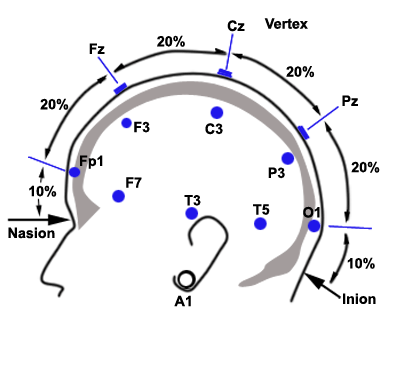
**Unlock EEG Setup Checklist:**

1. *Materials:*

|  |  |
| --- | --- |
|  | EEG cap, check electrode configuration |
|  | Chest/Chin straps |
|  | EEG gel |
|  | EEG syringe |
|  | Nuprep gel |
|  | Q-tips |
|  | Measuring Tape |
|  | Medical tape |
|  | Alcohol swab |

Fig. 1. http://www.gtec.at/Support-Offer/FAQ/Tips

1. *EEG cap application:*

|  |  |
| --- | --- |
|  | Start a new entry in the unlock-testing-session.xls file; fill out all entries, specially the subject, who places the cap, location of reference electrode, and protocol parameters. |
|  | Ask subject to put chest strap under arms with buttons in the front. |
|  | Put on gloves. |
|  | Measure distance from Nasion to Inion (see Fig. 1); have subjects indicate where Inion is. Record this distance as well as the mid line (Cz). |
|  | Place EEG cap on head (use correct size), ensuring chin straps are on the cap. |
|  | Avoid the use of chest straps (create displacement of cap if the subject moves). |
|  | Tighten EEG cap elastic cord at the back and flat it avoiding excessive bumps or air pockets. |
|  | Ensure Cz is half-way between Nasion and Inion. |
|  | Clean with alcohol swab and abrade ground electrode site (forehead) with Q-tip and Nuprep gel. Abrasion is done circularly to the point skin starts to turn red (be careful not to over-abrade). |
|  | Fill electrodes with gel by curing syringe tip back (starting closer to the electrode inner active/metallic surface) then simultaneously fill and pull out. |
|  | Clean EOG/EMG site(s, if any) with alcohol swab. |
|  | Place EOG/EMG electrode(s, if any) on adhesive washer, apply to skin and fill with EEG gel. |
|  | Clean with alcohol swab ear lobe. |
|  | Put EEG gel on ear-reference clip electrode and attach to ear’s cleaned area. |

1. *Device connectivity:*

|  |  |
| --- | --- |
|  | Check Mobilab is pairing properly with the recording computer via Bluetooth. |
|  | Connect the gammaBox to the Mobilab wireless transmitter. |
|  | Turn on the gamma Box and the Mobilab wireless transmitter. |
|  | Check green LED in Mobilab is blinking (this means waiting for communication). |
|  | Check the Bluetooth dongle is connected to a USB port of the recording computer (usually Tongue) and its blue light is on. |
|  | Go to Control Panel\Hardware and Sound\Devices and Printers. Find the device named MP-2010\_09\_06 (this is the one for the Mobilab). Right click and select Remove the Device. |
|  | Disconnect the Bluetooth dongle and turn off the Mobilab. |
|  | Connect the Bluetooth dongle and turn on the Mobilab. |
|  | Go to Control Panel\Hardware and Sound\Devices and Printers. In “Unspecified Devices” (bottom of the window) a new device will appear. This should be named HASP HL 3.25. |
|  | Now we need to pair this device to the Mobilab. To do so go to the task bar at the bottom right of the Windows screen and click the “Show hidden icons” arrow. Go to the “Bluetooth devices” icon and right click it. Click on “Add a device”. |
|  | A new window will appear showing the Mobilab “MP-2010\_09\_06”. Click on this device and a textbox will request a pairing code. Type “1234” and hit enter.  An “Installing device” globe will pop up on the bottom right of the screen as well as the port number. |
|  | To confirm the Mobilab’s port number, go to Control Panel\Hardware and Sound\Devices and Printers (save the port number for later). |
|  | The Mobilab, MP-2010\_09\_06, should be listed in the “Devices” row. Right click it and go to Properties. In the Hardware tab, check the “Device Function” and the port used by the device. |
|  | Write down the port number since it will needed to update the port input in Unlock (usually COM6 or COM7). |
|  | Go to the Unlock code and, in the configuration file, change the com port to match the one used by the “just installed” Mobilab. You should be all set to start recording. |

1. *Basic test:*

|  |  |
| --- | --- |
|  | Run a dummy recording session, a couple of seconds. Then, locate the data, right click it and left click on “Edit with Notepad++”. The number should be signed int16 numbers (integers between -65536 and 65536). If bigger or smaller numbers are present debug the communication of the device with Unlock (repeat pairing). |
|  | After each recording check the size of the file is somehow close to the time of recording. ~700Kb for a minute of recordings (for 12 channels at int16). |

**Note:** When starting to communicate with Mobilab, the blinking **green LED** should turn solid green (all the time it is recording data). If this does not happen a possible problem with the pairing or the communication has to be resolved.

1. *Calibration block:*

Run a calibration block, containing the following artifacts: Unlock should have a calibration app prompting these events and keeping track of their timing.

|  |  |
| --- | --- |
|  | Clench jaw |
|  | Blink fast 10 times |
|  | Blink hard (keeping eye closed for a second or more) |
|  | Move eyes up and down |
|  | Move eye left and right |
|  | Close eyes and relax for 5 seconds and open them for 5 seconds |
|  | Blink fast 10 times |
|  | Close eyes and relax for 5 seconds and open them for 5 seconds (repeat 2 times) |
|  | Talk for 10 seconds |
|  | Move head to the front and the back |
|  | Move legs for 5 seconds |
|  | Move arms for 5 seconds |