# Custom Electrophysiology Setup How-To Guide

Leonardo Garma

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leonardo.garma@gmail.com

Reference material:

- **INTAN documentation and manuals**
    - http://www.intantech.com/files/Intan_RHD2000_eval_system.pdf
    - http://www.intantech.com/files/Intan_RHD2000_series_datasheet.pdf
    - http://www.intantech.com/downloads.html
- **Original paper**
    - https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0214017
- **Data processing example script**
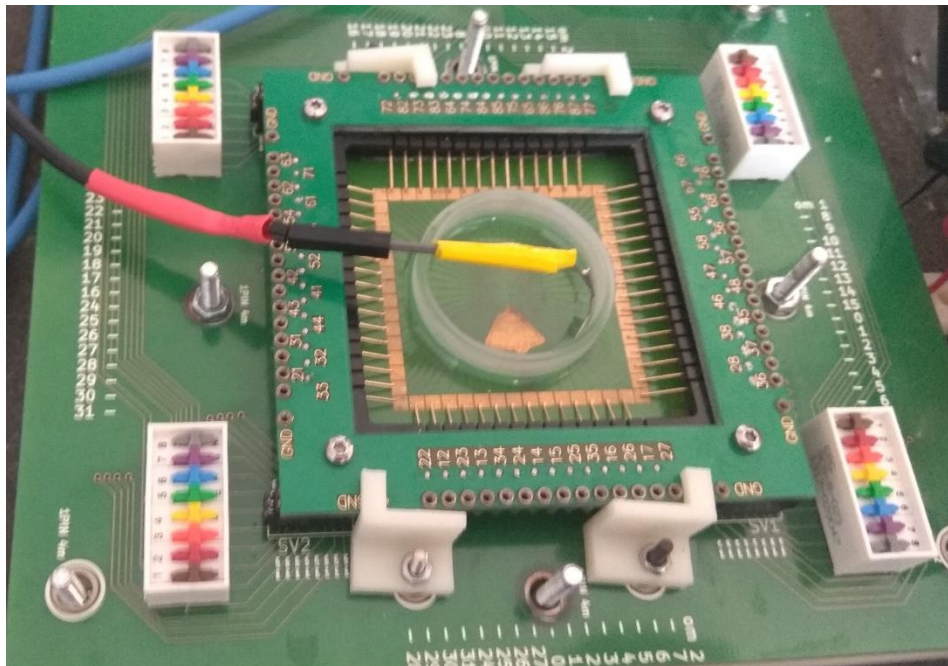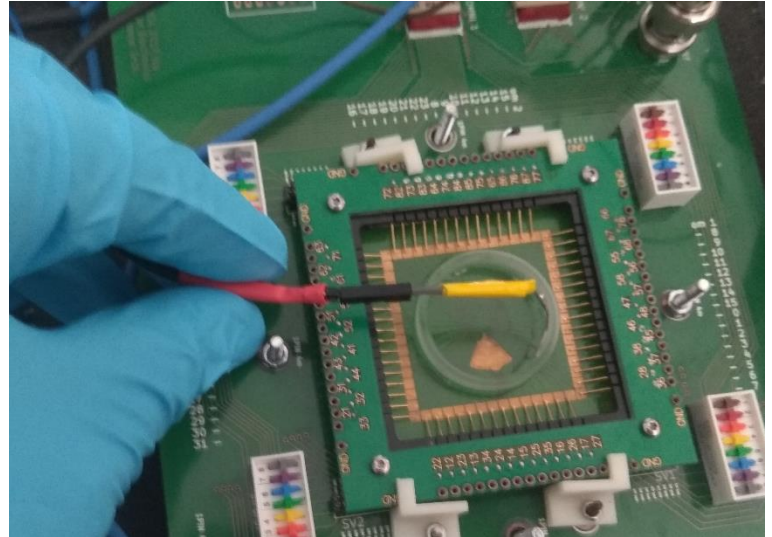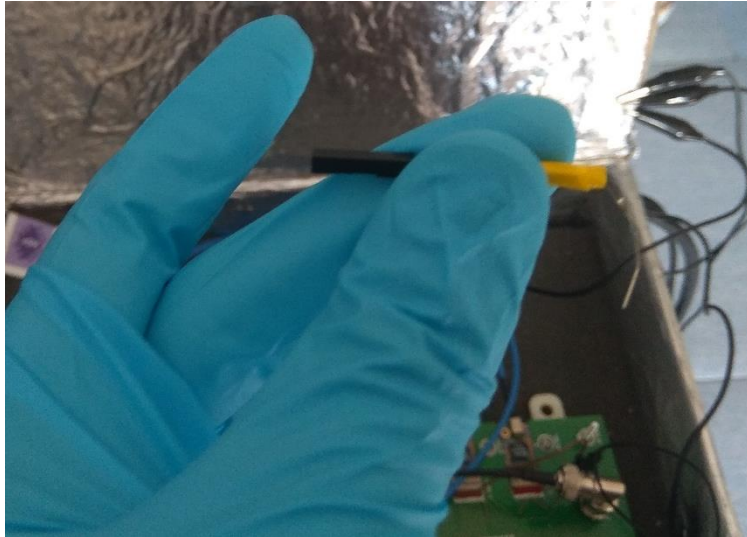   - https://github.com/leo-gg/INTAN

Step 1: Lift the PCB, place your MEA in the holder and put the PCB back in place
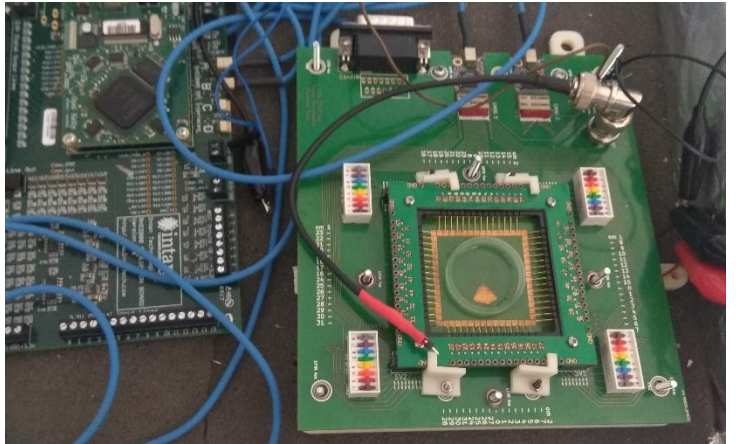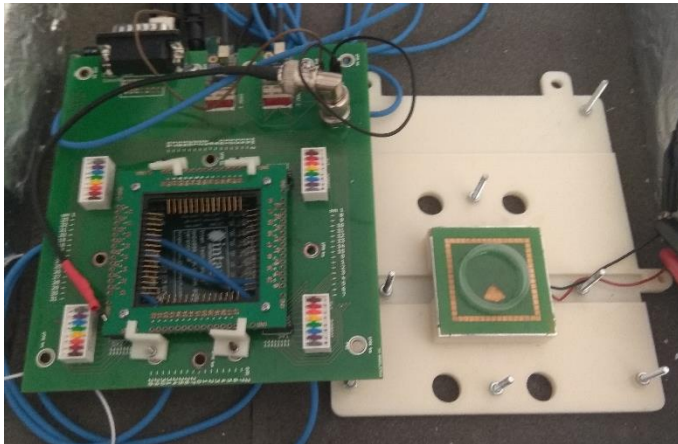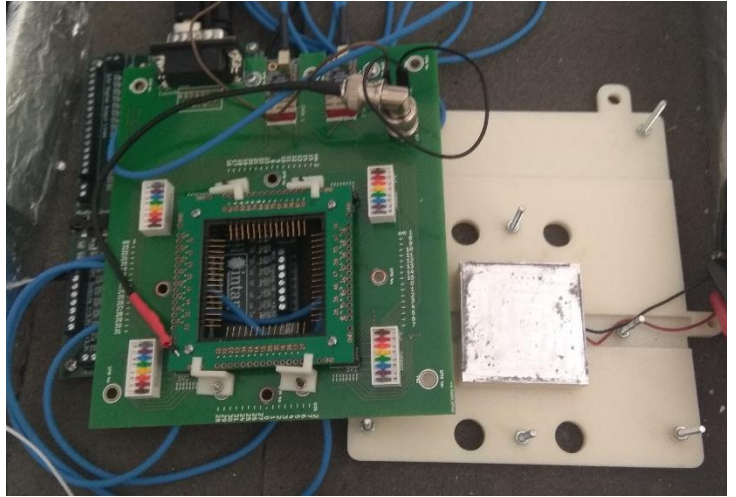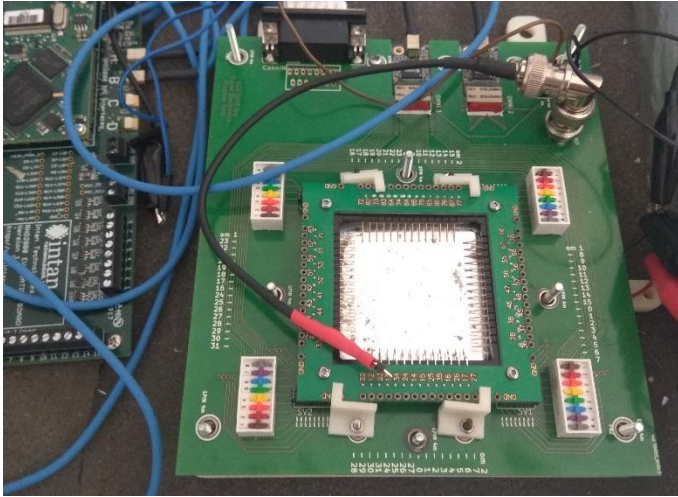
Step 2: Fix the PCB in place using the 3mm screw nuts
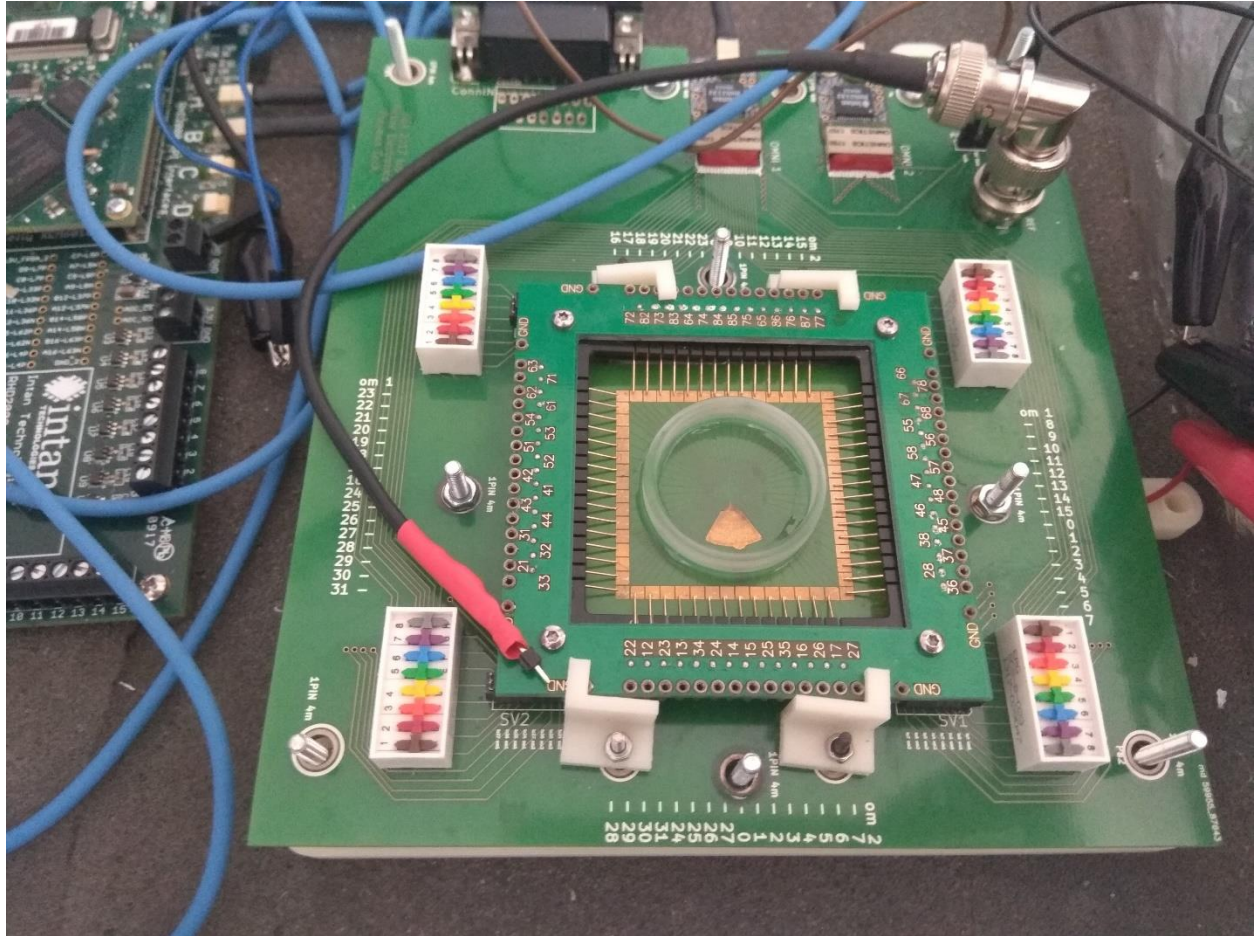
Step 3: If using a external reference, connect a *clean* reference and place it in contact with the media in your MEA

Step 4: Switch on the power supply for the FPGA. If you need to keep your cells warm, don't forget to switch on the power supply for the Peltier!

Step 5: Start the INTAN interface software

Step 6: Set your recording parameters and output filename

Bandwidth	Impedance	DAC/Audio	Configure

Amplifier Sampling Rate 20.0 kS/s ▾

Amplifier Hardware Bandwidth

Desired/Actual DSP Cutoff: 1.00 Hz / 0.78 Hz
Desired/Actual Lower Bandwidth: 0.10 Hz / 0.09 Hz
Desired/Actual Upper Bandwidth: 7.50 kHz / 7.60 kHz

[Change Bandwidth]   [?]

Software Filters

☐ Software/DAC High-Pass Filter   [250]   Hz   [?]

Notch Filter Setting [Disabled ▾]   [?]

[Run]   [Stop]   FIFO lag: 0 ms (0% full)

[Record] [Trigger] [Select File Format]

[Select Base Filename] (Date and time stamp will be added)
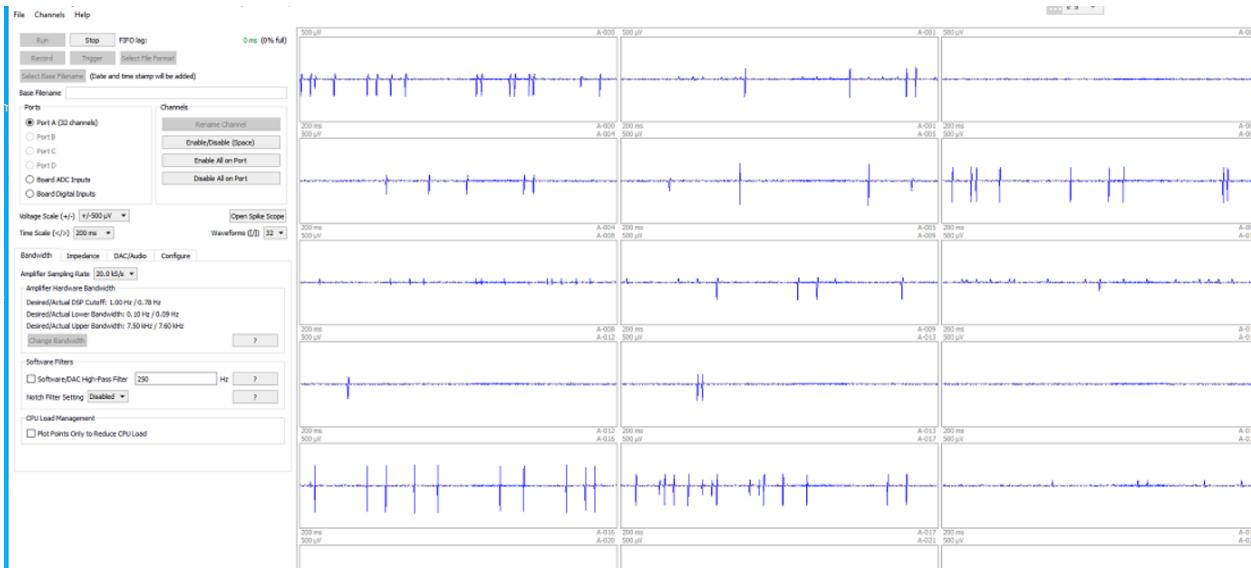
Base Filename [   ]

Ports   Channels

Step 7: Press <u>Run</u> to see the live signal or <u>Record</u> to start a recording

Step 8: Clean up!

- **Stop the recording**
- **Switch off the equipment**
- **If you used an external reference, clean it and put it back in place**
- **Unscrew the PCB and store the nuts**
- **Retrieve your MEA**