1 iAmp Heart Rate Experiment

Equipments needed

Each group of four students will be provided with an iAmp module, ECG electrodes + cables and a micro-SD card to store the data. Each group of four will need:

1. Laptop + internet connection
2. MATLAB for post-processing the raw ECG data
3. `Manual.gif` file
4. `iAmp_import_v40.m` MATLAB script

ECG data collection

The student should remain seated throughout recordings. Ensure that the iAmp device is switched off before beginning the experiment.

Step 1: Connect the Black and White cables to your Right arm and the *Red* cable to your *Left* arm.

Step 2: Sit in a relaxed position, moving as little as possible to reduce motion artefacts.

Step 3: Open the `Manual.gif` file and follow the instructions on it.

Step 4: Turn off the iAmp and remove the SD card from it.

Converting raw ECG data into MATLAB files

Step 1: Insert the SD card taken from the iAmp into your laptop.

Step 2: Copy he ECG data file (`RAW.bin`) from the SD card on to your laptop.

Step 3: Run the `iAmp_import_v40.m` script to convert the binary file `RAW.bin` into a MATLAB (`.mat`) file.

Step 4: Identify the start and end times (sample number) of the three separate trials – the artefacts you introduced by tapping the electrode should roughly indicate the start and end times of the trials.

Step 5: Split the data into three separate segments corresponding to the different trials. Please exclude the artefacts when you store the data as new variables (e.g `Trial3_Peter`).

INSTRUCTION MANUAL