

Enobio/Starstim integration with Neuroguide

Enobio/Starstim setup

Since Neuroguide's neurofeedback requires linked mastoids reference, you need to place the cable labeled as Oz to the left earlobe using an earclip (or to the left mastoid using a sticker electrode). CMS and DRL should be connected using another earclip to the right earlobe (or sticker electrodes to the right mastoid), as shown in the images below. All the other electrodes should be connected using gel, dry or solidgel electrodes to the corresponding position, as indicated in the labels.



EARCLIP



STICKTRODE



Refer to these user manuals for further information

Enobio manual: http://www.neuroelectronics.com/download/NE_UM_P1_Enobio.pdf

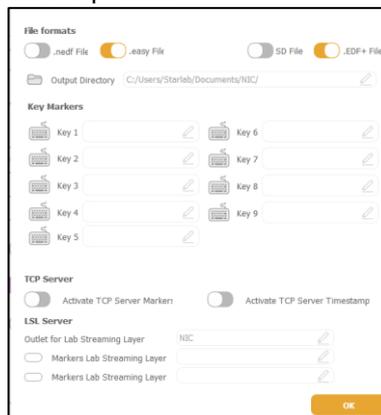
Starstim user manual: http://www.neuroelectronics.com/download/NE_UM_P1_Enobio.pdf

Electrodes manual: http://www.neuroelectronics.com/download/NE_UM_P2_Electrodes.pdf

NIC software manual: http://www.neuroelectronics.com/download/NE_UM_P3_NIC206.pdf

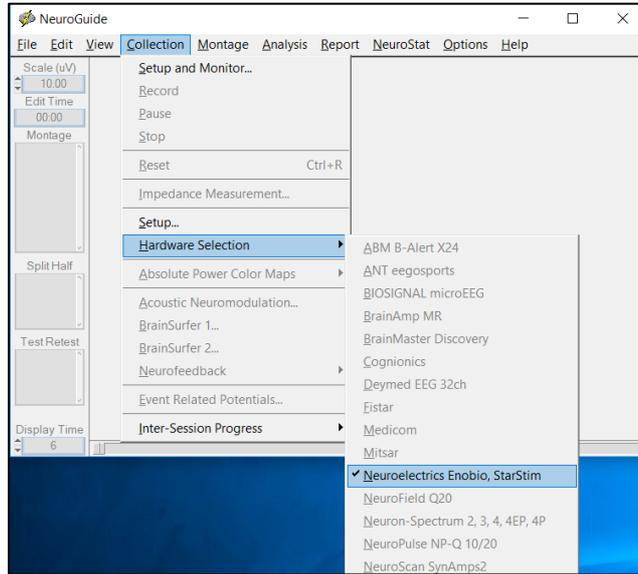
NIC-Neuroguide setup

- 1- Download and install NIC 2.0 (www.neuroelectronics.com/downloads)
- 2- Launch NIC and select Bluetooth, Wifi or USB devices depending on the type of device connection you have and click "Scan". When your device is detected, click "Use this device" and wait for it to connect. Note that Neuroguide only works with Enobio or Starstim with 20 or 32 channels (not with 8).
- 3- Once connected, create a new protocol with the default positions as explained in NIC user manual (http://www.neuroelectronics.com/download/NE_UM_P3_NIC206.pdf)
- 4- Go to Settings of that protocol and make sure that the name of the "Outlet for Lab Streaming Layer" is NIC. Load the protocol.

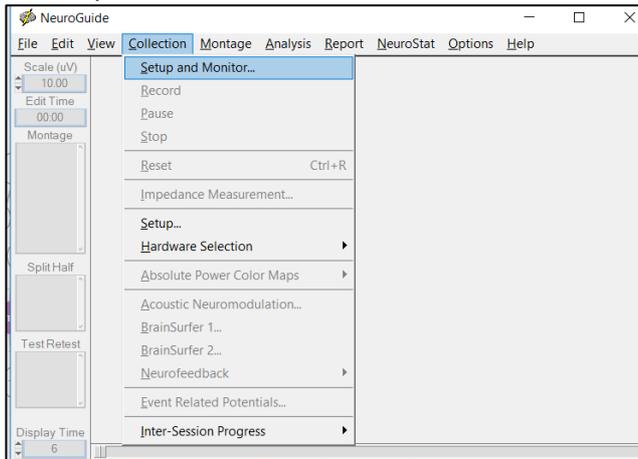


- 5- In the same computer, install and launch Neuroguide. You'll also need the "The NC collection module for Enobio/Starstim" (<http://www.appliedneuroscience.com/Order.htm>)

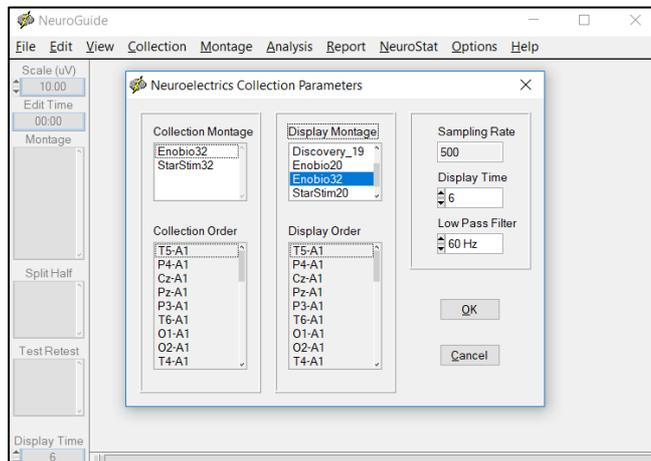
6- Go to Collection → Hardware Selection, and select “Neuroelectrics, Enobio, Starstim”



7- Go to Collection → Setup and Monitor



8- Select the device that you have (Enobio20/32 or Starstim 20/32) for Collection and Display montage



9- Introduce data of subject and click OK

Subject Database

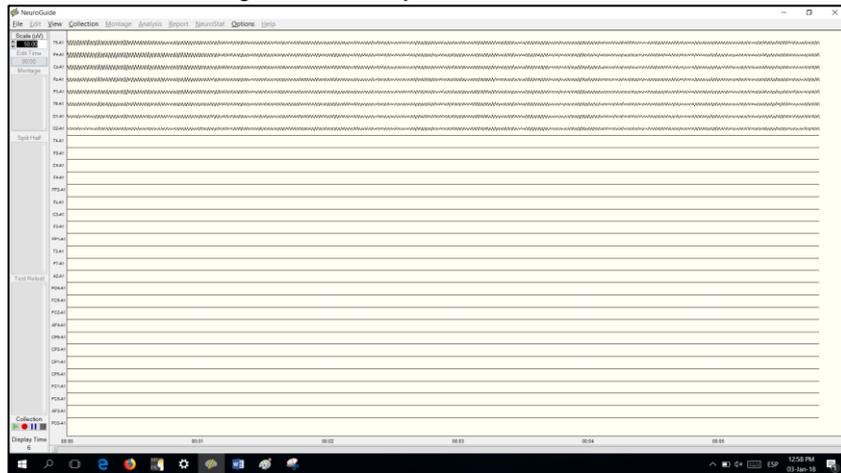
New Subject
 Existing Subject

sTest rebecca
xe
JAVI
00001

First Name
Middle Initial
Last Name
Subject ID
Date of Birth
Gender
Handedness
Clinician
Technician
Medication
Subject

OK Cancel

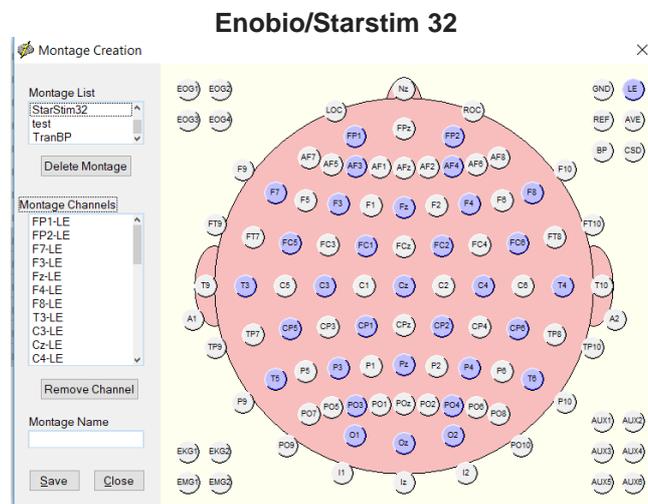
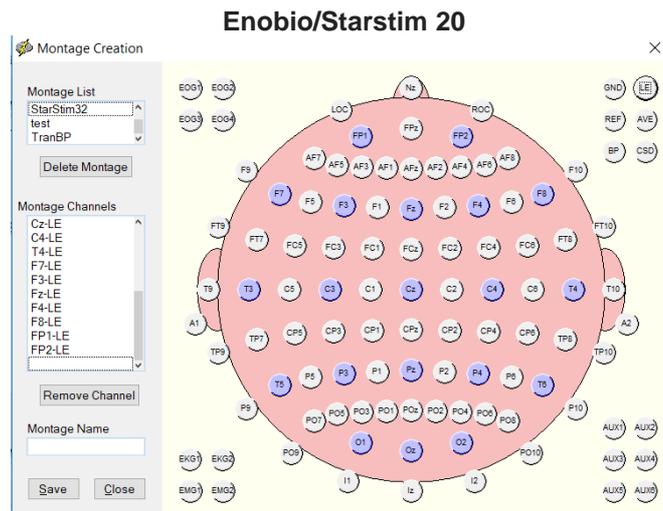
10- EEG data will start streaming automatically



11- When the recording finishes, if you want you can re-reference it to linked ears by going to the control on the left side of the edit panel called "Montage". Then double click on the "LinkEars" list item, as shown below.

Note that the following electrodes are labeled differently in NIC and Neuroguide:

- NIC 2.0 T7 → Neuroguide T3
- NIC2.0 T8 → Neuroguide T4
- NIC2.0 P7 → Neuroguide T5
- NIC2.0 T6 → Neuroguide P8



NeuroGuide™ is able to control and acquire data from the Enobio/Starstim, therefore whether this data is for QEEG or for Neurofeedback, the data acquisition is the same, therefore with the Enobio/Starstim, NeuroGuide™ is able to record QEEG data for assessment AND record data for neurofeedback. It will do both. NeuroGuide™ is a complete package for QEEG Recording, Assessment, Reporting and Norm Comparisons as well as performing Surface and LORETA z-score Neurofeedback (with Cross Frequency Coupling Neurofeedback which is soon to be released).

If you experience any technical issues with Neuroguide, please contact Neuroguide's customer service: http://www.appliedneuroscience.com/Customer_Service.htm

If you experience any technical issues with Enobio/Starstim or NIC, please contact Neuroelectrics' customer service by filling in this form: <http://www.neuroelectrics.com/support>