

# Vector Synthesis workshop prep

Dear workshop participant,

next week I will be spending a few hours with you (via Zoom). The meeting will be here:

<https://kth-se.zoom.us/j/2444584351>

I will be teaching you about how to draw 2D and 3D vector shapes using audio signals. You can see some examples of my work with this technique here:

<https://vimeo.com/macumbista>

For this workshop, we will be using Pure Data (which I assume you have some experience with at Aalto already), a software Oscilloscope application, and a set of Pure Data patches I have written called Vector Synthesis.

Below are the pre-workshop installation instructions. Please do all of this before we meet so that we do not waste class time on it. You can email me if you have any questions ahead of time,

I look forward to meeting you!

Derek

## 1. Download + Install Pure Data

Please use Pure Data 0.52. Download from here:

<https://puredata.info/downloads/pure-data>

Please do not use Pd-Extended, Purr Data, L2Ork or any other variant for this workshop.

## 2. Download + Install Oscilloscope

Please use the Oscilloscope-1.1.0 installer for MacOS or Windows found found here:

<https://github.com/kritzikratzi/Oscilloscope/releases/>

Unfortunately, there is not a working Linux version of this software.

### 3. Download Vector Synthesis Library for Pure Data

<https://github.com/macumbista/vectorsynthesis>

Use the "Code" button and then "Download ZIP".

Please put it in a place where you can find it, not in your messy Downloads folder.

### 4. Download + Install BlackHole (MacOS only)

If you are on MacOS, please use the "Download Installer" link on this page:

<https://github.com/ExistentialAudio/BlackHole>

Use the 16 Chanel version.

After that, open your Audio/MIDI Setup (found in Applications->Utilities) and create an 18 channel Aggregate Device with BlackHole as the channels 1-16 and your Mac speaker or headphone jack as channels 17-18.

Details here:

<https://github.com/macumbista/vectorsynthesis/blob/master/SOFTWARE-OSCILLOSCOPE-TUTORIAL-MAC.pdf>

(The instructions say to use 192kHz sampling rate, but for now just use 44.1kHz please.)