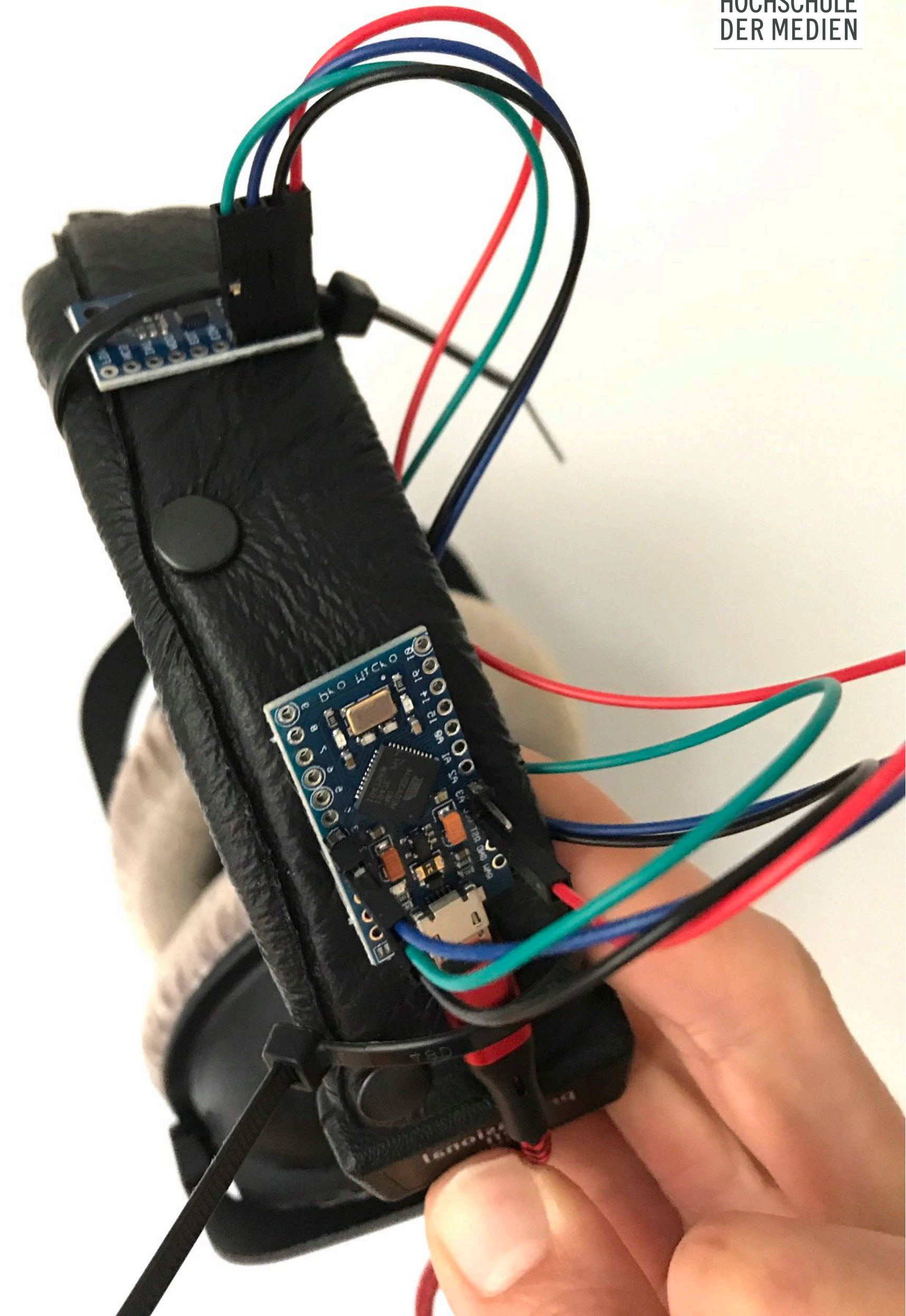
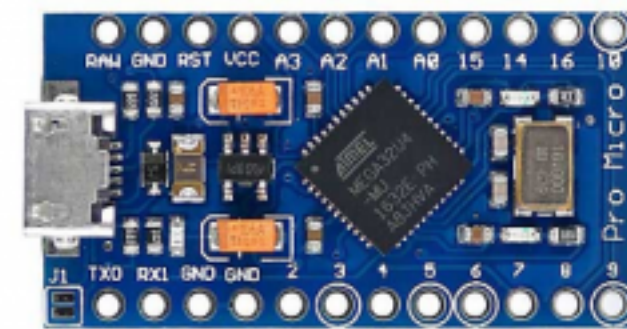


DIY - Tracking: Hardware



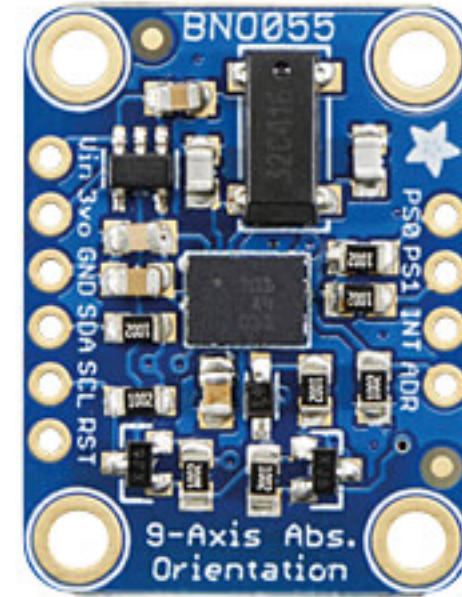
Optionen

<https://learn.adafruit.com/adafruit-bno055-absolute-orientation-sensor>



10€

Arduino Pro Micro



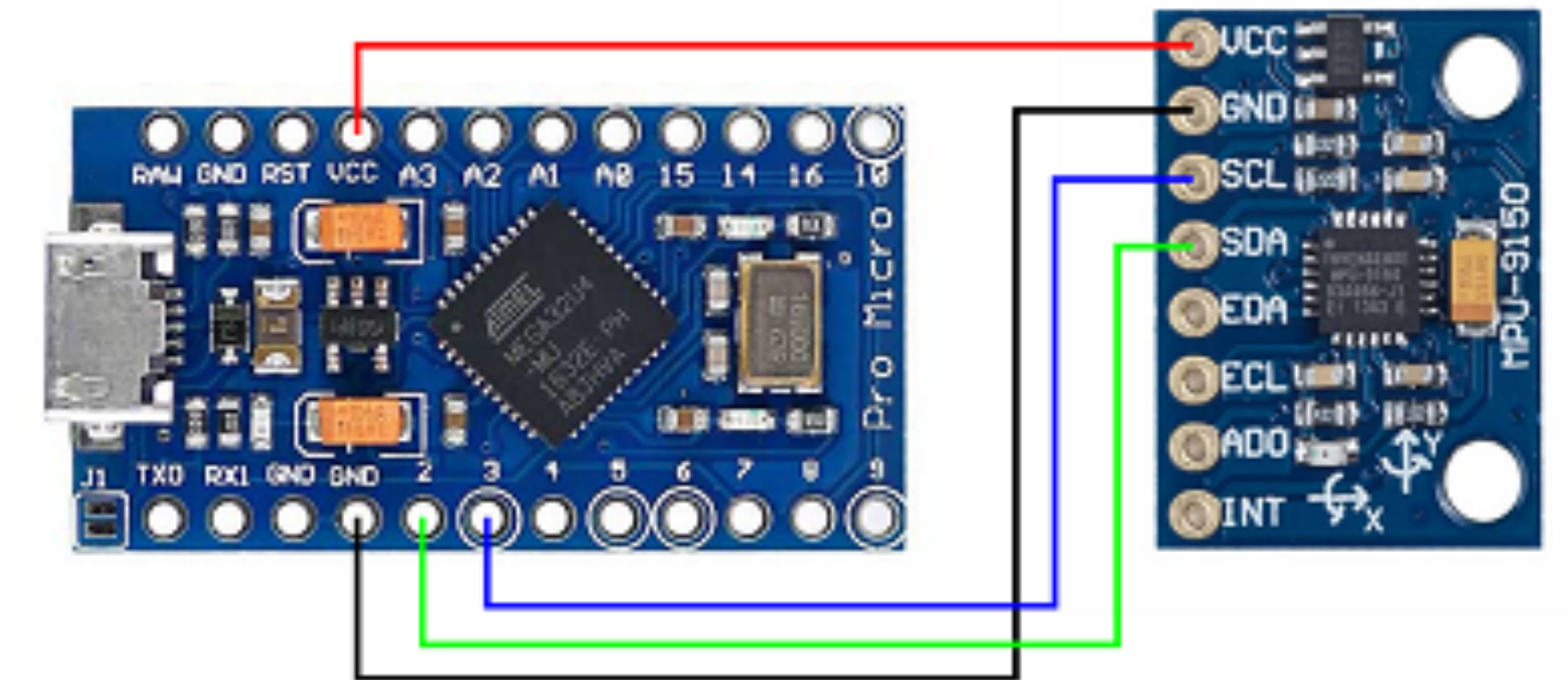
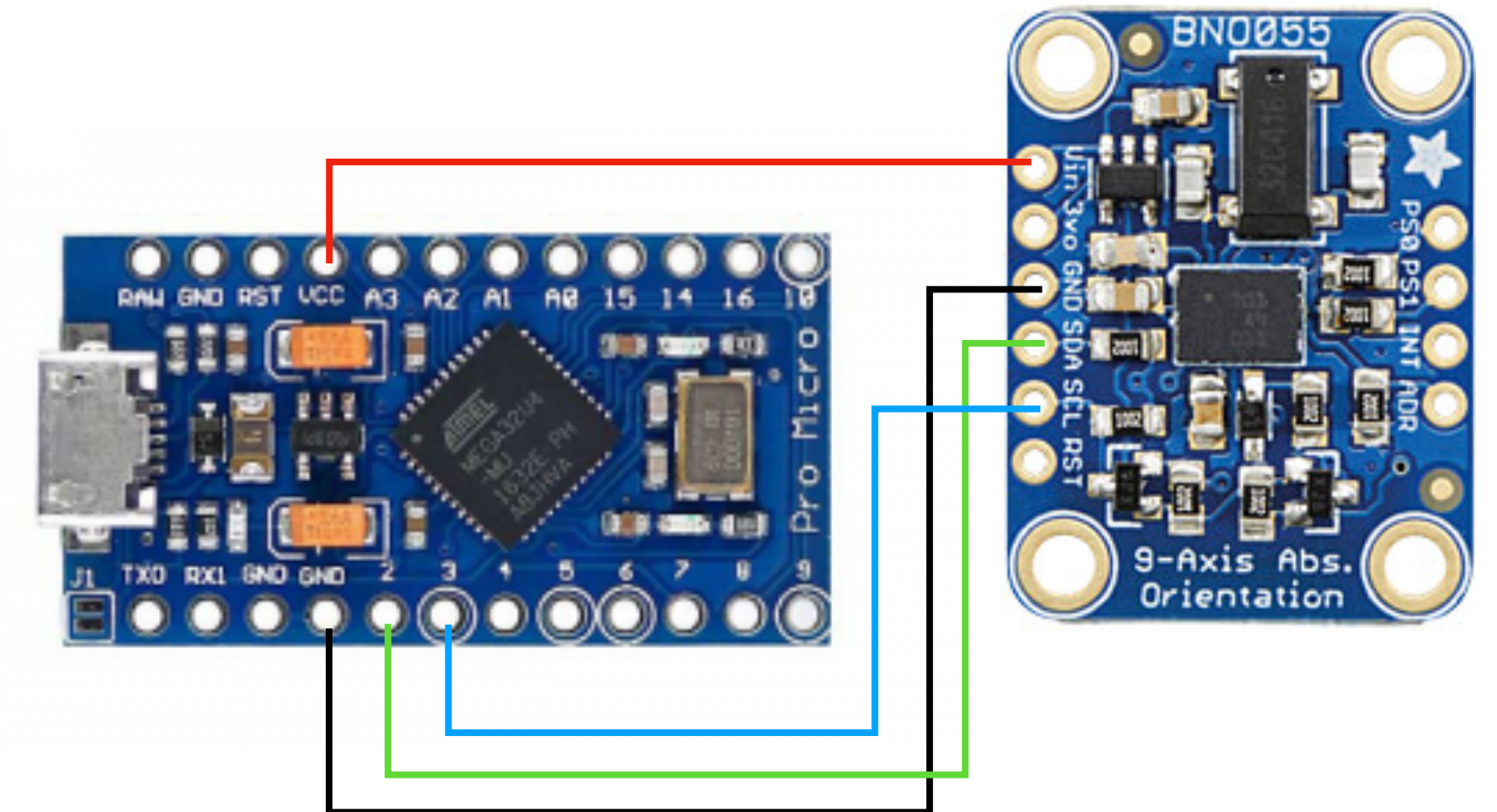
BNO055

40€



MPU 9250

15€



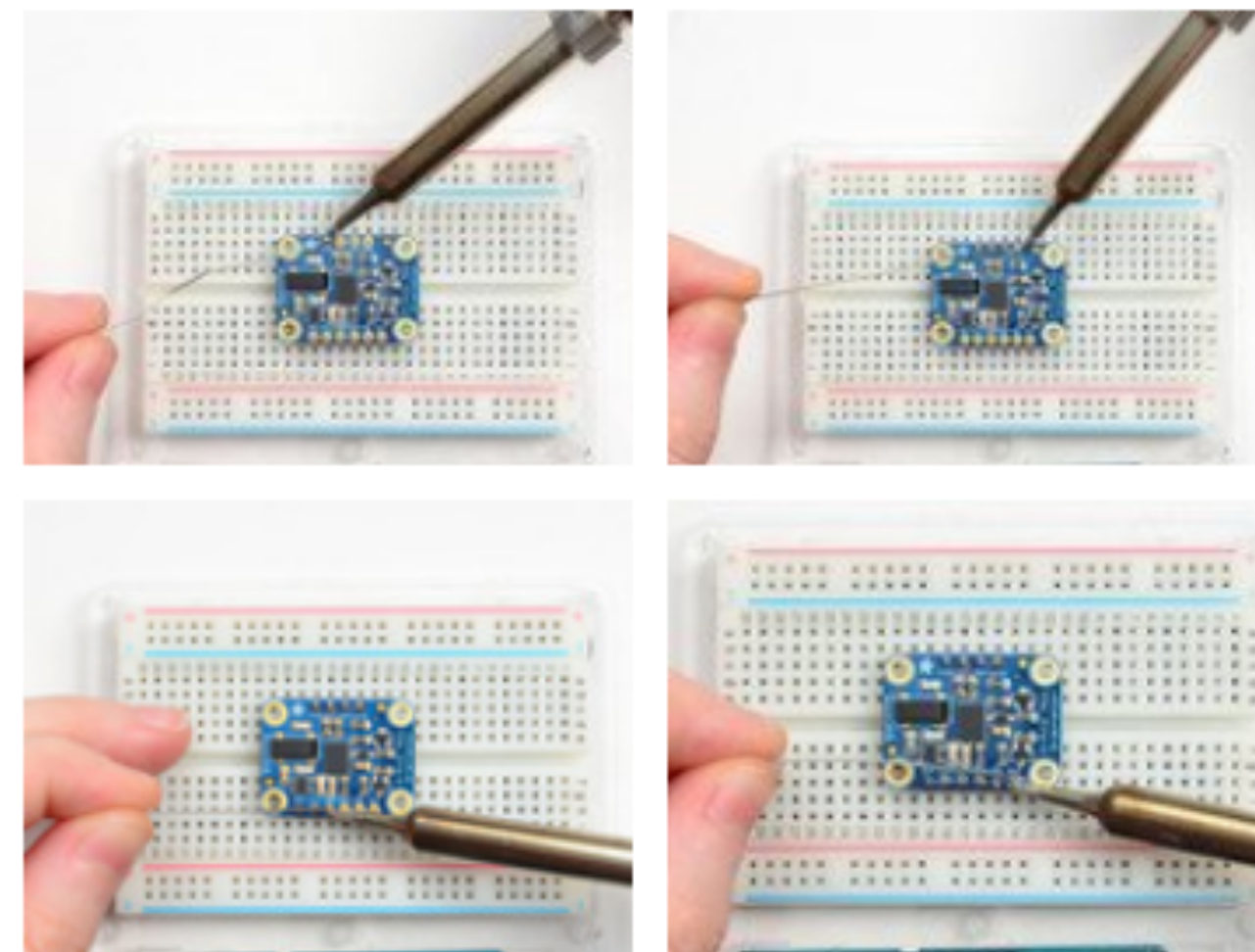
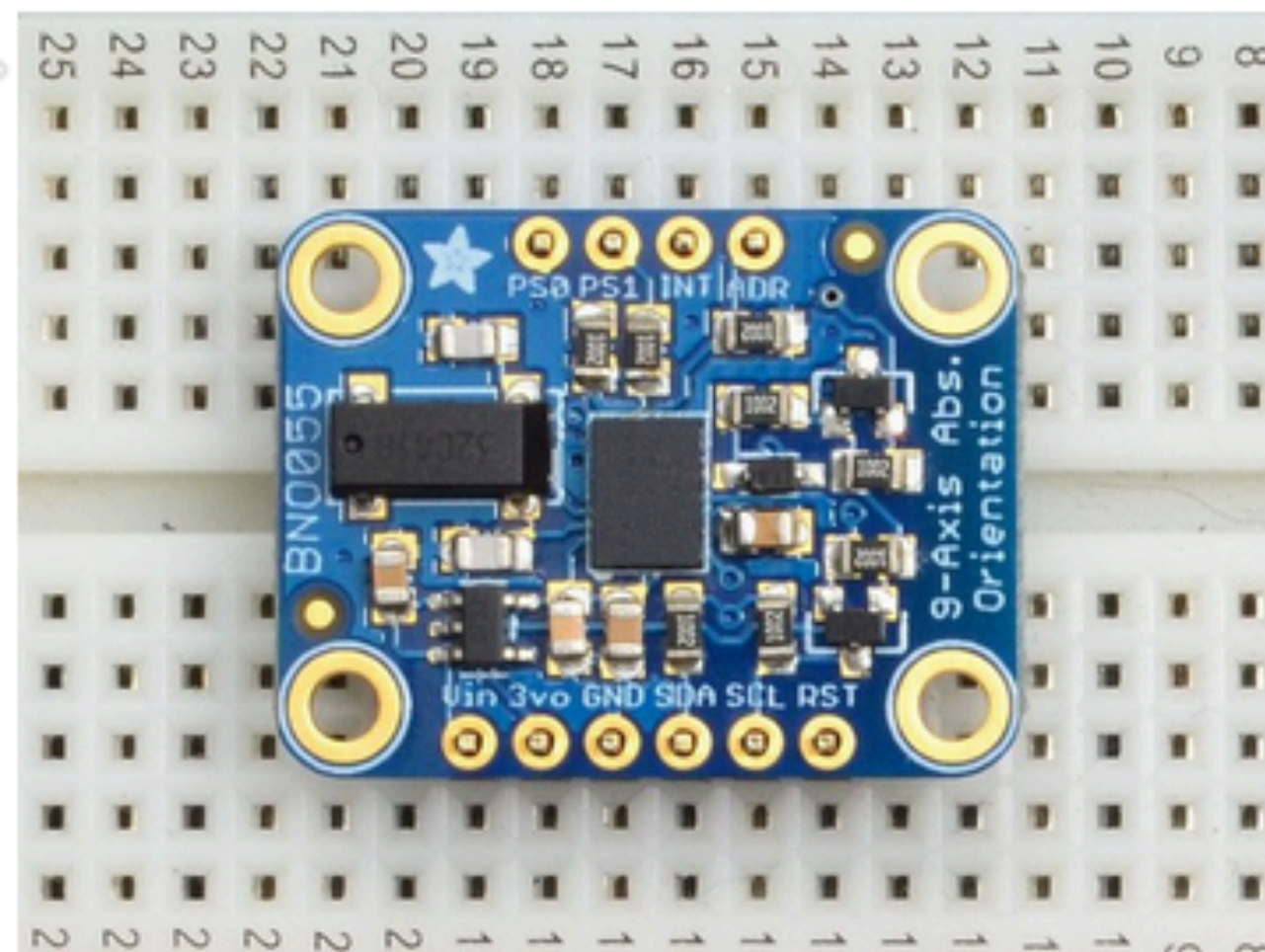
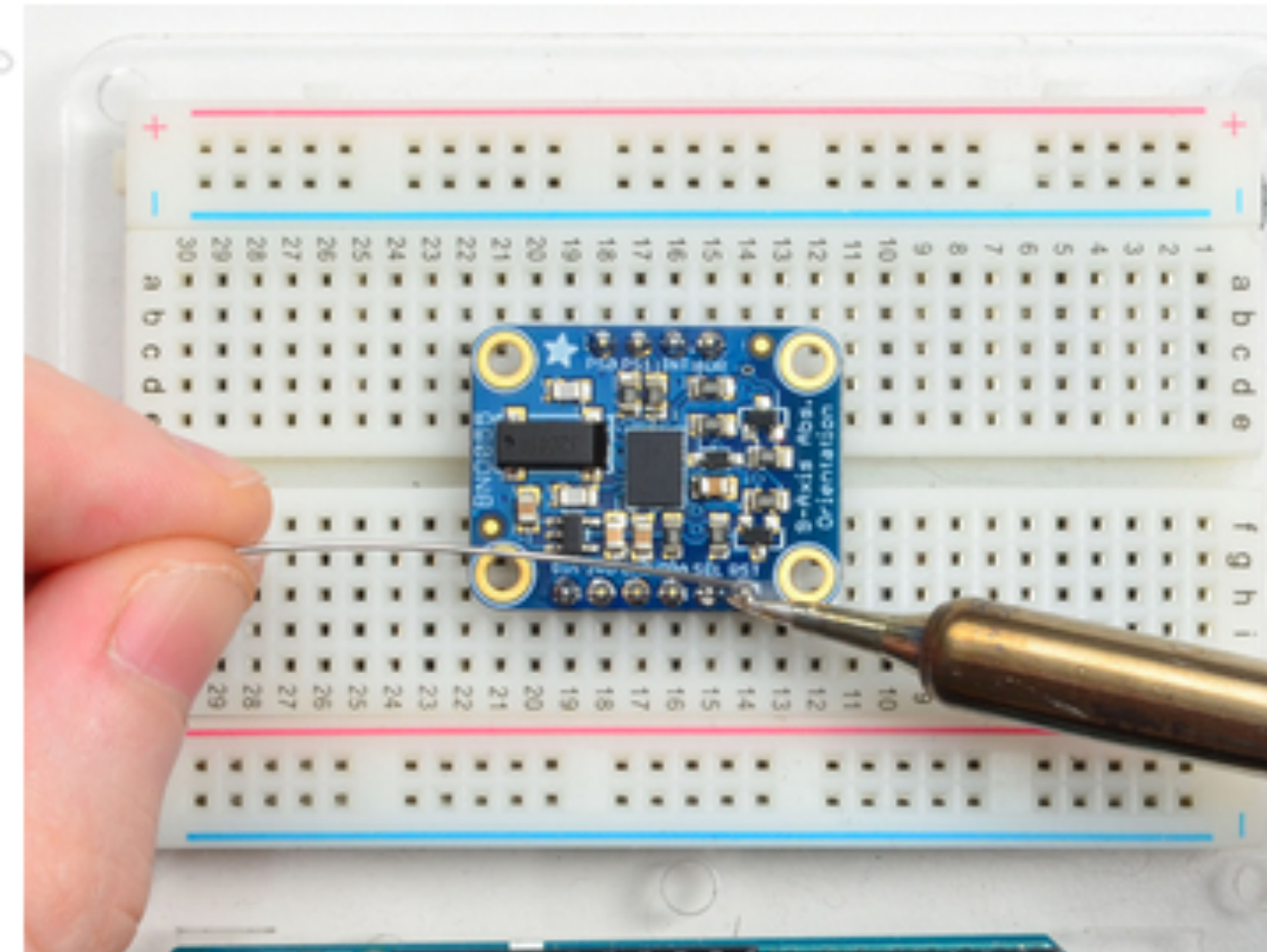
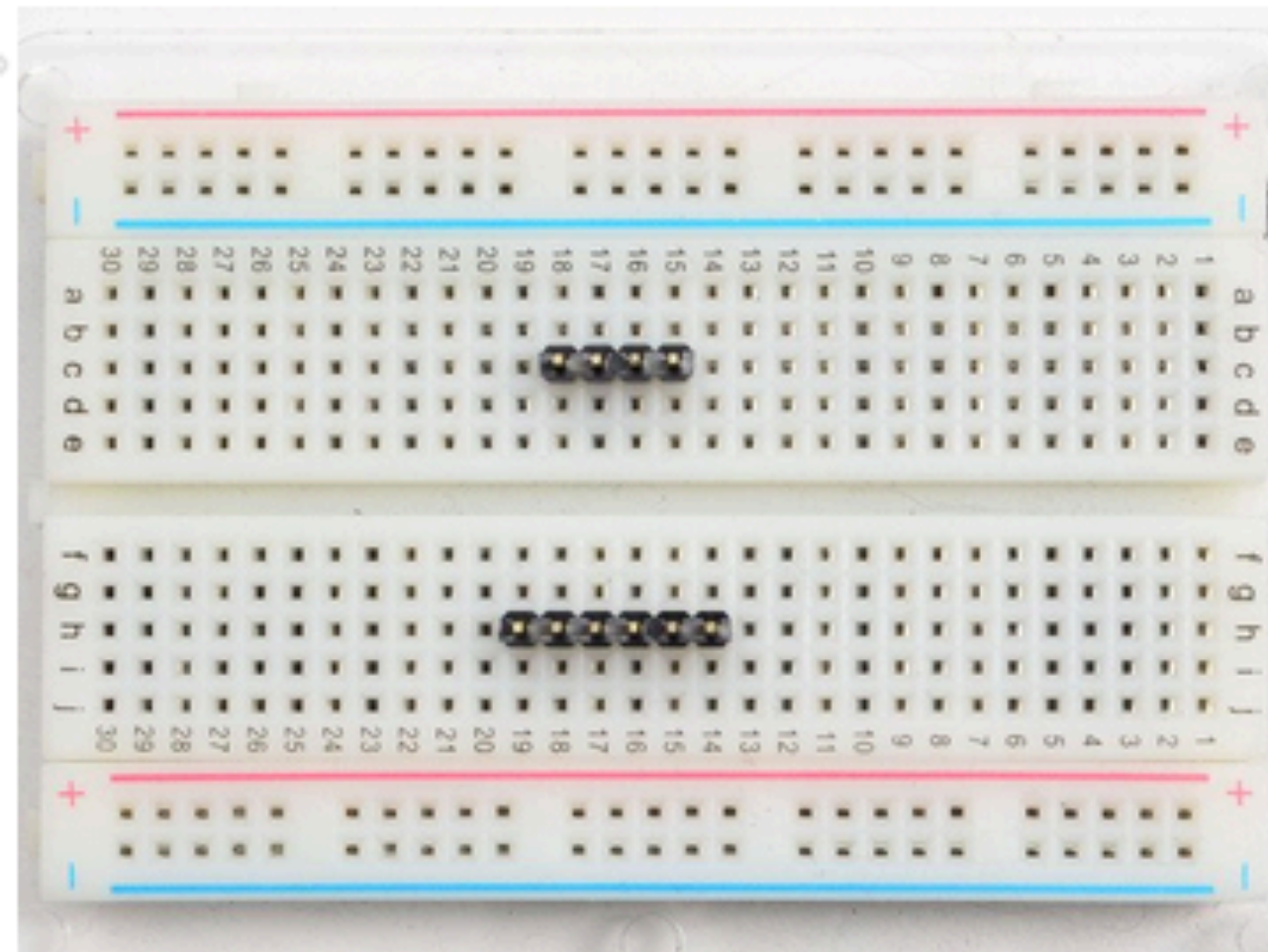
<https://github.com/trsonic/nvsonic-head-tracker>

Anschluss - BNO055

- Connect **Vin** to the power supply, 3-5V is fine. Use the same voltage that the microcontroller logic is based off of. For most Arduinos, that is 5V
- Connect **GND** to common power/data ground
- Connect the **SCL** pin to the I2C clock **SCL** pin on your Arduino. On an UNO & '328 based Arduino, this is also known as **A5**, on a Mega it is also known as **digital 21** and on a **Leonardo/Micro, digital 3**
- Connect the **SDA** pin to the I2C data **SDA** pin on your Arduino. On an UNO & '328 based Arduino, this is also known as **A4**, on a Mega it is also known as **digital 20** and on a **Leonardo/Micro, digital 2**

<https://learn.adafruit.com/adafruit-bno055-absolute-orientation-sensor/>

Aufbau und Löten



<https://learn.adafruit.com/adafruit-guide-excellent-soldering>

Software - Arduino

Download and Install the Arduino IDE from: <https://www.arduino.cc/en/Main/Software>



ARDUINO 1.8.13

The open-source Arduino Software (IDE) makes it easy to write code and upload it to the board. It runs on Windows, Mac OS X, and Linux. The environment is written in Java and based on Processing and other open-source software.

This software can be used with any Arduino board. Refer to the [Getting Started](#) page for Installation instructions.

Windows Installer, for Windows 7 and up
Windows ZIP file for non admin install

Windows app Requires Win 8.1 or 10
[Get](#) 

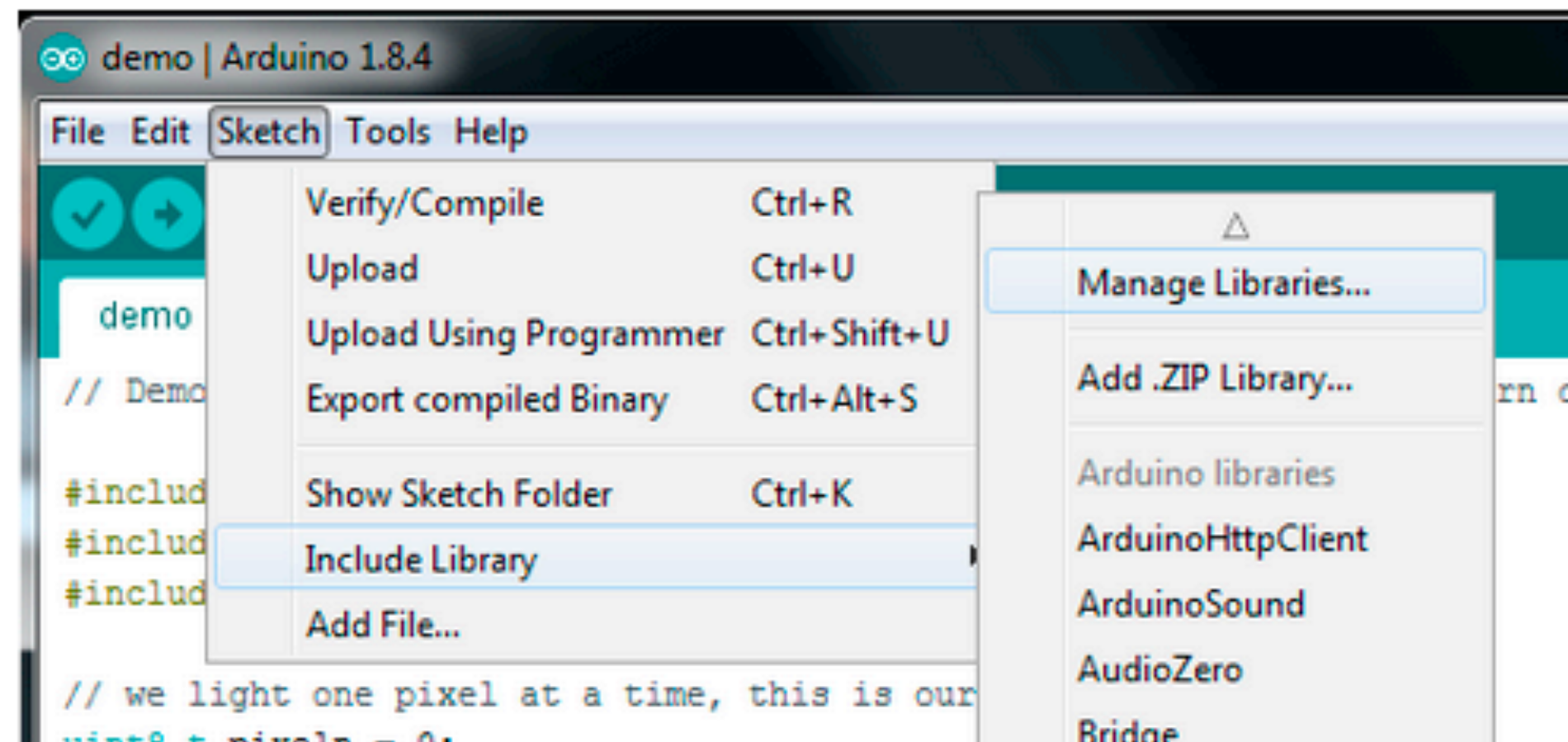
Mac OS X 10.10 or newer

Linux 32 bits
Linux 64 bits
Linux ARM 32 bits
Linux ARM 64 bits

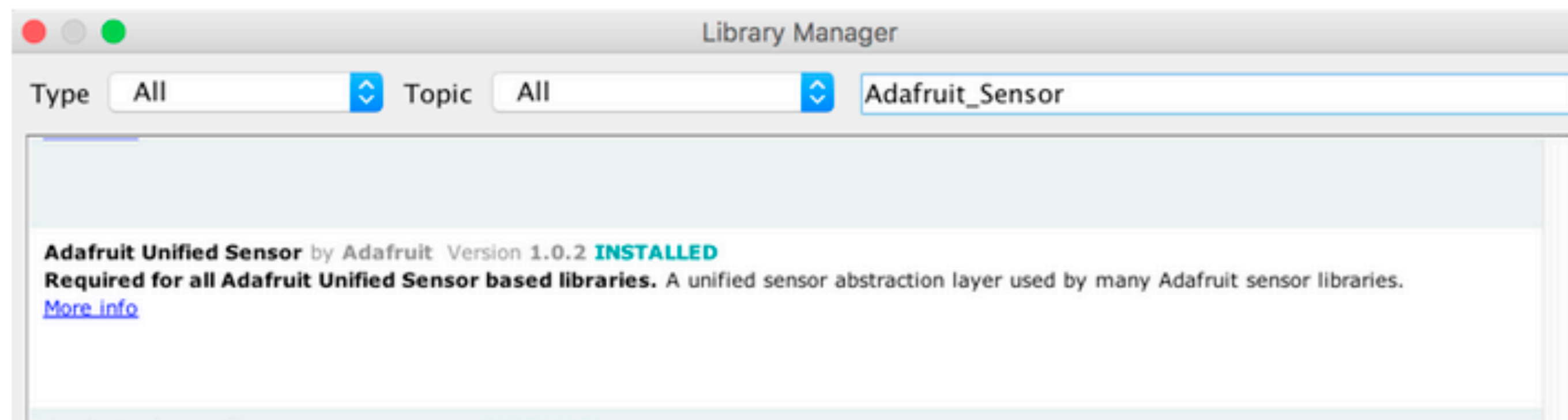
[Release Notes](#)
[Source Code](#)
[Checksums \(sha512\)](#)

Software - Arduino

In the Arduino IDE open the library manager:



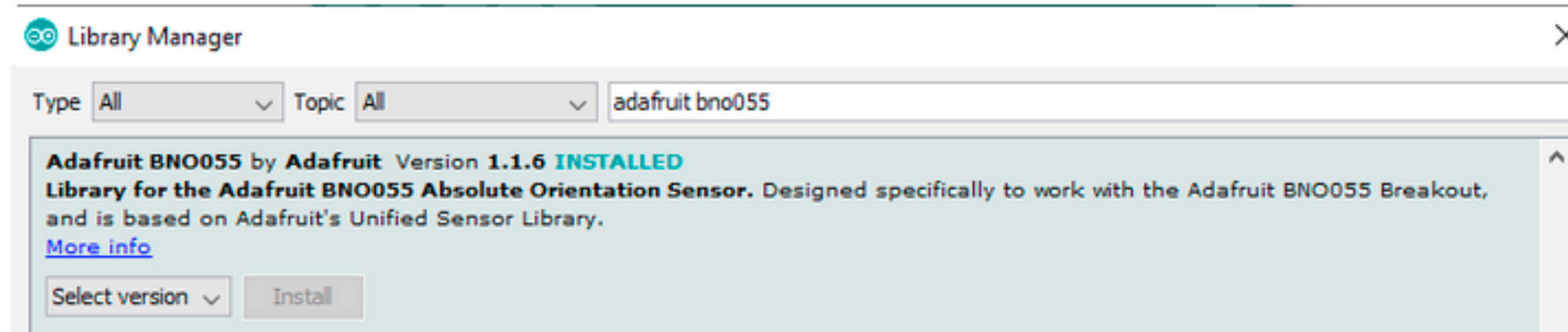
Search for the Adafruit Sensor library and install it



<https://learn.adafruit.com/adafruit-bno055-absolute-orientation-sensor/>

Software - Arduino

Search for the Adafruit BNO055 library and install it



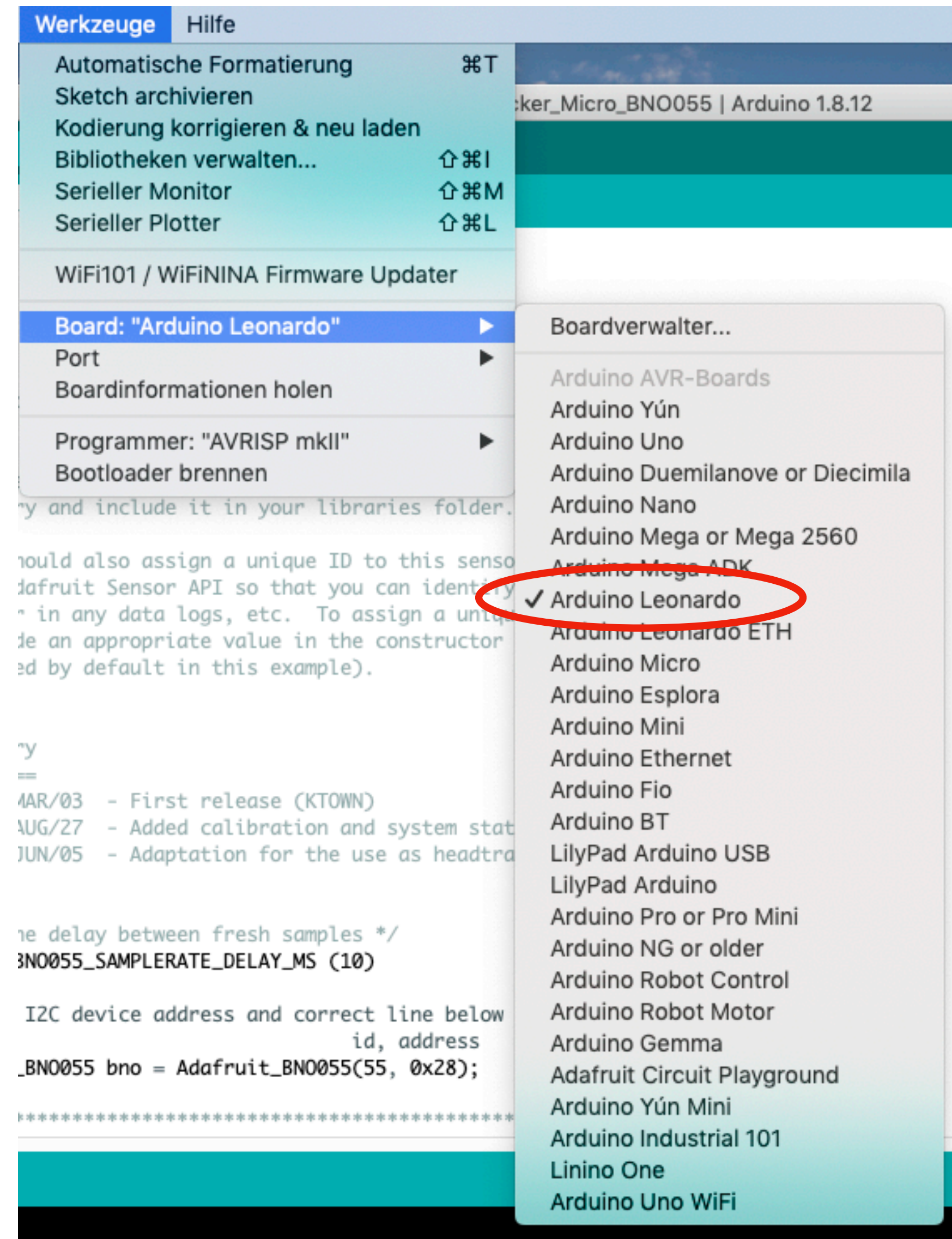
<https://learn.adafruit.com/adafruit-bno055-absolute-orientation-sensor/>

A tutorial on Arduino library installation can be found at:

<https://learn.adafruit.com/adafruit-all-about-arduino-libraries-install-use>

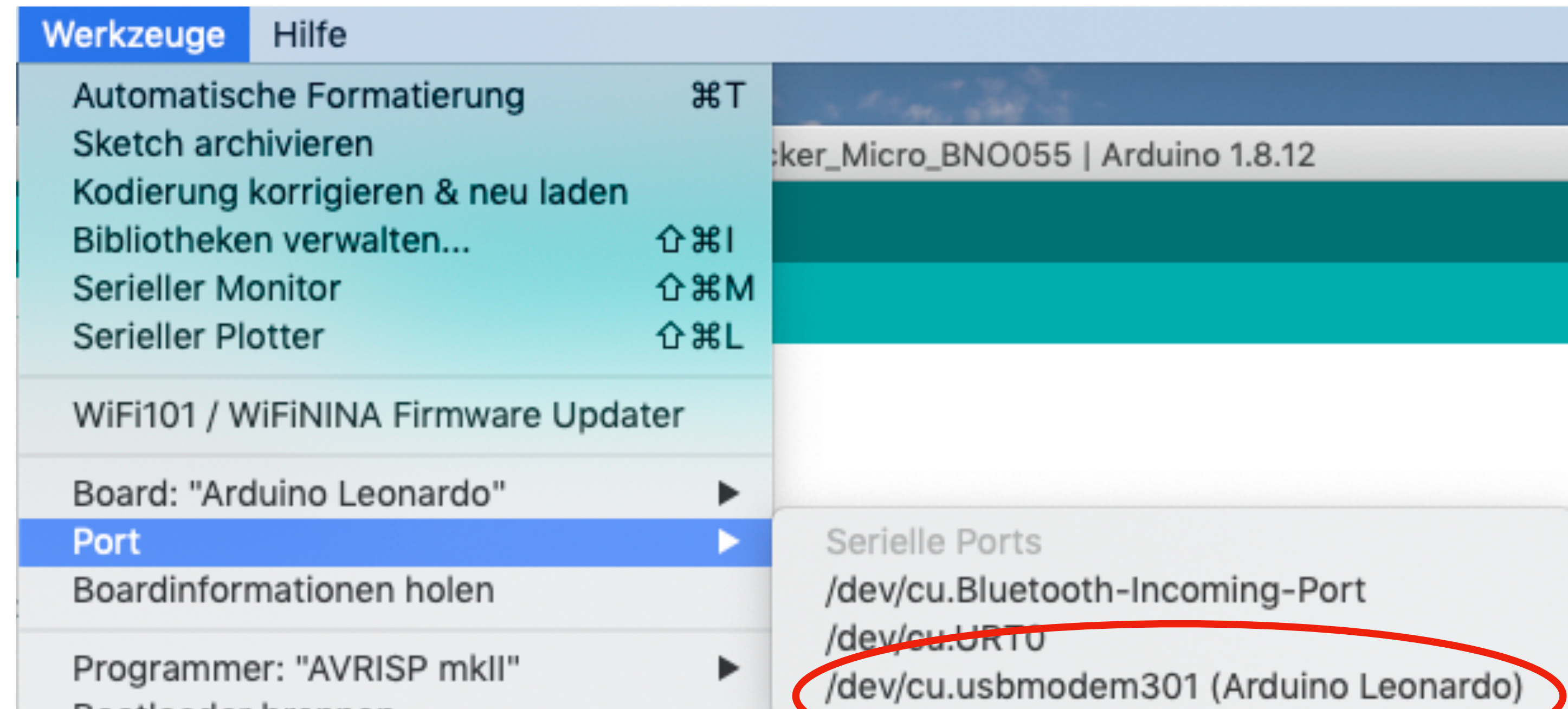
Software - Arduino

Select the correct board:



Software - Arduino

Select the correct port



Software - Arduino

Compile and upload the sketch



```
headtracker_Micro_BNO055 | Arduino 1.8.12

#include <Wire.h>
#include <Adafruit_Sensor.h>
#include <Adafruit_BNO055.h>
#include <utility/imuMaths.h>

/* This driver uses the Adafruit unified sensor library (Adafruit_Sensor),
   which provides a common 'type' for sensor data and some helper functions.

   To use this driver you will also need to download the Adafruit_Sensor
   library and include it in your libraries folder.

   You should also assign a unique ID to this sensor for use with
   the Adafruit Sensor API so that you can identify this particular
   sensor in any data logs, etc. To assign a unique ID, simply
   provide an appropriate value in the constructor below (12345
   is used by default in this example).

History
=====
2015/MAR/03 - First release (KTOWN)
2015/AUG/27 - Added calibration and system status helpers
2020/JUN/05 - Adaptation for the use as headtracker
*/

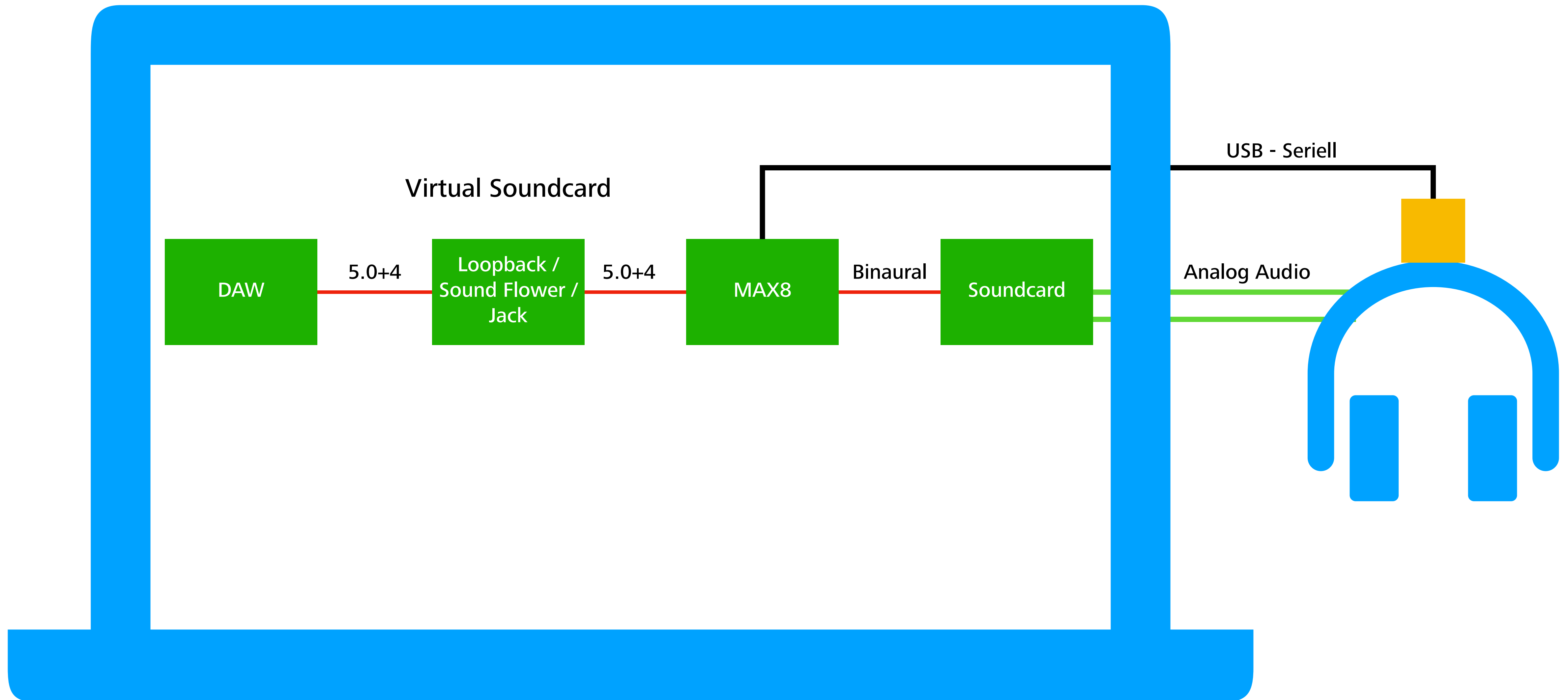
/* Set the delay between fresh samples */
#define BNO055_SAMPLERATE_DELAY_MS (10)

// Check I2C device address and correct line below (by default address is 0x29 or 0x28)
//                                     id, address
Adafruit_BNO055 bno = Adafruit_BNO055(55, 0x28);

/*****/

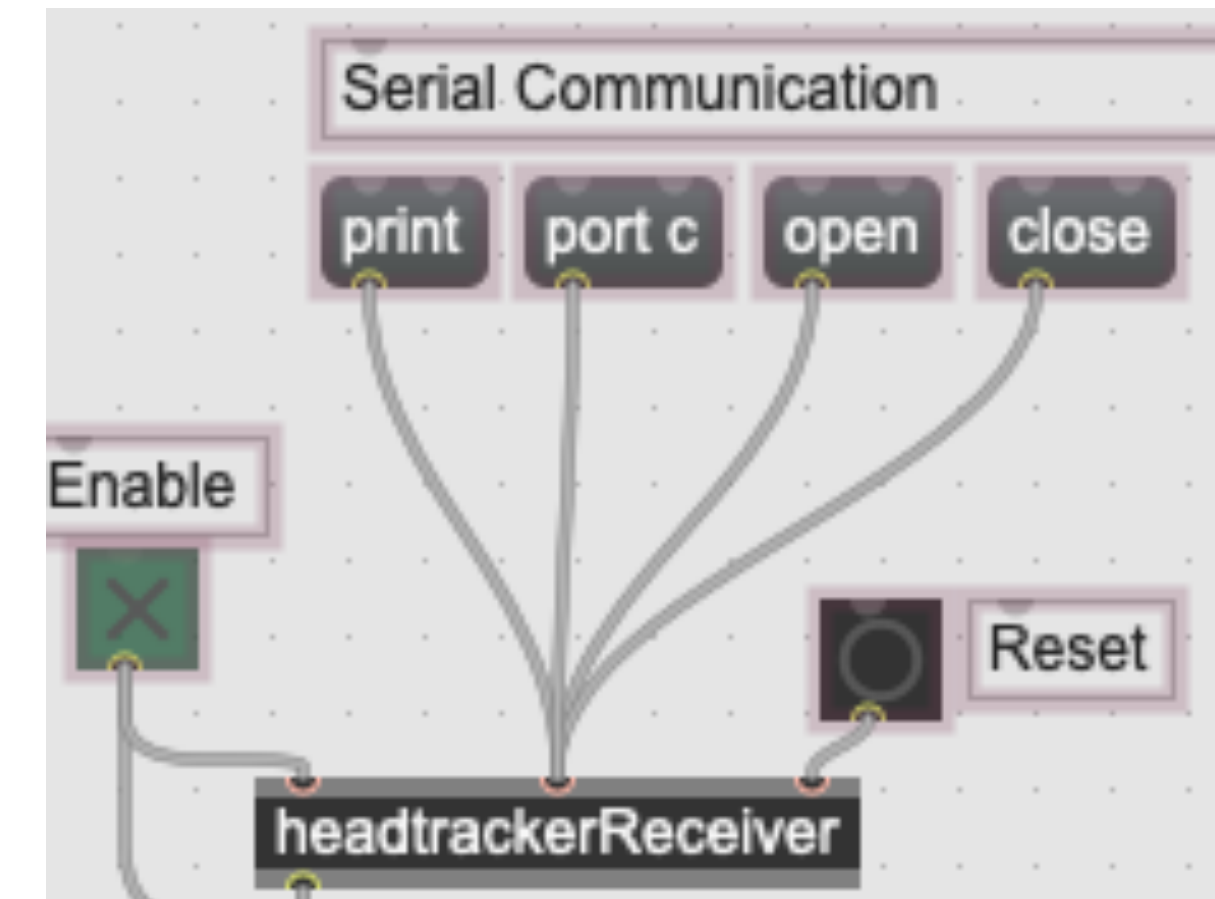
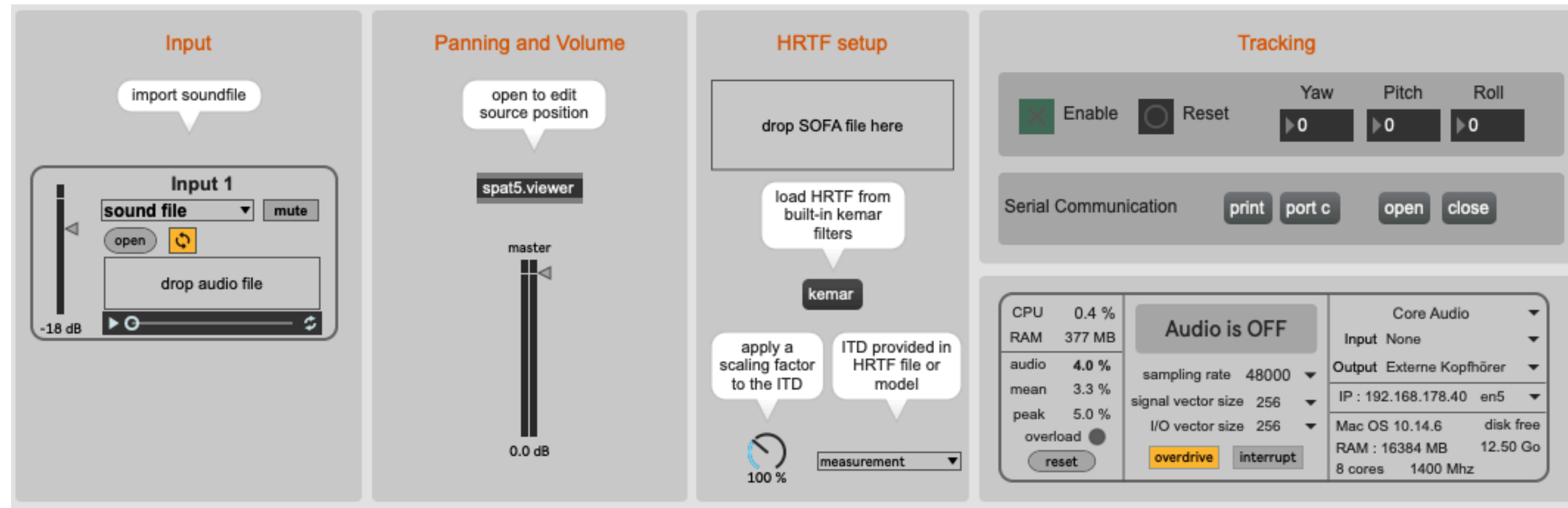
28 Arduino Leonardo auf /dev/cu.usbmodem142201
```


Application: MAX as rendering engine

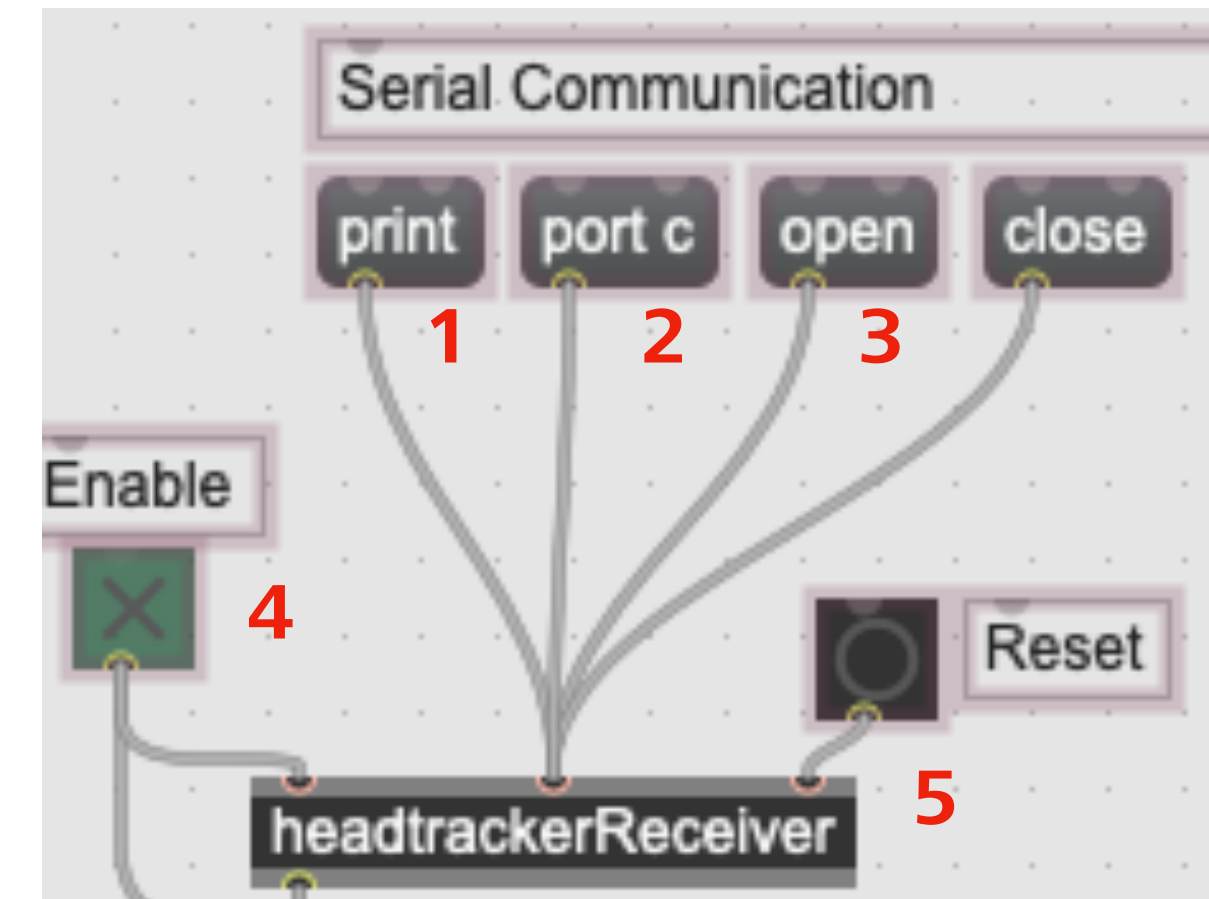
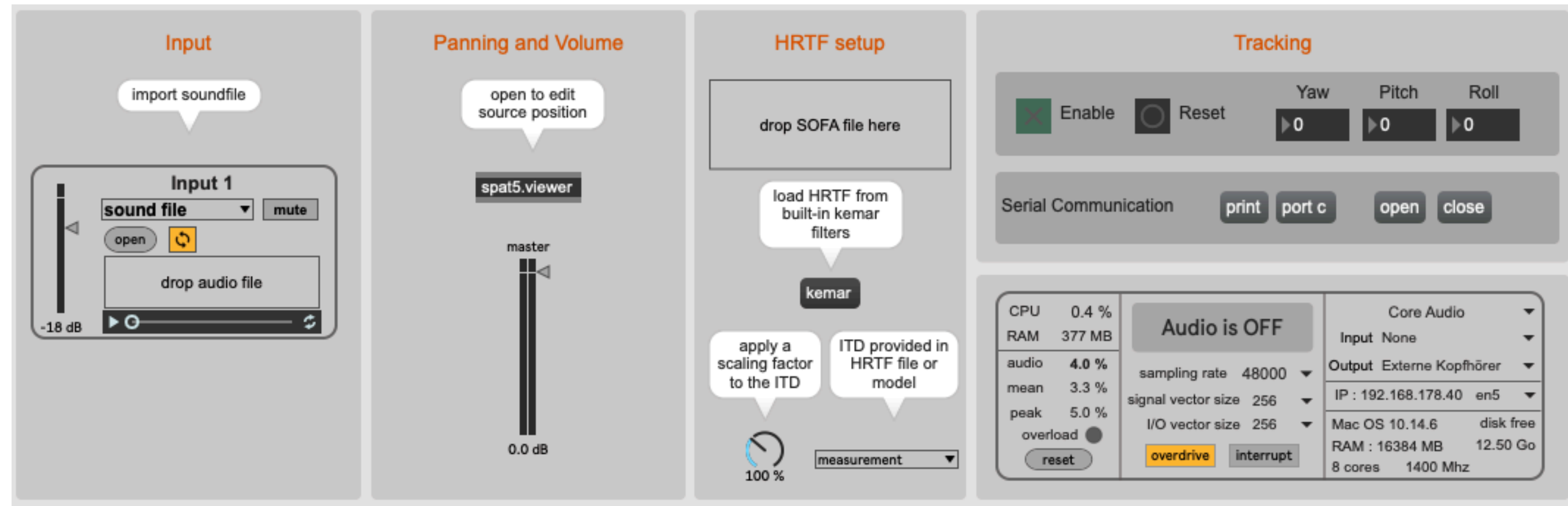


Application: MAX as rendering engine

Download the example patch including the patch to receive the headtracking receiver

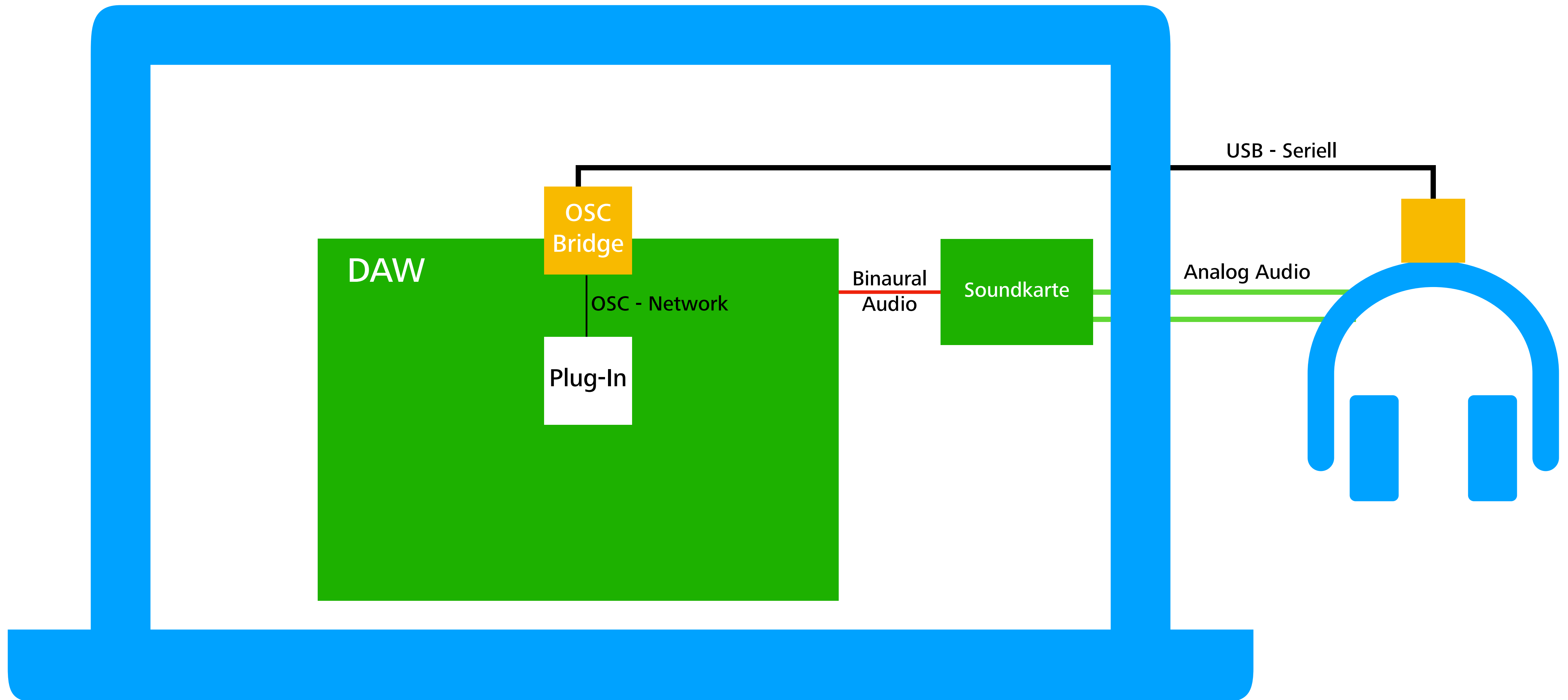


Using the MAX-Patch



1. Use print message to find correct port address
2. Adjust port message if needed
3. Open port using the open message
4. Enable headtracking
5. Use reset button to adjust orientation

Application: Plug-in control via OSC



Using the OSC-Bridge

1. Download OSC Bridge:
<https://github.com/trsonic/nvsonic-head-tracker>
2. Compile the application if necessary
3. Select port from port list after refresh button
4. Connect to Headtracker
5. Enable OSC link to plug-in

