# HeartBeater

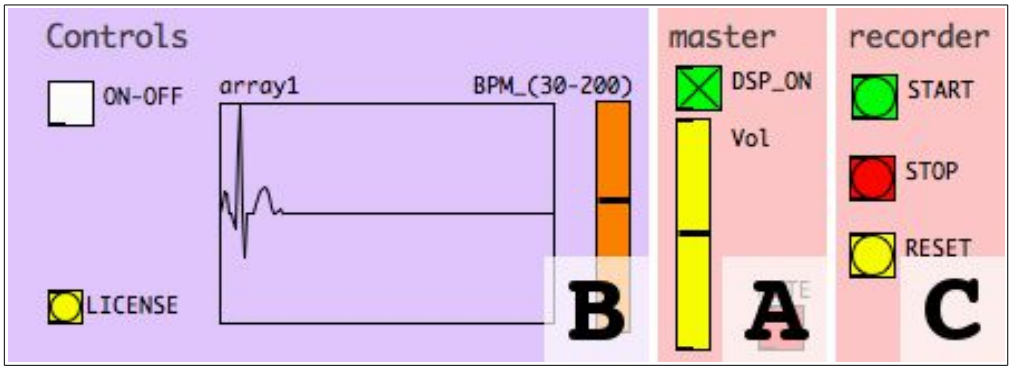
## Intro

*Heartbeater* is a PureData path created to simulate the heartbeat sound.
It allows to range the heartbeat frequency (BPM) among 30 and 200 beats per minute.

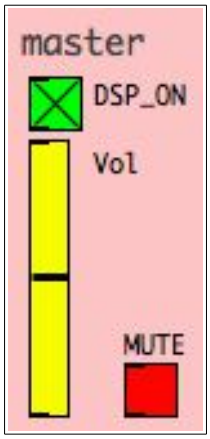
The patch can be controlled via keyboard or via MIDI.

## License

# Quickstart




1. Click on the *Master* section `DSP_ON` toggle to activate audio computation. Click on the `MUTE` toggle to deactivate mute on master output, eventually adjust the master output volume via `Vol` vertical slider (**A**);
2. Click on the `ON-OFF` toggle from *Controls* section to start sound reproduction (**B**);
3. Change the `BPM` vertical slider position to change the heartbeat frequency (**B**).



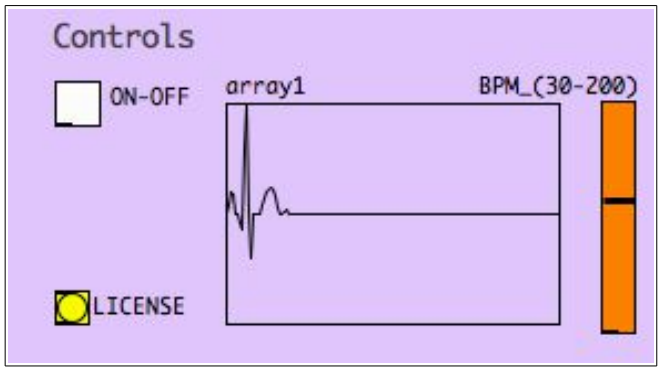

## Master section

The *Master* section allows you to start the DSP computation, master output mute and volume.

Click on `DSP_ON` toggle to activate/deactivate DSP computation.

Adjust the master output volume by dragging the `Vol` vertical slider cursor.

Click on the `MUTE` toggle to mute/unmute master audio output. You can use the spacebar instead.




## Controls

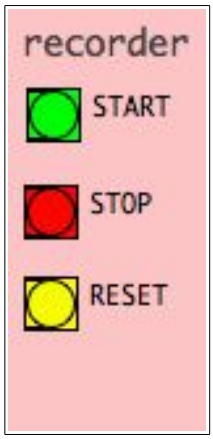
Controls module allows you to start or stop heartbeat pulses generation and to manage the heartbeat frequency regulation.

After DSP computation has been turned-on, you can act on the `ON-OFF` toggle to start or stop the heartbeat continuos pulses generation.

To change heartbeat frequency, act on the `BPM` vertical slider cursor position. You will hear the sound pulses frequency gradually varying among 30 and 200 beats per minute. The time it takes for the virtual heart to change its frequency to the chosen one is 4000ms.

The sound waveform is shown inside the array and it will be updated on each new beat.

Click on `LICENSE` button to read license information.




# Record section

The *Record* section allows you to record the patch audio output on audio files.

These files will be .wav audio files with these characteristics:

| | name | ch. | description |
|---|---|---|---|
| **file 1** | #_mono.wav | mono | the heartbeat sound. |

where, "#" sign stands for a number that is the progressive id of the recording.

Before starting the recording, be shure you have created the "sounds" folder at the same level of the *heartBeater* patch in your file-system.

Sampling rate of the recorded files will be the same as the DSP one.

Click on the `START` button to start a new recording.

Click on the `STOP` button to stop the recording and consequentely to create the corresponding audio files inside the "sounds" folder.

In case you want to create consecutive recordings it suffices to click the `START` button several times: the `START` button will actually stop the previous recording, automatically creatiting the corresponding audio files, and starting a new recording at the same time.

Use the `RESET` button to reset the recordings counter to 0.

**Note:** Pay attention and always backup you recording before resetting because a new recording, started just after a reset can overwrite other audio files with corresponding names inside the "sounds" folder.

**Note:** recording volume will not be influenced by the the `Vol` control in the *Master* section, this is a listen control only.

# Key control

It it possible to start and stop the heartbeat sound generation by pressing the spacebar.

# MIDI control

*HeartBeater* can be controlled via MIDI protocol.

Any NOTE_ON message will start heart beat sound reproduction while a NOTE_OFF message will deactivate it.

MIDI modulation CC messages will change the BPM value of the heartbeat sound.

| # CC | Parametro synth |
|---|---|
| 1 (modulation wheel) | heart BPM |

You can modify the MIDI behaviour by editing the MIDI subpatch, within the *Main* section.