by a thread

Timothy W McDunn

“There is geometry in the humming of the strings. There is music in the spacing of the spheres.”

— Pythagoras

Performance

As traditional notions of time don’t apply to this piece, it can be assumed that the tempo is always ‘ad libitum’ unless otherwise specified. The piece should be played with a running stop watch visible to the performer to respect the time stamps, which govern the proportions of sections.

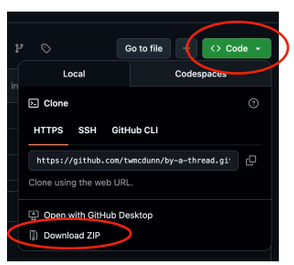
Wherever repeat signs appear, the material between them should be repeated indefinitely until the time stamp that indicates the start of the next segment. Where aleatoric box notation appears, the player should continuously alternate freely between the boxed cells until the next time stamp.

Rehearsal cues double as electronics cues. The space bar or forward arrow key needs to be triggered on the computer running the patch at each cue. This can be achieved with a pedal page-turning device if the laptop is on stage with the performer, or by the keyboard if it is off stage by the mixer.

Electronics

The patch for the electronics is built in SuperCollider. To use it, first install SuperCollider: https://supercollider.github.io/

Next download the patch with all resources and dependencies:
1. Visit https://github.com/twmcdunn/by-a-thread
2. Click the ‘Code’ button
3. Choose Download ZIP (see GitHub screenshot)



Github Screenshot

Unzip the folder to a convenient location on the computer.
Within the downloaded folder, double click the ‘patch.scd’ file to open it in SuperCollider. After connecting the signal chain as described below, click anywhere in the code and press Command + Return or Control + Enter. This starts the patch, opening a minimal graphical user interface (GUI). It may be necessary to adjust the input / output sample rate to match in system settings. Excessively high sample rates may cause memory issues. I recommend 48K.

When the GUI is in focus, each press of the space bar or arrow key triggers the next cue. It is also possible to return to previous cues with the back arrow in a rehearsal situation. The patch is ‘stateless’, meaning it is generally possible to jump to any desired cue at any point, without ongoing effects and processes getting confused.

Signal Chain

In performance, the signal chain may be configured with the laptop either by the mixer or on stage.

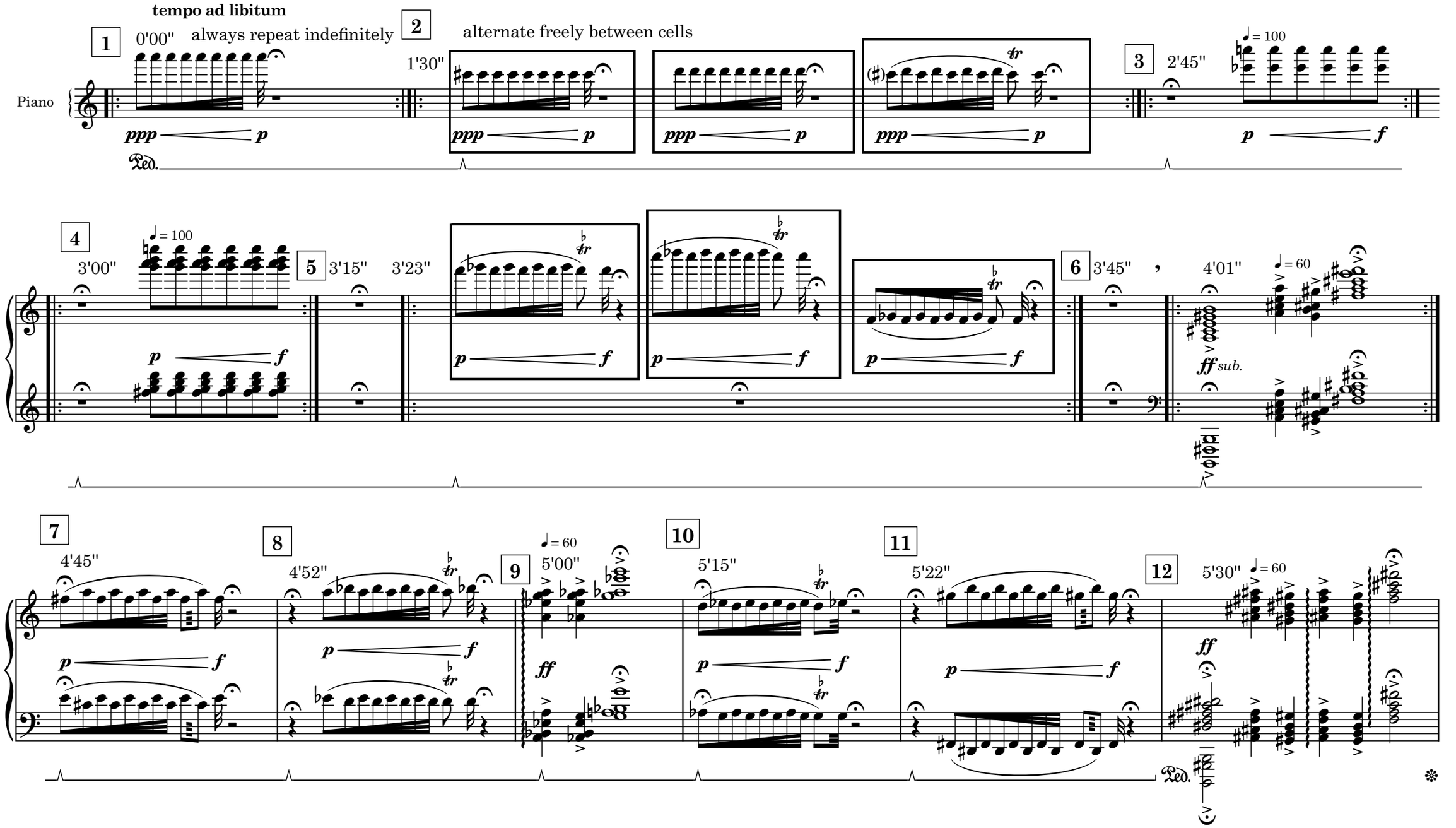
A. Laptop on Stage

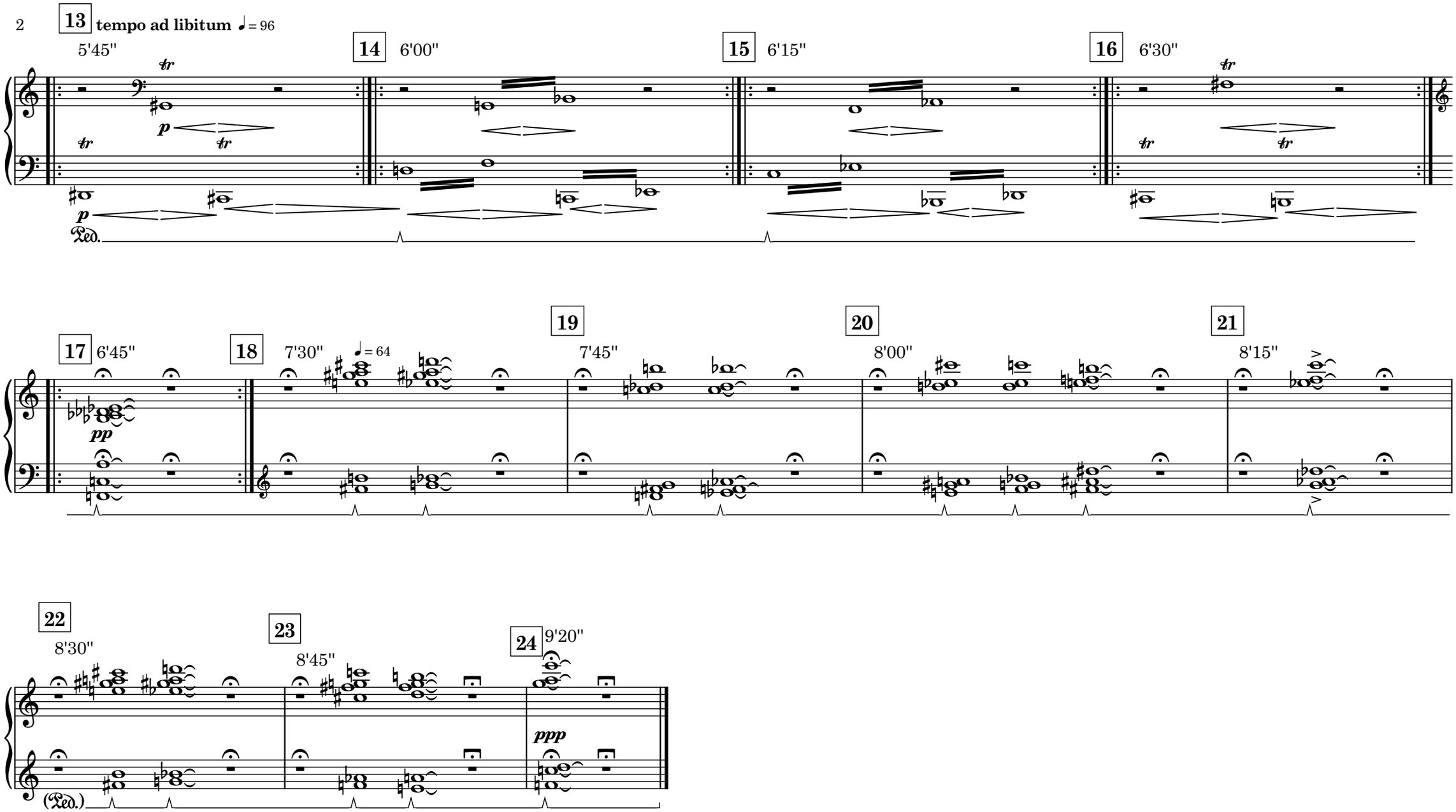
Attach a pedal page turning device capable of triggering the space bar or forward arrow. The performer should press this at each cue. Attach a 2-channel audio interface to the computer, and attach a condenser mic to the interface. The mic should be positioned appropriately relative to the piano to pickup the highs and lows, accounting for its pickup pattern.

The patch takes the interface input, processes it, adds additional electronics sounds, and outputs to the same interface. The stereo output to the interface should feed to the sound system through a stage box. The levels should be adjusted so that the processed sound and electronics completely envelop the acoustic sound, especially at loud passages. The sound should be immersive.

B. Laptop near Mixer

The setup is the same if the laptop is near the mixer, except there is no pedal page turner and no stage box involved.


tempo ad libitum
1
0'00"
always repeat indefinitely
2
alternate freely between cells
1'30"
3
2'45"
Piano
4
3'00"
5
3'15"
3'23"
6
3'45"
4'01"
7
4'45"
8
4'52"
9
5'00"
10
5'15"
11
5'22"
12
5'30"
Ped.


13
tempo ad libitum ♩= 96
5'45"
14
6'00"
15
6'15"
16
6'30"
17
6'45"
18
7'30"
♩= 64
19
7'45"
20
8'00"
21
8'15"
22
8'30"
23
8'45"
24
9'20"
p
pp
ppp
tr
Ped.