Daniele Ghisi

abroad

per soprano, ensemble ed elettronica

2011

CONCERT PATCH README

The electronic part of the piece is a patch for MaxMSP 5. All the libraries and files needed for the piece are in the Libraries folder, the abstractions in the Abstractions folder. For any problem whatsoever, don't hesitate to contact the composer at danieleghisi@gmail.com).

Amplification on ALL instruments has to be planned, in addition (and independently) to the electronic patch. The amplification should be frontal (loudspeakers 1 and 3, in the following scheme, or similar placements), and may (should) vary throughout the 7 Lieder.

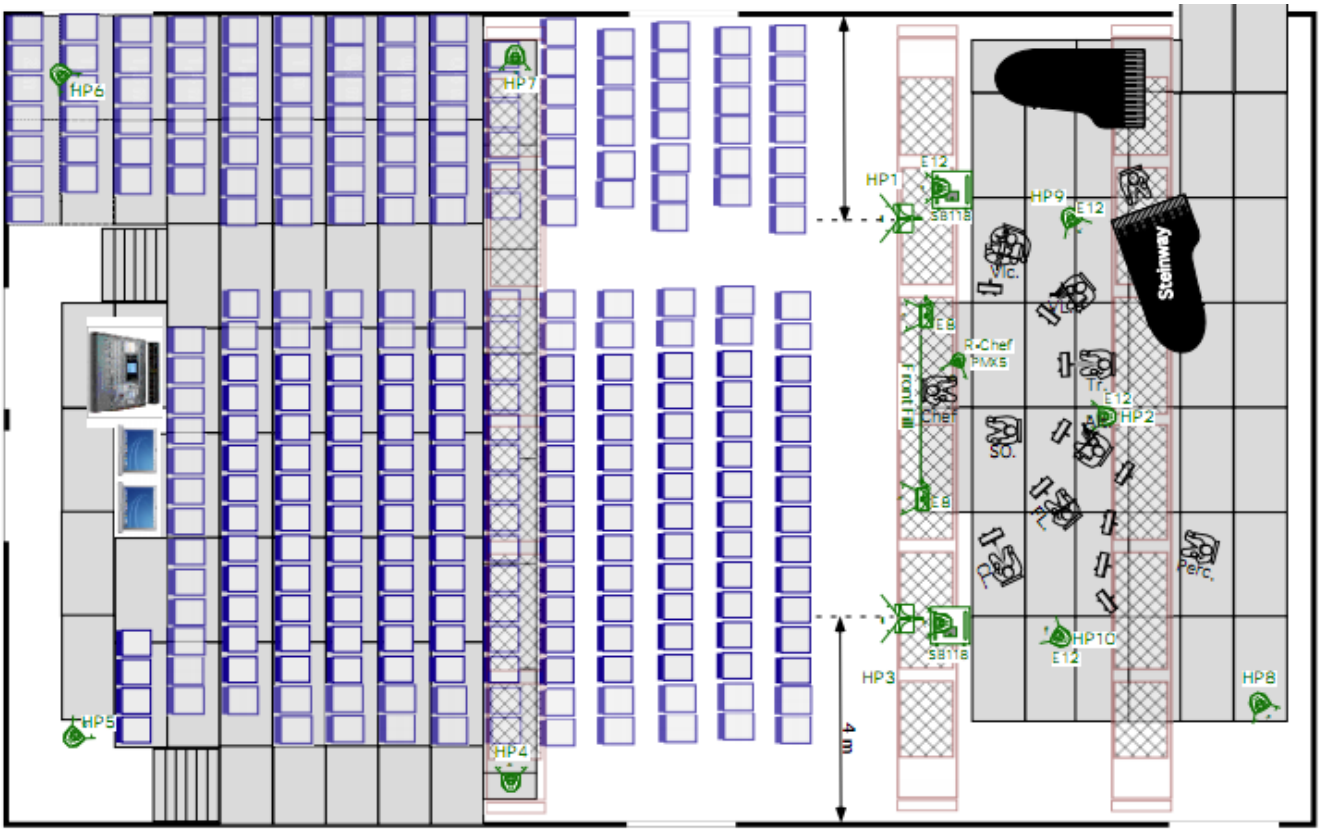
A. WHAT IS NEEDED

- 9 loudspeakers + 1 small loudspeaker for the full configuration. Smaller configurations are also possible, see section B (Room Configuration).
- Mixing table having at least 11 output channels, plus being able to deal with the amplification of all instruments.
- Additional loudspeakers for the instrumental amplification, if desired.
- A couple of additional loudspeaker in order for the conductor and the singer to have a feedback of the electronic part.
- A good quality sound card, e.g. a RME Fireface 800.
- Cables to wire all the devices (XLR, ADAT…)
- A Macintosh computer with MaxMSP 5 installed (or at least the runtime version, downloadable from the Cycling '74 website). The patch runs properly on a MacBookPro 2GHz Intel Core i7, 4GB 1333 MHZ DDR3 Ram, with I/O vector size 512, signal vector size 512. It should run properly also with reasonably less powerful machines.
- An USB Midi Contoller with at least 7 motorized faders (like the BCF2000) is highly recommended.

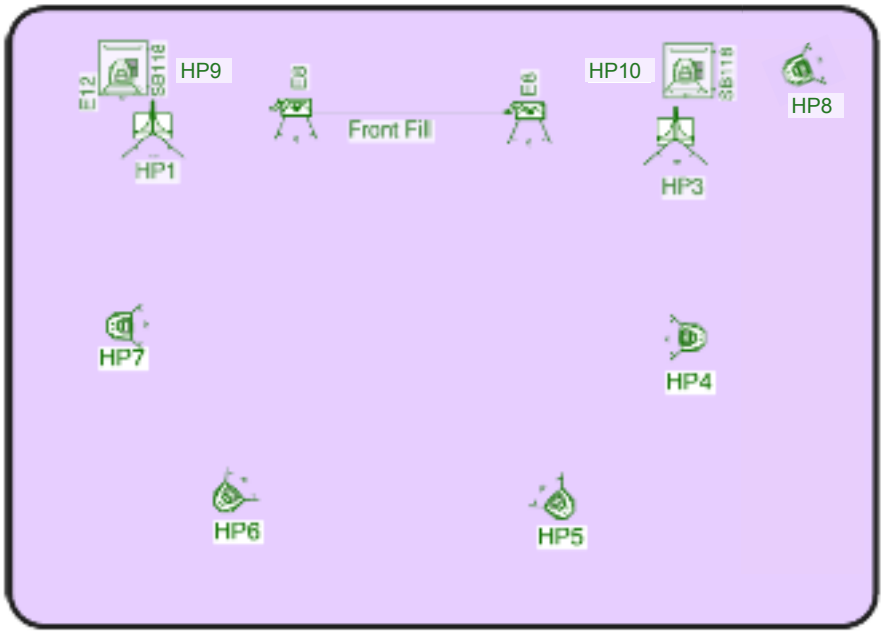
B. ROOM CONFIGURATION AND SETUP

All instruments are amplified, so everything needed for the instrument amplification has to be set in place. All the following instructions just consider that the proper amplification setup for all instruments has been set in place, and they only deal with the audio coming from the concert patch.

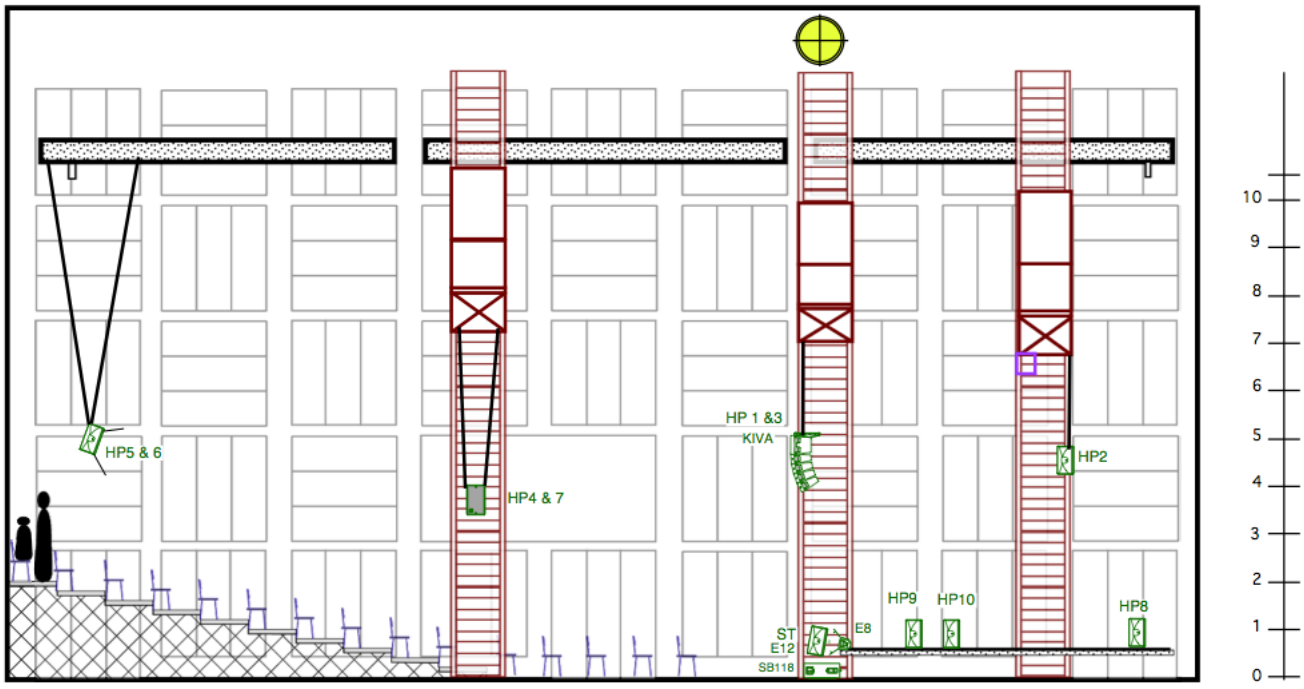
The room full configuration needs 9 main loudspeakers + 1 smaller loudspeaker in the following disposition:



which frontally is:



The vertical section is:



Essentially this configuration has 7 loudspeakers around the public (HP1 to HP 7 in the scheme), an 8th (preferably smaller) loudspeaker in a corner, turned towards the corner (HP8, referred as "ls solo" in the patch), two loudspeakers (9th and 10th, HP9 and HP10) have to be put within the ensemble, turned towards the public. A click-track for the conductor has to be planned.

The patch might work with different configurations, which have to be chosen as a very first thing when opening (it's the first element in the "To-do list", see section C – Patch Configuration and Setup). The "**Full concert setup (out 1 to 11)**" (suggested, if conditions allow it!) needs in input (first channel) the soprano microphone (e.g. DPA), and gives as output (out 1 to 11): the channels of the 7 loudspeakers around the public (out 1 to 7), the 8th loudspeaker (out 8), the two loudspeakers within the ensemble (out 9 and 10), the click for the conductor (out 11).
This is the full configuration; nevertheless, smaller configurations are also possible for the concert.

The "**Heptaphonic + 8th (click on out 9)**" configuration may be used if conditions forces to have at most 7 loudspeakers + the 8th small loudspeaker (always turned in a corner). In this case, the clicktrack for the conductor will be sent in out 9.

Analogously, the "**Quadraphonic + 8th (click on out 6)**" configuration may be used, which is useful if one only has 4 loudspeakers (in square configuration, at the corners of the room, turned towards the public) + the 8th small loudspeaker (always turned in the corner). Beware: in spite of the name, this latter will be no more the on the 8th output channel, but on the 5th output channel. The click will be sent in out 6.

Finally, the "**Purely Quadraphonic (click on out 5)**" configuration may be used if one just has 4 loudspeakers (in square configuration, at the corners of the room, turned towards the public). The click will be sent in out 5.

Since these “reduced” configurations sums sounds in a certain number of outlets, carefully consider lowering the general out gain, in order to prevent sound clipping.

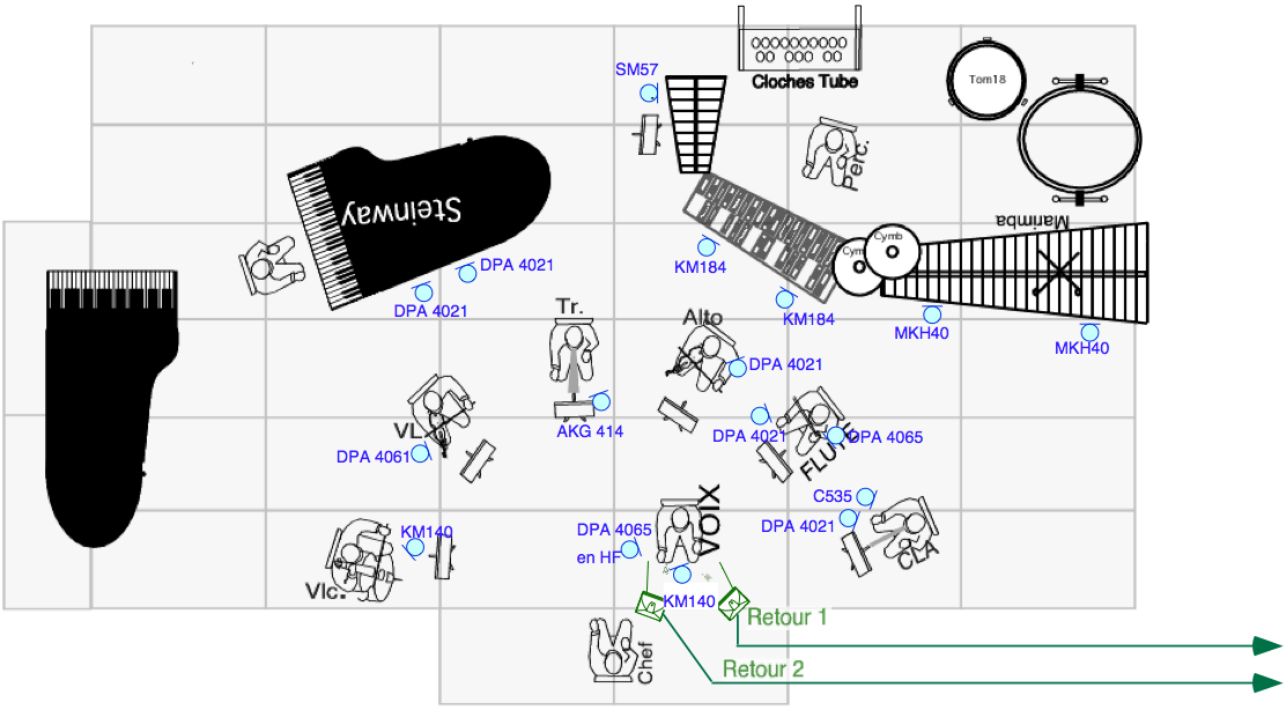
The USB Midi Controller will be useful to pre-mix during the concert and rehearsal. It should have at least seven midi faders have mapped on the controllers from 1 to 7 (channel 1) which will act on the following parameters:

- CTRL 1 -> gain of “figure”-soundfiles (see section D.
- CTRL 2 -> gain of “drones”-soundfiles
- CTRL 3 -> gain of “piano”-soundfiles
- CTRL 4 -> gain of 8th loudspeaker (“ls solo”)
- CTRL 5 -> gain of the ensemble-loudspeakers (9th and 10th)
- CTRL 6 -> gain of the filtered voice
- CTRL 7 -> gain of the click for the conductor

One can change the controller numbers in the to-do list, if needed.

The loudspeaker choice for the première has been chiefly some D&B E12 but also some D&B E8 with a KIVA system by LAcoustics.

The microphone configuration on stage and the choice of microphones for the première was the following one:



More precisely:

Singer	KM140
Cello up	KM140
Violin	DPA 4061
Violin up	KM150
Trumpet	AKG C414
Viola up	DPA 4021
Flute	DPA 4065
Flute up	DPA 4021
Clar Low	C535
Clar High	DPA 4021
Piano Low	DPA 4021
Piano High	DPA 4021
Tubular bell	SM58
Glockenspiel	SM58
Vibraphone High	KM184
Vibraphone Low	KM184
Marimba Low	MKH40
Marimba High	MKH40
Bass Drum	MD421
Tom	SM58

C. PATCH CONFIGURATION AND SETUP

To get the patch working, follow these steps.

1. Open MaxMSP 5.
2. Check the DSP Status, be careful to choose the desired sound card.
3. Add the abstractions folder and the libraries folder (that you find in the concert patch folder) to your Max5 libraries folder, via the menu: Options → File preferences → Add... These two folders contain all the libraries, externals and abstractions needed by patch. If you have only the Runtime version of Max5, you have to put all this folder in the Max 5 Runtime folder (applications), if it doesn't work you can put it in the msp-externals folder.
4. Open the main patch abroad.maxpat.
5. Check the Max window to be sure that all the files and externals have been found. If it's not the case, be sure that you've correctly followed step 3. If it's still not the case, write to the author.
6. Possibly zoom in/out to fit the patch to your screen (if you're using the runtime version, you might try to increase the screen definition, in case the patch doesn't fit in the screen)
7. Start to follow **methodically** the to-do list that you find in the left side of the main window. Don't forget to follow the "Good advices" that you find at the beginning of such to-do list. If

the events are triggered with the keyboard spacebar, don't activate the external midi pedal. This option is just set, should you need to drive the patch event via a midi pedal instead of a computer keyboard, but it should be considered exceptional.

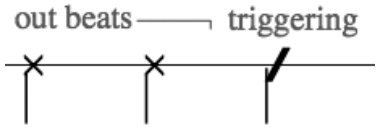
8. At the end of the to-do list, when the conductor is ready, trigger the first event, and then follow the score. Don't be afraid at all to use the midi fader controls to adjust the gain levels during the performance.

D. RUNNING A SIMULATION

A simulation is included in the patch. In order to run the simulation of a given Lied, just choose the Lied number in the Simulation panel (in the main patch window), and then click on the Play button. The playbar allows you to jump somewhere in the simulation. Some shortcuts are prepared for you: you find them in the Simulation panel as well. You always have to choose the right Lied in the menu before clicking on a shortcut. Those shortcuts just play the active Lied starting from the written cue.

Please notice that the cues of lied (v), only concerning the "real" piano, stop after being played. This is peculiar, so you should trigger each cue separately at the needed moments in the score.

Often a precise synchronicity between the event triggering and the simulation is required, and sometimes (rarely!) this cannot be achieved by the pure listening of the simulation – think at the very first event: the simulation must enter precisely 4 beats after the triggering of the event! In these cases, some outbeat-clicks are given INSIDE the simulation, in order to help you triggering the events properly. Namely, this is the case of: Lied 1 Event 1 ("There Is"), Lied 3 Event 1 ("FromMyVilla"), Lied 4 Event 11 ("Abroad"). In these cases, the out-beats/triggering sequence is the following one:



E. IMPORTANT THINGS TO KNOW

[1] Soundfiles division

The soundfiles are divided into "figure" soundfiles, "drone" soundfiles and "piano" soundfile, whose levels are separately handled by the first three channels of the Midi Faders Controller. This distinction is not onthological nor strictly methodical, but just practical: the "figures" are composed by (more or less) words or clear and shorts sounds; the "drones" are composed by long texture sounds, the "piano" soundfiles are the soundfiles where there is the specifical virtual presence of a pianist "somewhere in the building". We repeat it once again: this distinction is far from being strict: it is just aimed to give the possibility to handle the sound levels differently in real time during the rehearsals and the concert.

[2] Modules
The patch has just 2 modules: a module playing soundfiles and a module filtering the incoming voice. Each module shows the entry level and the eight out levels. The squared coloured toggle next to the module name shows the status of the module (red: inactive, green: active). By staying a little longer with the mouse on the square coloured toggle next to the module name, one might know in which state the module is. If you want to force quit a module, just click on the red bang near the name of the module (at the left of the name). The soundfiles module shows also how many voices are active (busy: playing a soundfile) and how many voices are muted (i.e. not CPU-consuming at the moment).

[3] CPU status issues
You can monitor the CPU status by activating it in the to-do list. If the sound starts to click (very unlikely: the patch is mostly NOT in real time), try to increase the vector size.

[4] Keyboard shortcuts
The keyboard shortcuts can be found simply by clicking on the "Keyboard shortcuts" button.

[5] Score
You can see the electronic score by clicking on the "Open events score" button. Here you have the score for each one of the Lieder. Each event is identified by a tag, so when an event number is triggered, this number is converted into the tag (see "Open tag score" to see this conversion), and then routed in the proper Lied patch, and then again in the proper event patch. So each event, is a subpatch, where you'll see commands for the modules (essentially for the Soundfiles module).
Actually, as you see when clicking on "Open tag score", more information is kept for each event:
`global_number, Lied_number, local_numbering_in_the_lied, tag, measure_number, position_in_measure`
which help us to follow the score in the "Events" panel.

[6] Rehearsal resume points
If you have clicked on "Load Resume Points" during the to-do list handling, you are able to use the two predefined rehearsal resume-points, which you can see in the "Resume" panel. They both are in Lied 3: the first at measure 9, the second one at measure 18. Trigger them by just clicking on the proper message box. Please notice that if you use these resume points, the following event (which is Lied 3 Event 2, "Thing") should NOT be triggered with the spacebar, but by clicking on the "[2] Thing" button that you can find always in the "Resume" panel.

[7] Midisource issues
Sometimes when you open the patch the right midisource already appears in the menu in the To-do list. Yet, the system hasn't taken it into account, yet! So, in this case, please re-select this midisource in order to be able to deal with midi faders or midi pedal properly!

F. ANY PROBLEM?

For any problem, please contact the composer at danieleghisi@gmail.com

Daniele Ghisi,
06/07/2011