
MEG Lab Manual

Release 0.1

NeuroWaves

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OPERATION PROTOCOL

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TRAINING

A project owner can be trained by the MEG Lab scientists to become an authorized operator. Throughout the training sessions, potential users will learn about operational protocols, emergency procedures, and safety requirements, as well as the steps that must be followed before and after MEG data acquisition.

1.1 Training Procedure

1. Request for Training

Send an email request for training to: nyuad.meg@nyu.edu

Please include details about your project and proposed timelines.

2. Download the MEG Lab Manual

Download the PDF version of the [MEG Lab Manual](#) for reference throughout your training.

3. Introductory Session

A one- to two-hour introductory session will be scheduled to familiarize you with MEG operations and safety procedures.

4. Follow-up Session

After completing the first session, arrange a follow-up session with a volunteer participant to gain hands-on practice with all procedures.

5. Observation Period

Once both sessions are completed, it is recommended that you shadow a researcher conducting an approved study. This will help you understand participant preparation and the safe acquisition of MEG data. Please remain respectful and considerate of both the researcher and their participant during these observation sessions.

6. Competency Assessment

When you feel confident with all aspects of MEG data acquisition, contact nyuad.meg@nyu.edu to arrange an assessment.

7. Authorization

Upon successful completion of the assessment, and once both the MEG Lab scientist and the trainee are satisfied, the trainee will be authorized to independently acquire MEG data as a registered user. Access to the MEG Lab (A2-008) and all relevant calendars will then be granted.

8. Additional Training (if needed)

If the MEG Lab scientist or trainee feels further preparation is needed, additional training sessions can be arranged.

1.2 Completion Requirements

Once all training sessions are completed, please complete the **MEG Quiz** and submit the required forms listed below. These requirements are in line with the **Core Technology Platform (CTP)** training guidelines.

The MEG quiz and the required forms are available in the internal version of this page.

OPERATIONAL PROTOCOL

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Based on a previous version of the protocol from Aniol Santos Angles.

- Find a PDF version of the protocol: [MEG Lab manual PDF download](#)
- Once you master the current protocol, keep in handy the MEG Session Checklist

- *Lab booking and schedule*
- *Checks Completed by MEG Scientist Prior to Experiment*
- *Performed by the project owner - Prepare the lab equipment (prior to participant arrival)*
- *Perform the MEG Experiment (Participant is present)*
- *After the MEG session*
- *Appendix. A: Stylus location and markers*
- *Appendix. B: Marker coils for KIT order of appearance in .mrk*

2.1 Lab booking and schedule

Warning: Bookings should not take place on a Monday morning, as this is when Helium refills are scheduled and it is not possible to acquire data during this period.

2.2 Checks Completed by MEG Scientist Prior to Experiment

The MEG lab is provided to the project owner after the following checks and tests have been performed successfully.

1. **KIT system is in an operational status when:**
 - Helium levels are sufficient to conduct an experiment
 - Quality of the data from SQUIDS sensor has been verified
 - Empty-room data has been acquired and noise levels have been computed and assessed
2. **Vpixx system is operational when:**

- Trigger events are tested
- Projector is in a running state
- Response boxes must be tested for correct button responses

3. Communication system with participant are operational when:

- Microphone outside the MSR, to communicate to the participant works correctly
- Microphone inside the MSR for participant to communicate with project owner works correctly
- Earphones with disposable single use foam earplugs for participant to hear the project owner outside the MSR works correctly
- Camera inside MSR for visualising the participant

4. Laser scanner system is operational when:

- Laser scanner computer works correctly
- Laser pointer/surface scanner is operational

5. Personal Protective Equipment/Clinical Consumables are available including:

- clean foam earplugs
- head caps
- scrubs
- clinical application tape for HPI coils on participant face
- gloves
- linen
- face baby wipes
- normal tissue paper
- head caps
- kitchen towels
- glasses for vision correction -6 to +6 in 0.5 increments
- a sign to be used if the participant is a female wearing a veil/head covering

Should you require new items please contact the team with your request.

2.3 Performed by the project owner - Prepare the lab equipment (prior to participant arrival)

The steps below should be **performed by the project owner** prior to the arrival of the participant and should be completed in the following the order. These procedures take an estimated time of 20 mins.

1. Prepare MSR:

- Make sure the MSR has no metal objects inside
- Switch the heater off
- Prepare bedsheets and pillowcases



Fig. 1: Heater Button

- **Clinical Tape is usually stored in the drawers inside the plastic drawers inside the MSR**
 - or/also in the top right wooden drawer outside the MSR, on the right side of the *Stimulus computer*
- Prepare 12 pieces of tape, those will be used to set the *HPI coils* on the participant's head

2. Marker box check:

- **Ensure that the *Marker Box* found inside the MSR has enough battery**
 - Power up the *Marker Box* by flipping the *Power* switch up
 - If there is enough battery, the red LED 'Low batt' should go on for a second and then back off
 - **If there is not enough battery, the red LED 'Low batt' is either on all the time or never comes on for a second as previously**
 - * In this case, change the batteries of the Box, recharged batteries are available under the *Stimulus computer*



Fig. 2: Marker box power indicator

- Uncoil the five HPI marker coils that are linked to the *Marker Box*

3. Trigger Box preparation:

- The *Trigger Box* is outside the MSR and pictured below
- Ensure that the *Source* button is set to *LPT1/PC* which is on the left side

4. If project owner requires empty-room data prior to experiment:

- Turn off the MSR lights and put the light brightness to low
- Close the MSR door without a participant inside
- After the previous steps, on the *MEG Main PC* computer, open *MEG160* software

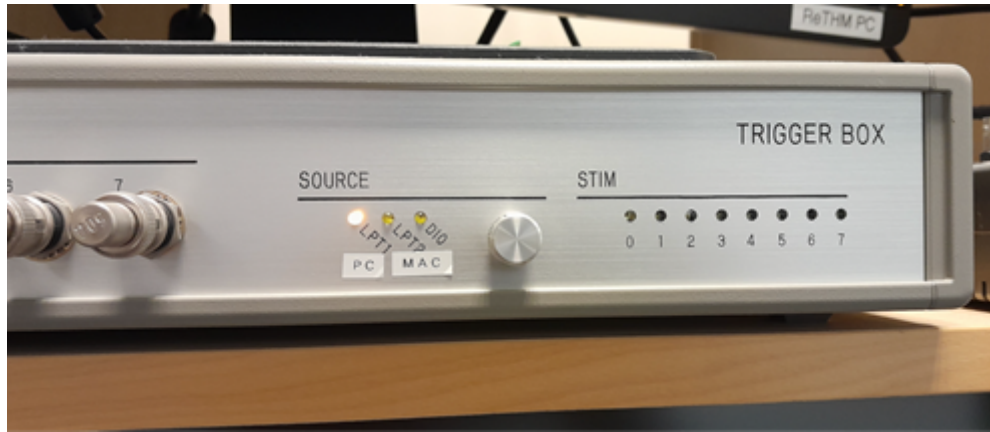


Fig. 3: Trigger Box found above the *MEG Main PC*.

- **Then, Menu -> Acquire -> Auto Tuning -> Ok**
 - Wait for the auto-tuning to be done
- **From Menu -> Acquire -> MEG Measurement -> Monitor and Acquisition window should open**
 - In the ‘Sensor Control’ window ensure or set these parameters *NB are only to be used for empty-room data and not for a neuro-activity experiment measurement*):
 - * HPF to *0.1 Hz*
 - * LPF to *1 KHz*
 - * BEF to *THRU*
 - Click on ‘Sensor Check’
 - Let the Sensor Check run for around 30 seconds
 - Uncheck ‘Sensor Check’
 - Make sure that the sensor display identical sinusoidal wave
 - Remember that *Sensor 91* is broken and will not display a sine wave
- In the ‘Data Acquisition’ window enter the following:
- Patient ID: sub-emptyroom
- Name: sub-emptyroom_<data in YYYYMMDD>
- Foldername: C: MEG160Binemptyroom
- **After ensuring the MSR door is closed, press *Lock***
 - The sensor measurements will oscillate rapidly, wait until the values are stable, i.e., no upward or downward trend is observed
- **Continuous Mode -> Start**
 - Set Sampling Rate to 2000 Hz
 - Set Time to *180 seconds*
 - then, *Start Acquisition*

- When recording is done, press *Unlock*
- Close the *MEG Measurement* window
- Open the MSR door

5. Prepare Vpixmap systems:

- Ensure that the three *Vpixmap* boxes are turned on: Soundpixx, Propixx and Responsepixx
- Soundpixx box - all the knobs have to be set as a default to the positions on the image below:



Fig. 4: Soundpixx Box knob settings

- Turn on the computer if it is off, boot under Windows (it will default to Ubuntu)
- **Settings of Vpixmap computer. Ensure that:**
 - Screens are in multiple displays (not mirror display)
 - * Right-click on desktop > Display settings > Extend these displays > Keep changes
- Set up Vpixmap either through the LabMaestro platform (preferred) or through bash script **VPutil** GUI
- **LabMaestro**
 - Open *LabMaestro* found on the desktop
 - To turn on the PROPixx screen, click on the 'Wake All PROPixx' button found on the menu on top of the LabMaestro platform
- **Or use VPutil**
 - Open 'VPutil'
 - Run *ppx a* and *Enter*,
 - Check if the screen inside the MSR is on, if the screen is off then:

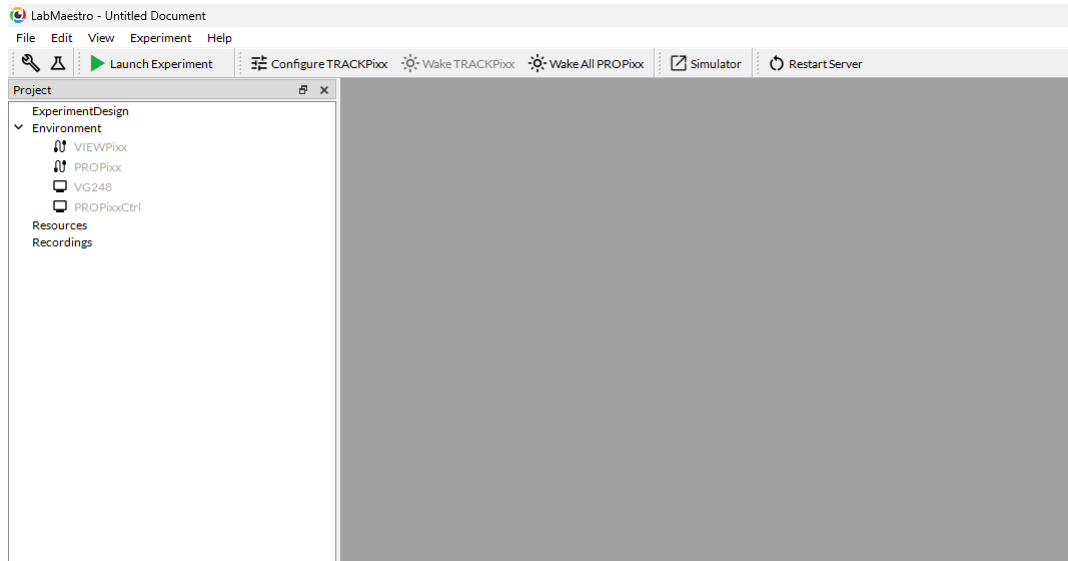


Fig. 6: LabMaestro Platform

- * run *ppx s*, then run *reset*, then wait for a minute, run *ppx a*
- **Ensure the orientation (vertical flip) of the screen inside the MSR is correct, if not:**
 - * Open *LabMaestro*,
 - * On the left of the platform, choose PROPixx from the menu
 - * Check *Rear Projection* box

6. Verify your experiment script:

- If using *PsychToolBox*:
 - Open MATLAB (2022b)
 - Access your experiment *.m* script and launch it
 - Make sure you arrive to the *Introduction Page* mentioned in the *design_experiment* section. This is to ensure MEG data recording can be started before the experiment begins
- You can do a quick test run to make sure that trigger signals are appearing correctly on the *MEG160* software

Warning: For a real participant, make sure to turn off the Wifi on the *Stimulus Computer* so that the experiment is not interrupted by an update or other notification from the internet.

7. Response Device

- Button box: make sure all the optical cables from the button boxes are plugged in correctly as shown in the picture

8. Microphone inside MSR:

- Make sure the sound box is switched on - located under the Stimulus computer - if not click on the green round button

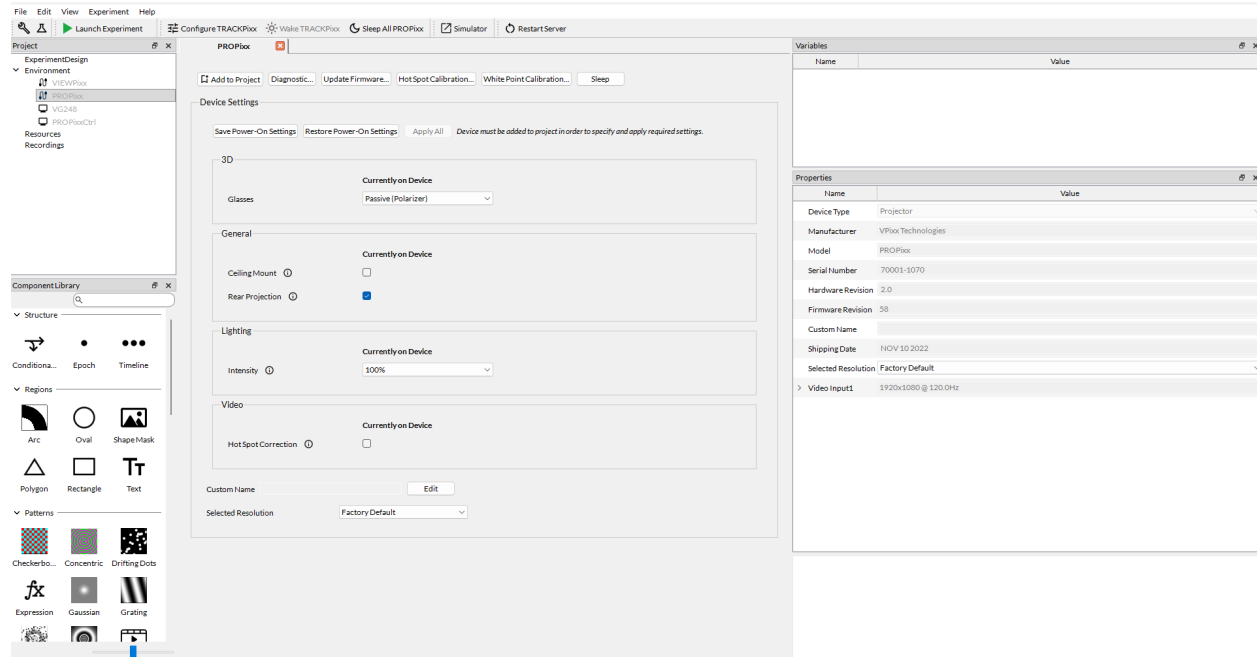


Fig. 7: Incorrect screen orientation fix

- Check if you can hear the participant through the speakers, talking from inside the MSR to the microphone attached to the dewar

9. Earplugs

- Check the earplugs and make sure the participant can hear you

10. Prepare the *FastScan* computer:

- If the *FastScan* computer is not turned on:
 - make sure that FastScan device is off (the flat black box next to the monitor, picture below)
 - turn on the computer then launch *FastScanII* program
 - turn on the FastScan device

11. Turn-off the doorbell ring at the entrance of the lab by turning off the plug [IMAGE]

2.4 Perform the MEG Experiment (Participant is present)

1. If the participant is a veil-wearing female:

- place sign on door
- block door with the isolation screen found behind the laser scan room door

2. Welcoming the participant and providing them with explanations

- [WELCOME] Thank you for joining our study. Is this your first time in the MEG?
- [GENERAL OVERVIEW] No worry, Let me explain to you now what we are going to do today.



Fig. 8: Left response box



Fig. 9: Right response box



Fig. 10: Plugging the response box: Top row is the *right* response box, bottom row is the *left response box*.

- [BEFORE MEG - HEAD SHAPE] Before you are going into the MEG, we need to do some preparation.
- **Explain the FastScan head laser scan:**
 - I will scan your head shape with a laser gun [show the FastScan]
 - This is giving us a 3D reconstruction of the shape of your head
 - To do that, you need to sit there and not move for around 5-7 minutes
 - Moreover, I have to mark five points on your forehead and close to your ears with this [show it] washable ink,
 - it will disappear after just one shower [show the phantom head with the points]
 - Why are we doing that? To know where your head is located while you are in the MEG.
 - This is important for the study we are running because we need to know where the data recorded by the MEG sensors
 - that measure the tiny changes in the magnetic field generated by the brain activity, is coming from.
 - You know, different people have different head shape/size,...
 - and they place the head in slightly different sites relative to the MEG sensors.
 - Why the points? When we are in the MEG room
 - I will tape you small things called 'head position coils' in the places you have these painted points
 - and this will tell us where your head is relative to the MEG sensors



Fig. 11: Participant microphone



Fig. 12: Earphones with foam earplugs



Fig. 13: Fast Scan device



Fig. 14: Deactivate the doorbell by pressing the plug button.

- It looks a bit weird at the beginning, but you get used to it soon(I did the experiment on myself)
- **[BEFORE MEG - CLOTHES]**
 - * Another important thing is that you cannot go inside of the MEG room with any kind of metallic object
 - * because it will create an artifact on the MEG sensors.
 - * To ensure that, I have to ask you to wear this MEG compatible clothes (like the ones in the hospitals).
 - * Please, if you feel comfortable with that, you should take off your bra (most of the time there are small metallic trips or parts).
- **[INSIDE MEG]**
 - * Explain the study-specific instructions here or give them an instruction manual to read.
 - * Now, let me recap what we will do today. You need to fill the forms, scan your brain shape,
 - * then you need to change clothes. You go to the MEG room, we tape coils in your forehead. And then, you will do the tasks.
- **[END OF EXPLANATION]** Is everything clear? Do you have any questions? Do you feel comfortable? Are you ok? Please let me know, this is important for us that you understand everything.

3. Fill up forms

- Ensure that we have the electronically signed all consents and any forms needed specifically for your experiment, or allow them to fill in/sign by hand at the time of the session

4. Check up MEG incompatibilities

- Participants **MUST** change from their street clothes into scrubs provided clothing. Underwear without any metal and socks can be kept on. Bras should be removed.
- Make sure they have NO metallic objects in the body/eyes
- **Confirm that they do not have:**
 - Surgical clips, artificial heart valve, implanted drug pump
 - Bullet
 - Cochlear implant or hearing aid
 - Dental Retainers or braces
 - Make-up, especially red color makeup
 - Hair pins
 - Jewelry and piercings
 - Keys
 - Phone
- If the subject arrives with make-up, ask them to completely remove it
- **If the subject wears glasses, ask them to remove the glasses and provide them with an MR compatible glasses from the briefcase found in the lab**
 - **Determine their vision prescription and provide them with the closest matching pair of glasses.**
 - * available lens strengths for vision correction -6 to +6 in 0.5 increments



Fig. 15: MR safe glasses briefcase.

- Ask the participant to put their phone on Airplane mode
- Put your own phone and all other phones in the MEG lab on airplane mode
- Call the security guard on 85849 and ask them to turn off their walkie-talkies for the duration of the experiment



Fig. 16: Phone in MEG lab with a label of security guard office.

5. Perform the FastScan laser head scan

• Capping the participant

- Put a swimming cap on the head of the participant
- Make sure the cap is as smooth as possible on the participant's head
- Participants with long hair, can keep most part of their hair outside the cap behind their ears and onto the back
- The ears must be clear of hair
- The cap must cover all the hair that can be seen at the anterior, left and right parts of the head
- Smoothen the hair under the cap as much as possible, excess long hair can be drawn to outside the cap at the cerebellum level
- The goal is that the cap takes the shape of the skull at best

• Mark the fiducials - there are a total of 8

- Use the “T” template, with the line aligning the participant's nasion as in the below picture

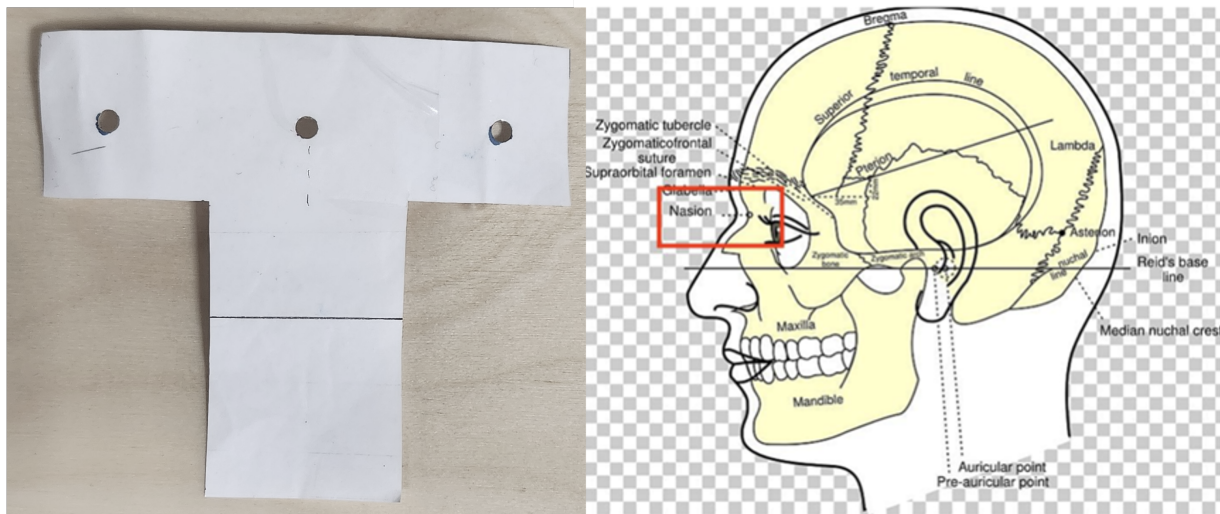


Fig. 17: “T” template on the left and nasion/pre(auricular) positions on the right

- Mark the nasion using a pen (fiducial 1)
- Adjust the fold in the “T” template to the participants nasion
- Using a pen marker, mark fiducials 6, 7 and 8 by using the three holes in the “T” template
- Mark the the right and left tragi and left and right pre-auricular regions (1cm anterior to the tragi) - (points 2, 3, 4, and 5)
- Place a tissue on the neck brace over the area closest to the mouth for sanitary purposes - see picture
- Put on the neck brace

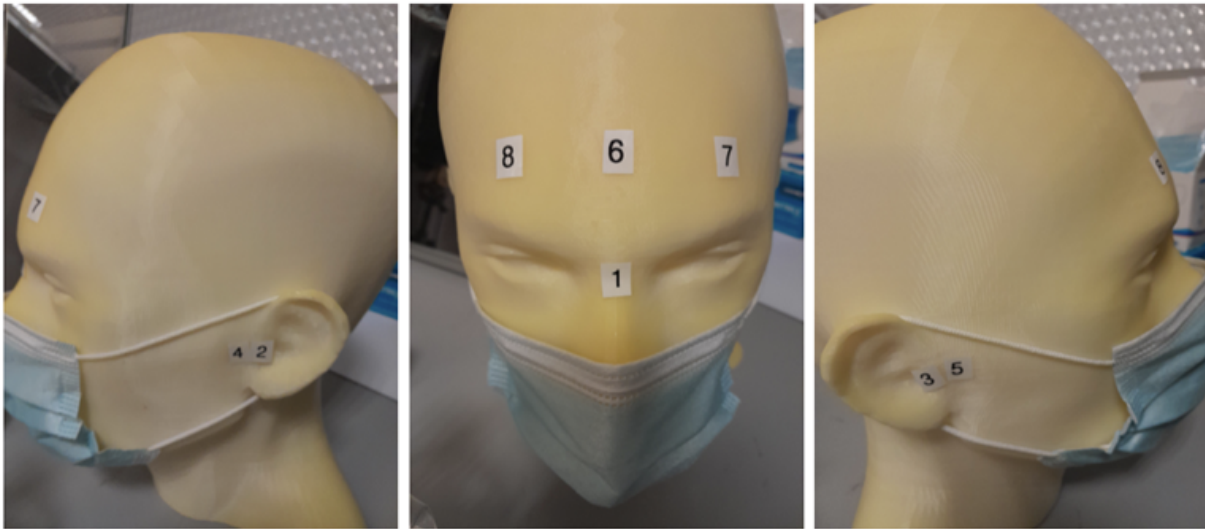


Fig. 18: Fiducials numbered by the order they should be laser scanned with.

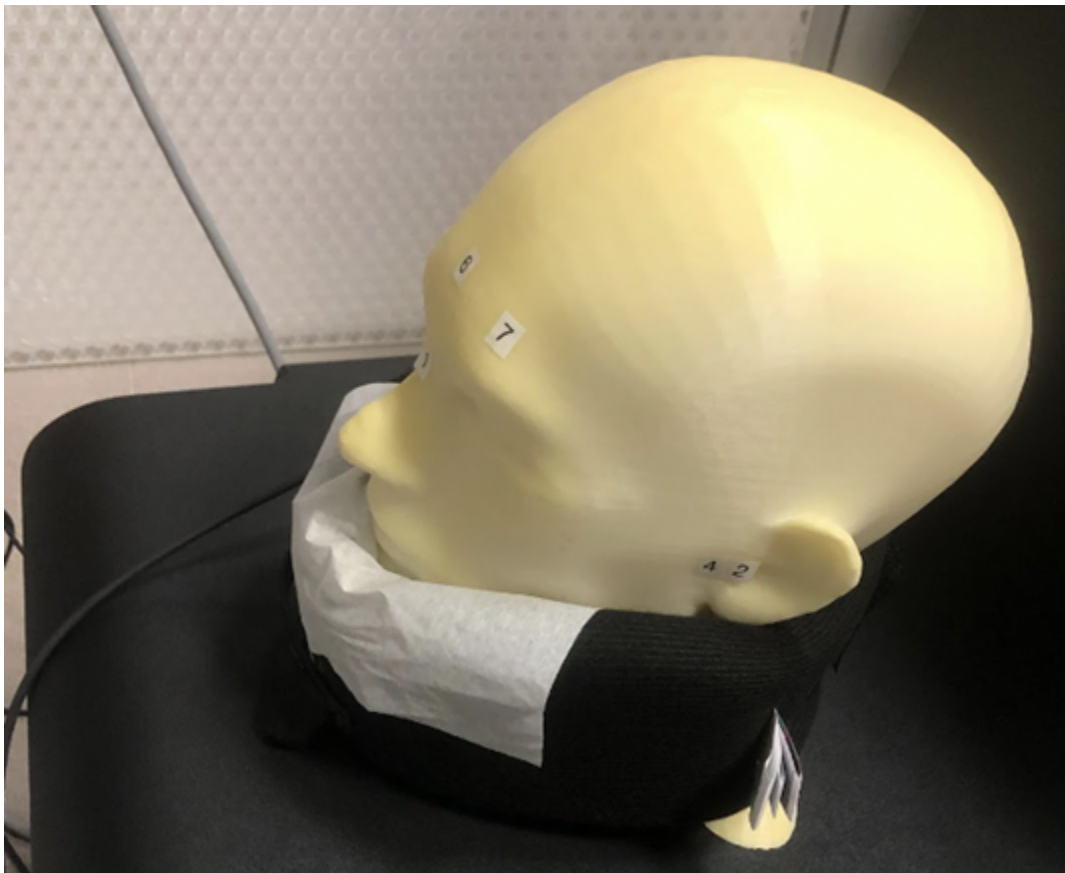


Fig. 19: Neck brace with tissue for sanitary purposes

- Perform laser scan
 - Once FastScan is finished initializing (indicated at the bottom of the software UI):
 - * Open *FastScan II* software on the computer
 - * Press ‘New’
 - * Ensure the scanner is in Sweep mode (add [IMAGE])
 - * Ask the participant to close their eyes and avoid any movements until scan is finished
 - * Point the laser gun at the *laser scanner reference receiver* (the box on the ring you place around the neck, see below) with a half-click, followed by a full click.

Warning:

** Error message during scanning ** If the following error message appear, this means that the laser scan device lost the reference point.



Fig. 20: Laser scanner reference receiver



Fig. 21: Neck brace with laser scanner reference point on the bottom left

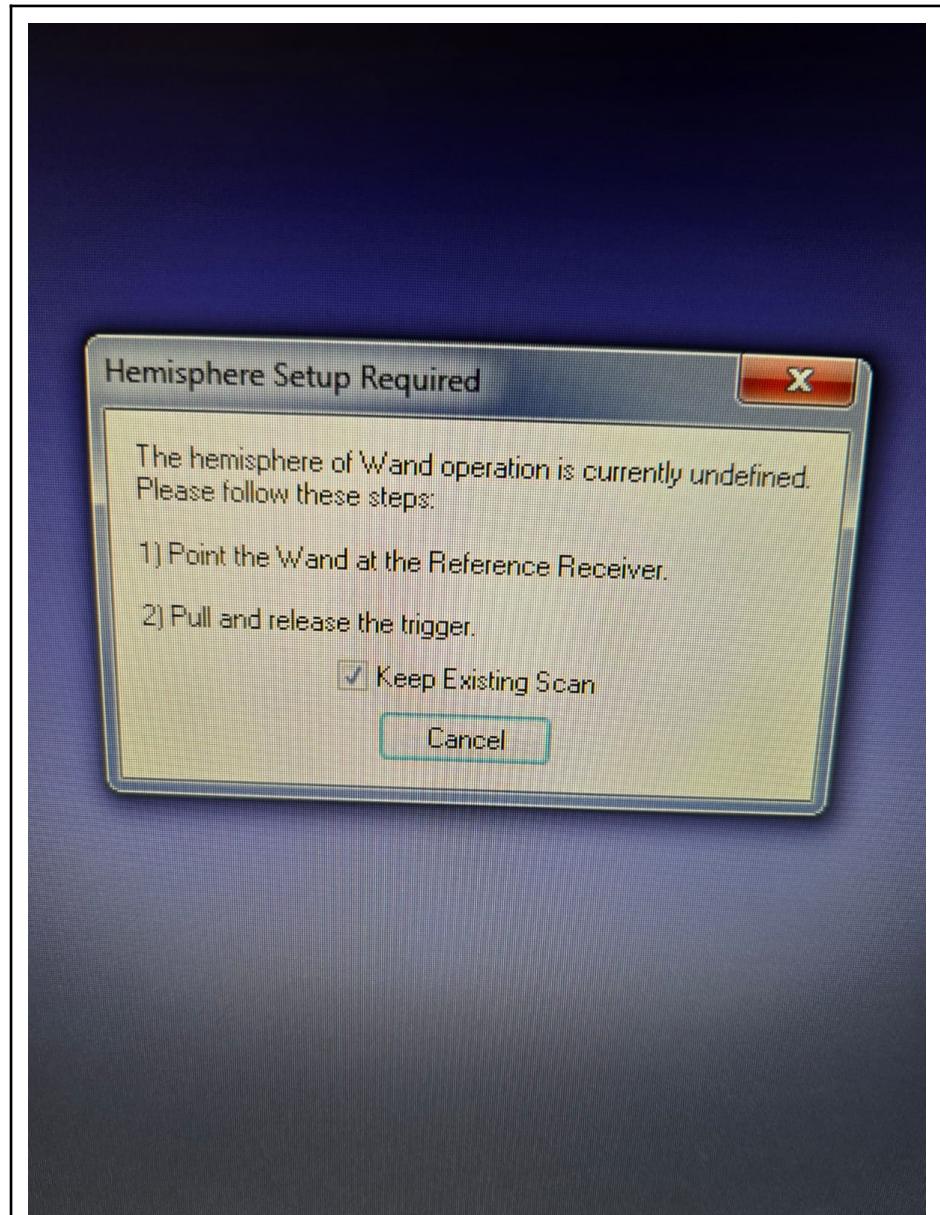


Fig. 22: LaserScan error when device is de-referenced

Do not press *Cancel* on the message - point the laser scanner to the reference receiver, first with a half click to point and then a full click.

*** Scan head shape (sweeps) with full click. Tips:**

- Include ALL cap surfaces + surfaces with fiducial points
- Avoid overlapping sweeps
- Making sweeps for head and face separately
- Keep a consistent distance between the head and scanner throughout the scan

Hint: Press half a click while using the laser scanner to shift the view on the *FastScan II* software to the current view as seen from the device. This feature allows you to quickly identify areas that are not covered well by the current laser scan.

- After sweeps, switch to Laser Points and click on Stylus List for points options, ensure that Stylus > Properties > Capture Points (NOT capture lines)
 - * Start registering the fiducial points following this order - see picture.
 - The 8 points are as follows:
 1. Nasion - between eye-brows at the nasal bridge
 2. Left tragus - cartilage of left ear (not marked)
 3. Right tragus - cartilage of right ear (not marked)
 4. Left marker - pre-auricular marking left ear
 5. Right marker - pre-auricular marking right ear
 6. Center forehead - center forehead marking
 7. Left forehead - left forehead marking
 8. Right forehead - right forehead marking
 - Ensure that you have only 8 points selected on the Stylus List
 - Tell participant they can move back again
- Return the scanner and box to the foam holder on the table, and make sure none of the cords are on the floor
THIS IS A VERY EXPENSIVE DEVICE - see picture
- Remove the cap from the participant's head and toss into the washing bin
- Remove the neck brace
- Files must be saved and stored according to BIDS protocol format
- Please refer to [Data Naming and Storing: MEG](#)

6. Participant goes into the MSR

- Participant should remove shoes
- Subject sits on the bed facing the researcher
- Place the five Head Position Indicator (HPI) coils on the marker points
 - Each HPI coil is marked by a color that corresponds to the position of placement of the coil on the head
 - Bring the forehead markers over the top of the head so the wires are not in the participant's face
 - The position of the HPI coil on the participant's head should follow the following mapping:
- Place earphones
- Assist the participant with the wires while they move into the helmet



Fig. 23: FastScan should ALWAYS be placed like this: laser on foam, cables on table (not floor).

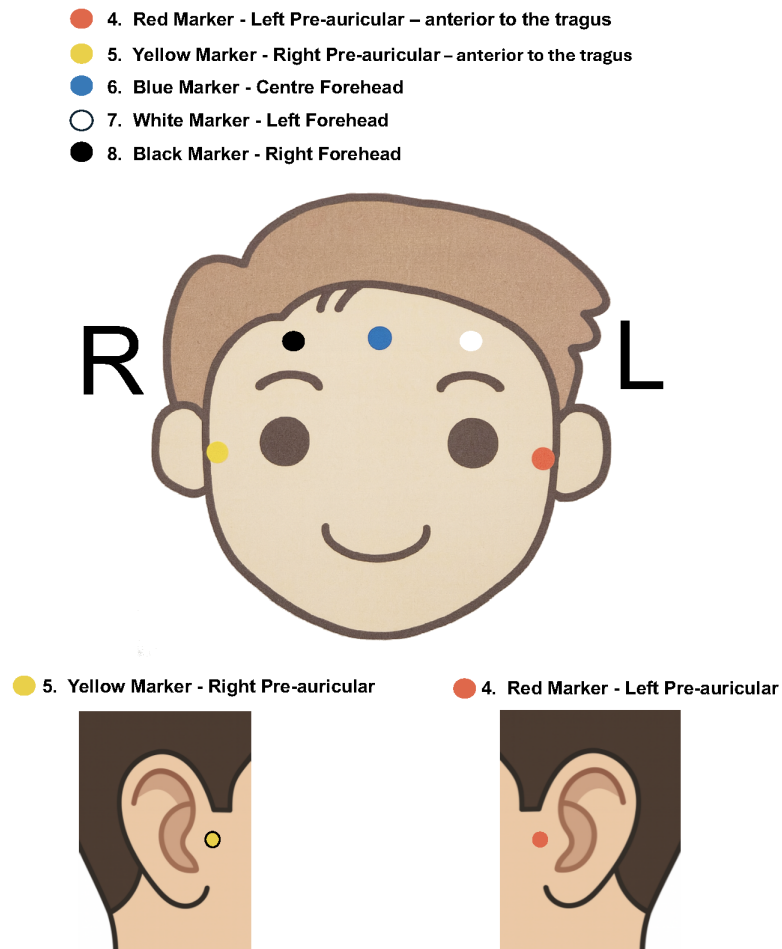


Fig. 24: Position of Marker Coils also called Head Position Indicator (HPI) coils

- As a note, the red and yellow markers should be placed in anterior to the tragus at marked points 4 and 5

- Place the pink pillow under the participant's legs for the back support
- If the experiment requires it, place the *Vpixx Response Box* or the *Dial* in their right/or left hand depending on experimental design
 - Optionally tape the box to the mattress, to avoid the box falling
- Tape any loose wires for the markers and the button boxes
- **Ensure that the participant is comfortable**
- Close and lock the MSR door

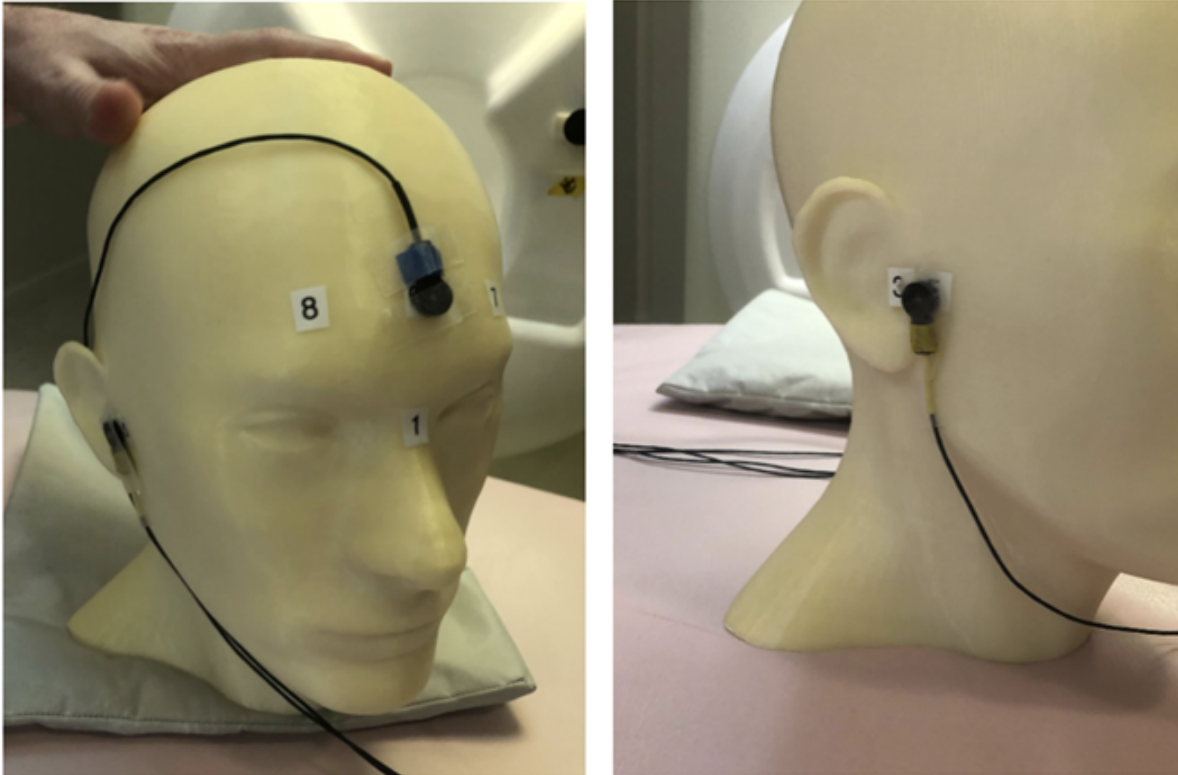


Fig. 25: HPI Coils placement on head.

- **Communicate with the participant**
 - Turn on the microphone
 - Talk to the participant through the Vpixx microphone
 - Make sure the participant is replying back and that the voice quality is good
 - Tell them that the experiment is about to start and that they should refrain from any movement
 - Tell them that if they need to speak to you for any urgent issue, they can do this freely at any time
 - Turn off the microphone

7. Run experiment and recording

- Run your script until it lands on the *Introduction Page* of your script as explained in the `design_experiment` section.
- Prepare MEG recording

8. Prepare MEG recording

- On ‘MEG MAIN PC’ computer, open MEG Lab (on desktop), aka MEG160
- The participant is now in the MSR, door is CLOSED, the lights have been switched off and the Brightness dial has been turned to the minimum
- **If empty room data has not been acquired prior to the current experiment, Auto Tuning should be performed**
 - Menu -> Acquire -> Auto Tuning -> Ok - Wait for the auto-tuning to be done
- This should be followed by a Sensor Check
- **From Menu -> Acquire -> MEG Measurement -> Monitor and Acquisition window should open**
 - **In the ‘Sensor Control’ window ensure or set these parameters**
 - * HPF to *0.1 Hz*
 - * LPF to *500 Hz*
 - * BEF to *THRU*
 - Click on ‘Sensor Check’
 - Let the Sensor Check run for around 30 seconds
 - Uncheck ‘Sensor Check’
 - Make sure that the sensor display identical sinusoidal wave
 - Remember that *Sensor 91* is broken and will not display a sine wave
- **File storage location and naming convention**
 - From the menu “Acquire (Q)”, select “MEG Measurement (Q)”
 - **On “Monitor and Acquisition” window > ‘Data Acquisition’**
 - * Patient ID: sub-<subjectID> [e.g., sub-001]
 - * Patient Name: sub-<subjectID>_ses-<session-number>_task-<projectname> [e.g., sub-001_ses-01_task-resting-state]
 - * Foldername: D:\MEGDATA\<Lab_name>\STUDY_CODE\sub-<subjectID>
 - “Lock” [only if MSR door is CLOSED]
 - Wait until MEG sensors are stable i.e. no upward or downward trend
- **Perform marker measurement**
 - Switch off microphone
 - On “Monitor and Acquisition” window:
 - Marker measurement > Start > OK - see picture
 - When done, column ‘GOF%’ should be around 99%
 - If not, at least one of the head coils is misplaced
 - If at least 3 head marker coils are in place - PROCEED

- Click OK

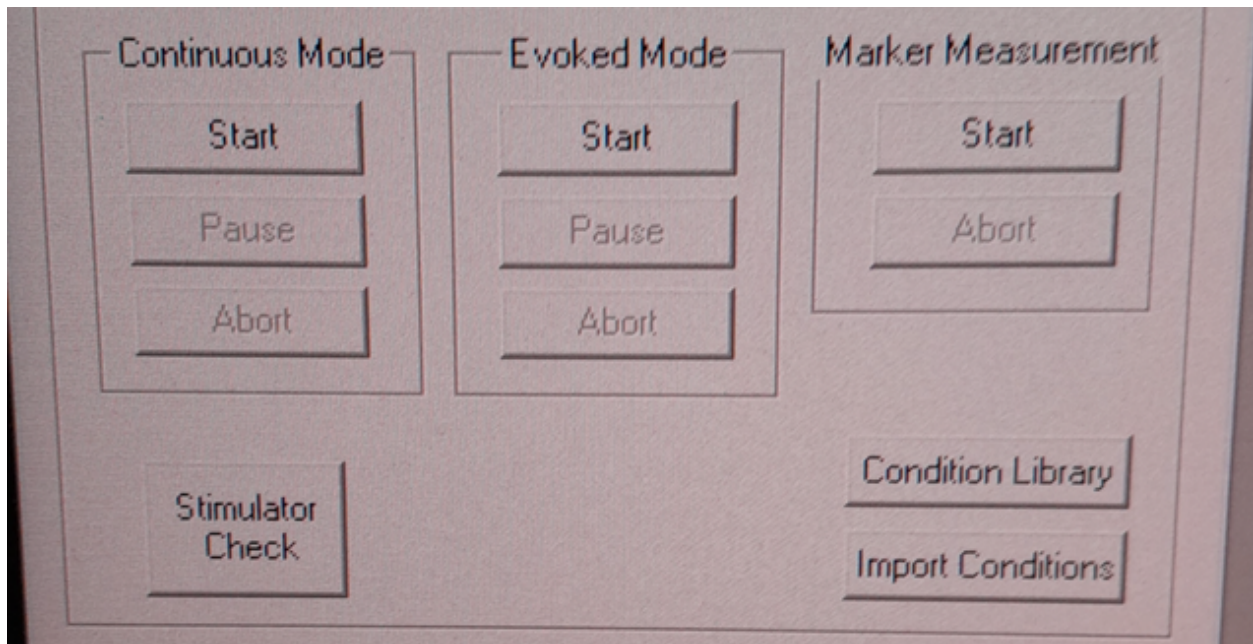


Fig. 26: Continuous mode (left) and Marker measurement (right).

- A *.mrk* file named as *YYYYMMDD-x.mrk* is automatically generated in the specified directory following the marker measurement, where *x* is an integer 1,2,3,... indicating the order of recording of the marker
- If your experiment is lengthy i.e. 2 hours long, we recommend that you perform a marker measurement in between, i.e., after 1 hour is elapsed

- On “Monitor and Acquisition” window:

- Set/Ensure that:

- * HPF: 0.1 Hz
- * LPF: 500Hz
- * BEF: THRU

- Continuous Mode > Start - see above picture
- Sampling rate: 1000 (default)
- Time: 4000 [66 minutes] (this is the maximum possible time in the MEG160 software)
- Start Acquisition
- At this point, you can safely start your experiment from the *Stimulus computer*

- If your experiment is lengthy, we recommend that you perform a marker measurement in between runs
- A marker measurement must be performed at the end of an experiment

9. **Stop continuous recording (when task finishes, or if the experiment spans for more than 4000 seconds and needs a new recording)**

- On “Monitor and Acquisition” window - see picture 14:
 - Continuous Mode > Abort
- 10. Finish up the MEG session (when all tasks are done!)
 - On “Monitor and Acquisition” window:
 - ‘Unlock’ [VERY IMPORTANT STEP, DO NOT OPEN THE DOOR BEFORE IT]
 - Close MEG160 software
- 11. Take out participant from MSR
 - [ONLY WHEN SENSORS ARE UNLOCK!] Open the MSR door
 - When removing the head-position indicator coils and earphones, do the removal yourself. The coils in particular are very fragile and expensive. Remove with care.
 - Ask participant to change clothes back and put the scrubs in the wash bin (in the laser scan room)

2.5 After the MEG session

1. Settings MEG - Do not shut down any of the computers. They can all be locked or logged off. - Turn on the heater cable [THIS IS VERY IMPORTANT] - see picture above - Turn off the MSR lights. - Double-check that you turned the heater back on.
2. Clean room - Remove linen and place in bin - Clean the helmet, head-position indicator coils, and button box with wipes. - Wipe down the FastScan neck brace and any other surfaces the participant came in contact with
3. Postprocessing
 - Apply Noise Reduction filter using the reference magnetometers
 - The KIT system is equipped with reference magnetometers on channels 208 till 223, that measures the external magnetic field
 - [Optional] you can noise reduce your SQUID data (channel 0-207) by applying a filter that uses the data from channels 208 to 223
 - * Open the produced .con file in the default app *MEG160* then apply a Noise Reduction filter using Edit -> Noise Reduction
 - * Make sure the Magnetometers on channels 208, 209, 210 are used.
 - * Execute the noise reduction, then File -> Save As -> add *__NR* at the end of the file name.
 - * Transfer both files to NYU BOX as detailed in the data uploading section.
 - FastScan Instructions
 - Open FastScanII software (icon on desktop)
 - Please refer to [MEG-Laserscan files](#)
 - To delete points you’ve selected, simply click on the backspace key on your keyboard
 - Then go to Edit > Generate Surface

* Smoothing = 5mm

* Decimation = 3mm

- In the pop-up, click on Apply Basic Surface, then close it
- To save your head scan, please refer to [MEG-Laserscan files](#)
- **Edit > Generate surface > Apply basic surface**
 - Basic surface has fewer than 10,000 points
 - If not, decimate: Generate > Surface Simplification = 0.10 > Apply (Basic Surface)
- **File > Export > save as**
Please refer to [MEG-Laserscan files](#)

4. Uploading to NYU BOX

- You should have your own folder on *NYU BOX* named after your project
- Refer to the [Data Uploading](#) section to upload your data

2.6 Appendix. A: Stylus location and markers





The following table is a summary of the position of each registered stylus location and whether or not a KIT coil will be placed on that position.

Index	Body Part	Marker Coil Information
1	Nasion	KIT: NO, OPM:
2	Left Tragus	KIT: NO, OPM:
3	Right Tragus	KIT: NO, OPM:
4	Left Pre-Auricular	KIT: YES, OPM:
5	Right Pre-Auricular	KIT: YES, OPM:
6	Center Forehead	KIT: YES, OPM:
7	Left Forehead	KIT: YES, OPM:
8	Right Forehead	KIT: YES, OPM:

2.7 Appendix. B: Marker coils for KIT order of appearance in .mrk

The registered *.mrk* file containing the position of the HPI coils for KIT. Using *fieldtrip* function named *ft_read_headshape('PATH TO .mrk')*, we report the order of appearance of the HPI coils positions in the *.mrk* file below. This has been tested with many *.mrk* files in the current plugin setting (last column)

Order of appearance in the .mrk	Placing position of HPI Coil on head	Color	Plugging order in Marker Box
1	Central Forehead (CF)	Blue	2
2	Left Pre-Auricular (LE)	Red	0
3	Right Pre-Auricular (RE)	Yel-low	1
4	Left Forehead (LF)	White	3
5	Right Forehead (RF)	Black	4



Fig. 5: LabMaestro icon