NeuRRoNav User Manual

**Quick Start**

Motive

1. Begin by ensuring your Optitrack camera system is connected to the computer you intend to use before starting Optitrack’s Motive software. Adjust your camera’s setting in motive to reduce tracking errors and improve accuracy. Insure that active cameras, should they have the option, are set to precision mode, accessible in the upper right of the camera preview windows.
2. In Motive, calibrate your system and set up a ground plane using the calibration tool by placing it on the floor lengthwise and selecting the bottom left, top left, and top right markers. The world axis will be created from the centroid. ***Head and stylus calibration are done in relation to this axis*.** Insure that the visualization of the camera positions and rigid bodies is correct relative to their physical positions.
3. Check that all markers are fixed securely to your stylus, coil(s), calibration tool, and patient’s head. Markers should be affixed via posts or attachments that move them away from the objects they are tracking to insure that the camera system can sustain consistent tracking throughout the TMS session.
4. Create each rigid body by selecting groups of markers in motive and clicking “create from selection”. **IMPORTANT**: The accuracy of the system will, in part, be determined by this step of calibration. When creating the rigid body tracking the subject’s head must be
   1. parallel with the ground
   2. oriented directly along the “depth axis” of the camera (looking straight forward)
5. Name each rigid body by the body it’s tracking:
   1. Head
   2. Stylus
   3. Coil (for generic coil), Figure Eight, or Double Cone
   4. Calibration Tool
6. Check “Stream Frame Data”. Motive is now ready to stream data to NeuRRoNav.

NeuRRoNav

1. After setting up Motive, open NeuRRoNav. Your stylus, coil, calibration tool, and the subject’s head should be represented and tracking, though not necessarily in the correct orientation or position yet. If objects are not tracking, check that rigid bodies are named correctly, the Unity Optitrack plugin is running in the background and receiving frame data, and all objects are tracking correctly in Motive.
2. **IMPORTANT**: The accuracy of the system will, in part, be determined by this step of calibration. Place the tip of the stylus on the centroid of the calibration tool, check that the stylus is vertical and rotated with it’s top oriented along the ground plane, and click “Calibrate Stylus”.
3. **IMPORTANT**: The accuracy of the system will, in part, be determined by this step of calibration. Click “Calibrate Coil” and follow the on-screen prompts.
4. **IMPORTANT**: The accuracy of the system will, in part, be determined by this step of calibration. Click “Set Landmarks” and follow the on-screen prompts.
5. You may now begin the session. Click “Set Hotspot” and probe using the coil. When the hotspot is found, press space to set a marker.
6. Click “Create New Grid” and use the stylus to select grid points”. Click “Confirm Grid”.
7. Using the top viewport, you may select a point to match. If you wish to override the estimated perpendicular orientation of the point, click “Set Orientation” while matching the point. Press space to finish matching.
8. If you wish to re-match points on the grid, press “Reset Grid”
9. If you want to export a grid, click “Save” to export it to the “Grids\Saved” folder in the root directory.
10. If you want to import a grid, make sure the grid you want to load is placed in the “Grids\Load” folder and then click “Load” .