sound file of wind from the Coexistence project (2015) in which recordings are obtained on the Navarino Island of Chile.