

Power Point Manual

Get On The
BUS



BrainMaster
Universe
Simplified



“Balance”
Level 2

BALANCE

Level 2

- How can I modify the Balance Settings to change from automatic thresholding to change to manual thresholding?

All protocols are for demo and research purposes only. Clinicians must determine protocol choices. All protocols must be used within scope of practice and scope of competence.

BALANCE

Level 2

- The Level 1 Base Setting for the Balance Protocol includes the electrode placements of C3 and C4 to train up beta and SMR and train down theta and hibeta.
- Lets learn how to change the way in which BrainAvatar automatically updates the threshold and finally to change from Automatic Thresholding to Manual Thresholding.

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FIRST: It is so very simple to make changes and experiment with BrainAvatar Settings Files without concern because if something just doesn't seem to work as planned, you always can reload the original Settings File you downloaded to your system.



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Consider manipulating the settings in your working folder as a sandbox. You can always replace it with the original setting file.



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BALANCE

Level 2

Lets Begin

- Make Sure the Atlantis Amplifier is plugged in.

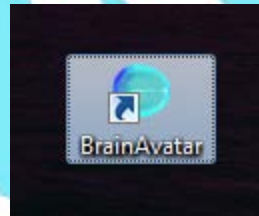


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BALANCE

Level 2

- Open BrainAvatar by double-clicking the BrainAvatar Icon

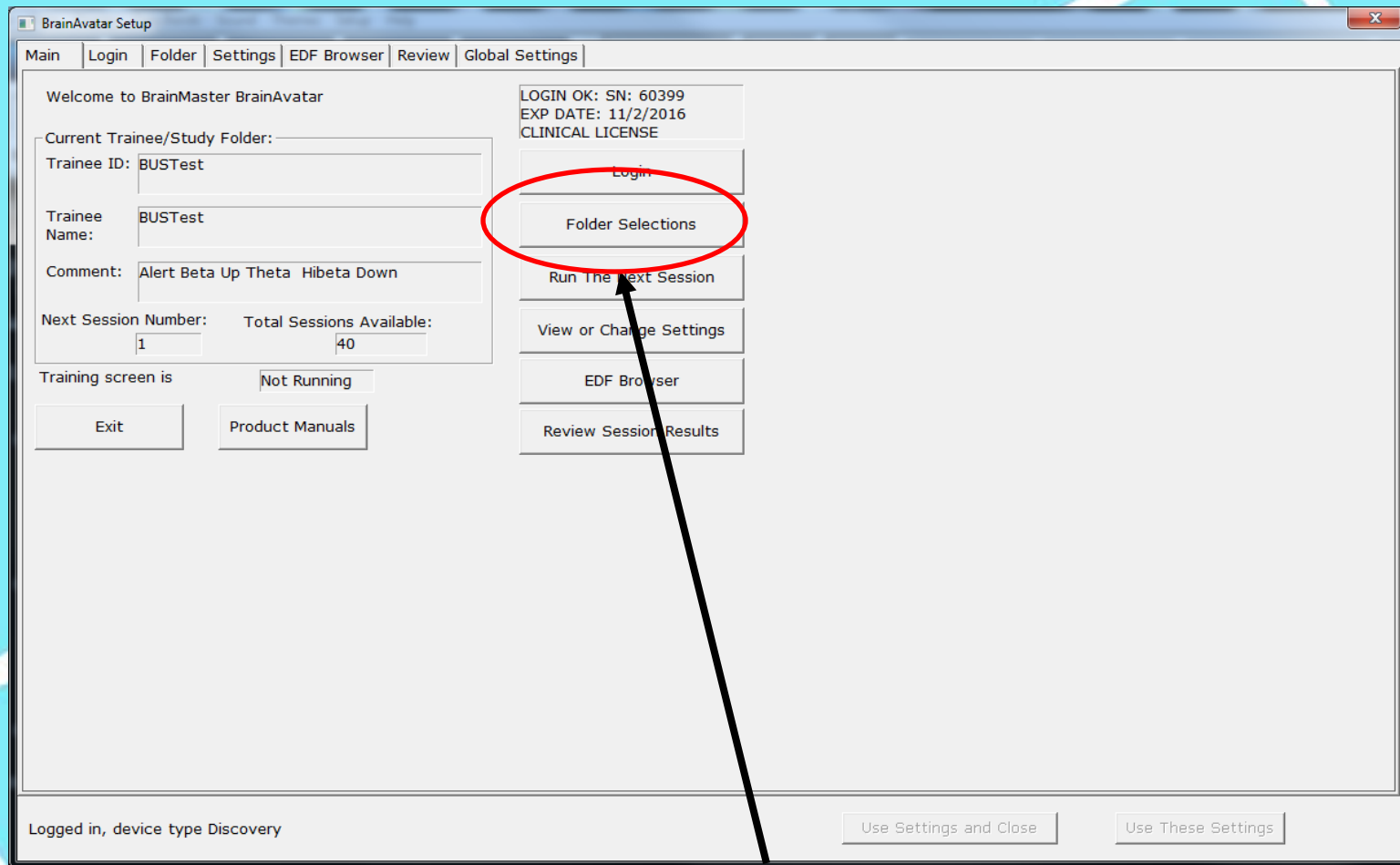


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- The Select Folder Screen will appear.
- By now you should know how to either create a new client folder or recall an existing client folder.
- For the purposes of this exercise let's open and utilize the "BUSTest" Folder which may already be resident on your system. If not, then create one.

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- The BrainAvatar Setup Window will Appear



- Click “Folder Selections”.

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- The Select Folder Screen will appear.

BrainAvatar Setup

Main | Login | Folder | Settings | EDF Browser | Review | Global Settings

Select Folder | Create Folder | Folder Notes | Session Librarian | Edit Folder Info.

Select Folder: (you may double-click to select)

Study Name	Birth Date	Sess	Max	Comment	Technician	Physician	Trainee Name	Created	Modified
..									
BUSTest	2000-7-4	40		Alert Beta Up T...	EEG tech		BUSTest	2016-8-3	2016-8-3

Study Name (Trainee ID): BroJad4chPZOKP3P4O1O2

Trainee Name: BroJad4chPZOKP3P4O1O2

Comment: comment

Sessions Used: 4

Max Sessions: 40

Session Librarian

Administer Session Genie | Push Current Study to Server and Delete | Archive Current Study | Archive Current Study and Delete

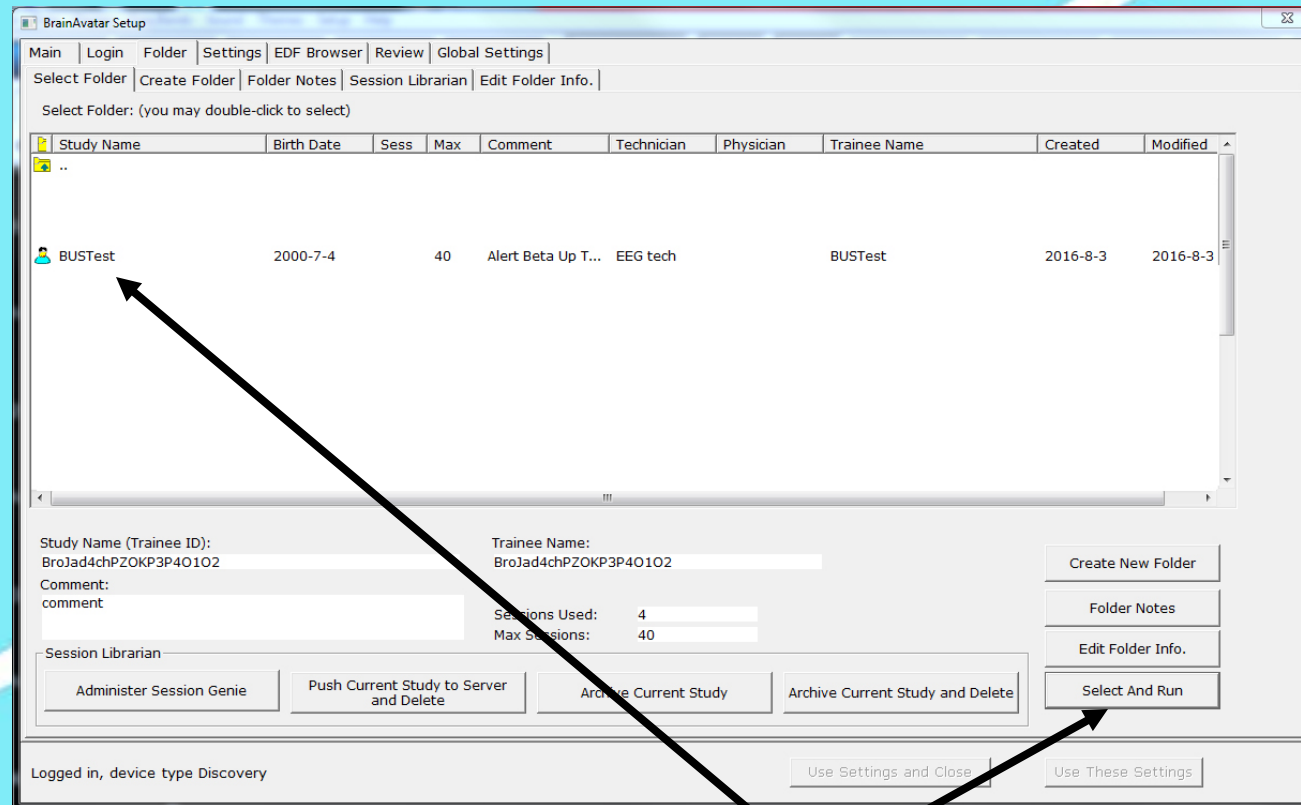
Create New Folder | Folder Notes | Edit Folder Info. | Select And Run

Logged in, device type Discovery

Use Settings and Close | Use These Settings

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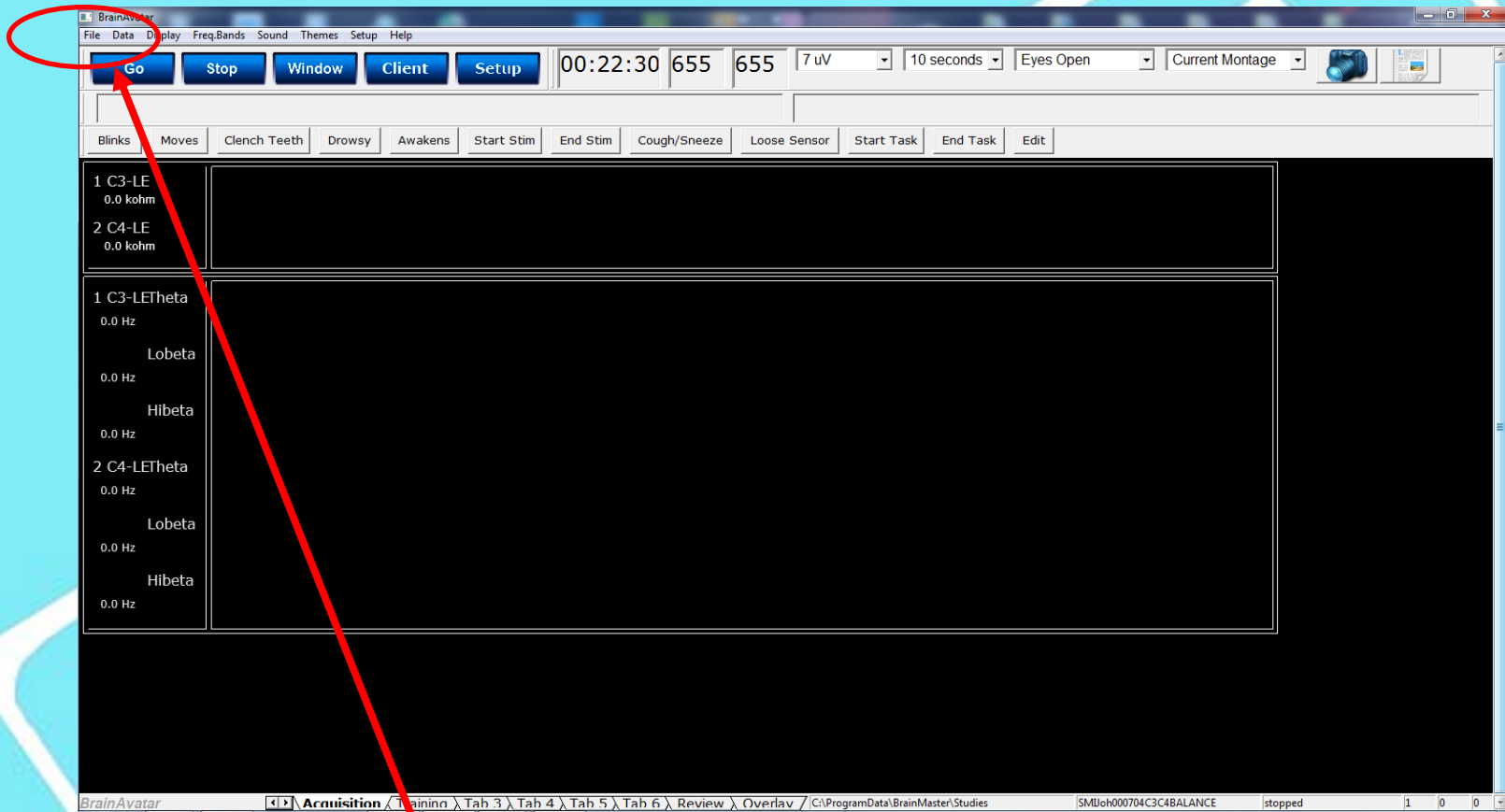
- The Select Folder Screen will appear.



- Click the Study (Folder) you would like to open (in this case BUSTest) and then click “Select and Run”.

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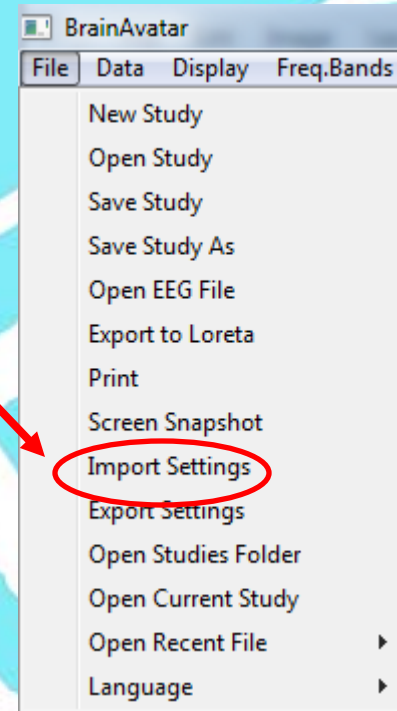
- The BrainAvatar Acquisition Screen is illuminated. Let's load the original Balance Level 1 Setting File.




- Click “File” from the Main Menu at the top.

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- Next click “Import Settings”.



- Scroll to find the original Balance Level 1 File and double click it.

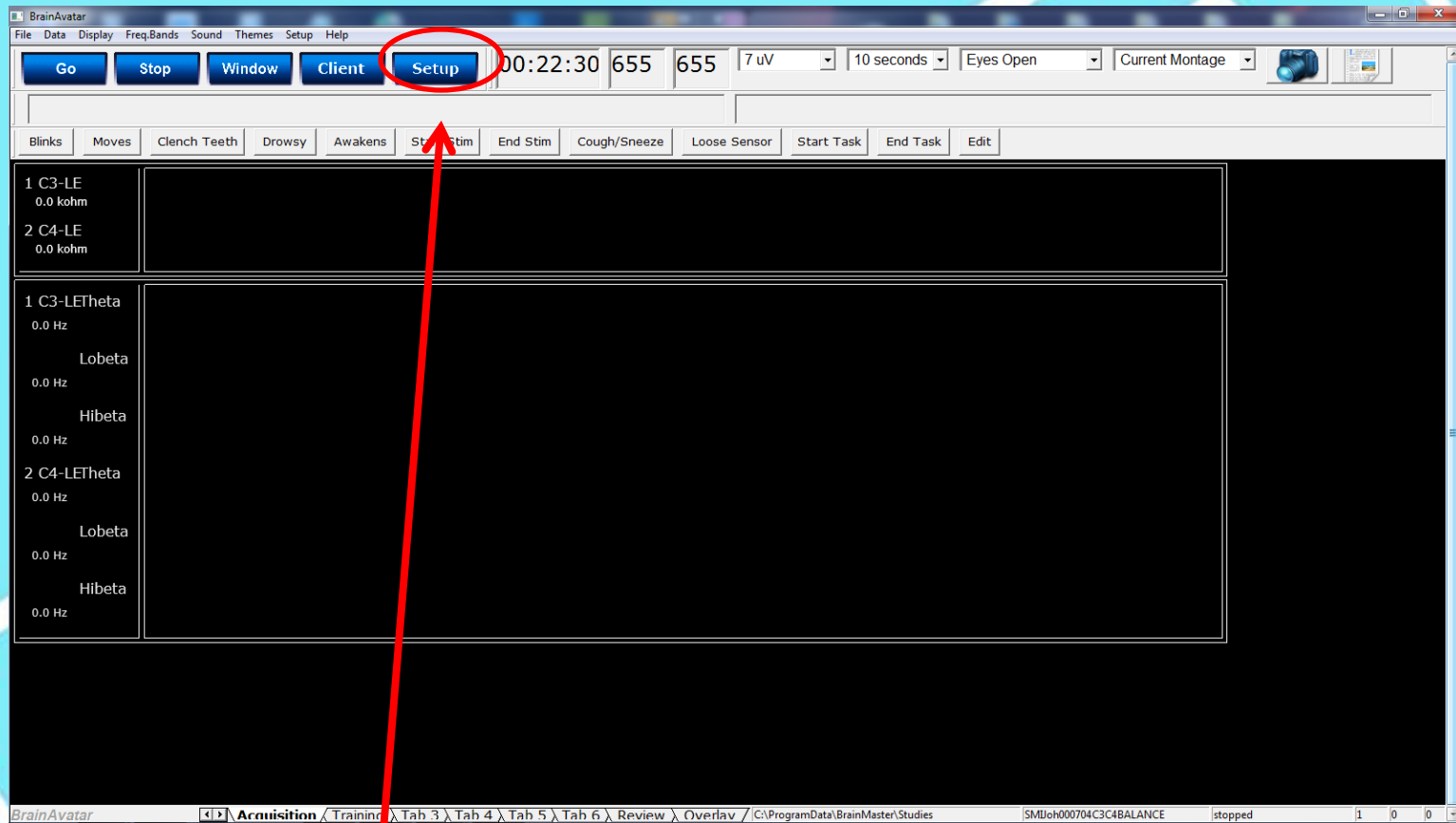
Name	Date modified	Type	Size
 0801001Balance.bdb2	2/6/2016 12:23 PM	BDB2 File	170 KB

- The original Balance Level 1 setting is imported into the Client’s Study and is now ready for modification.

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BALANCE

The Protocol is now ready for Modification

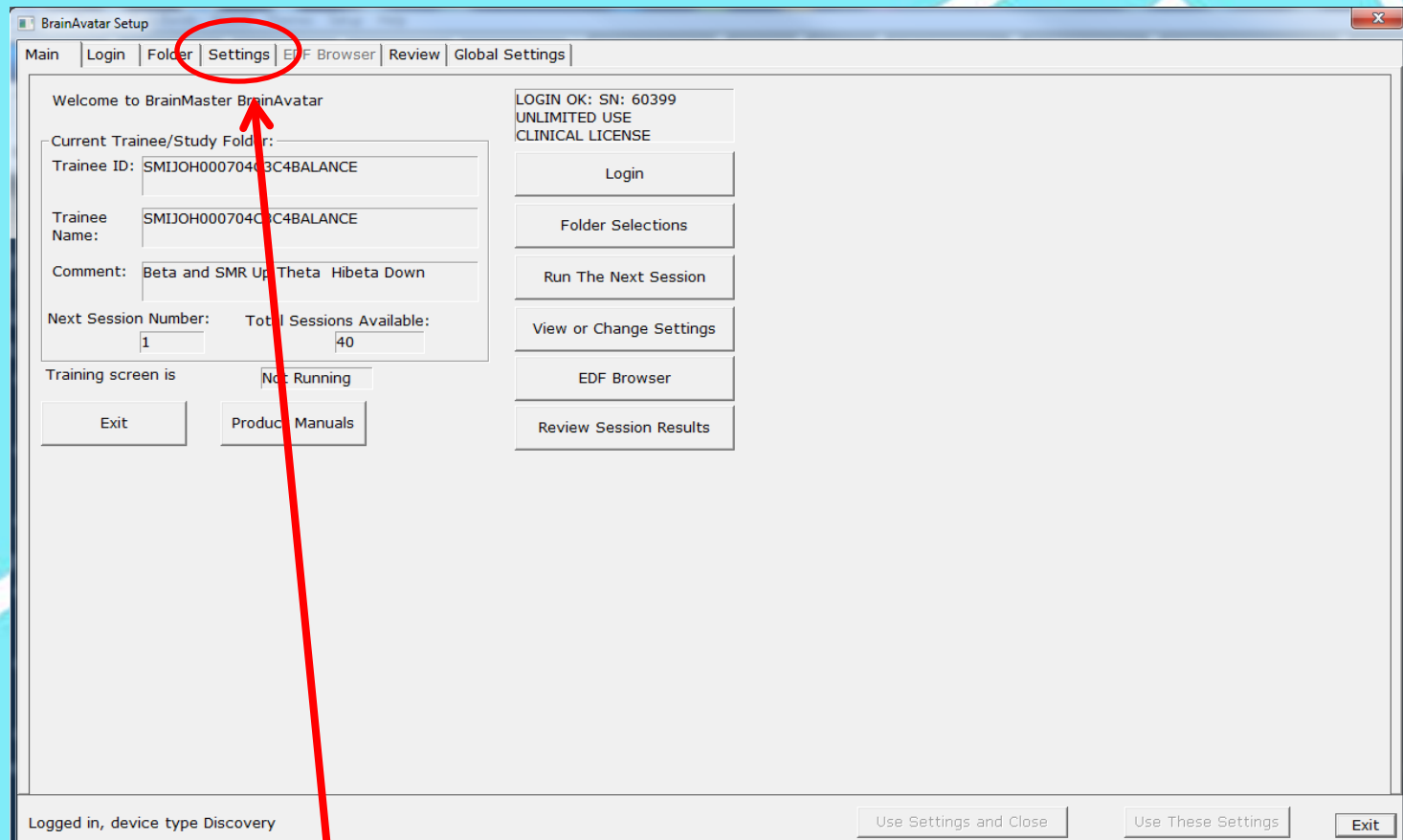


- Click “Setup”.

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BALANCE

The Protocol is now ready for Modification

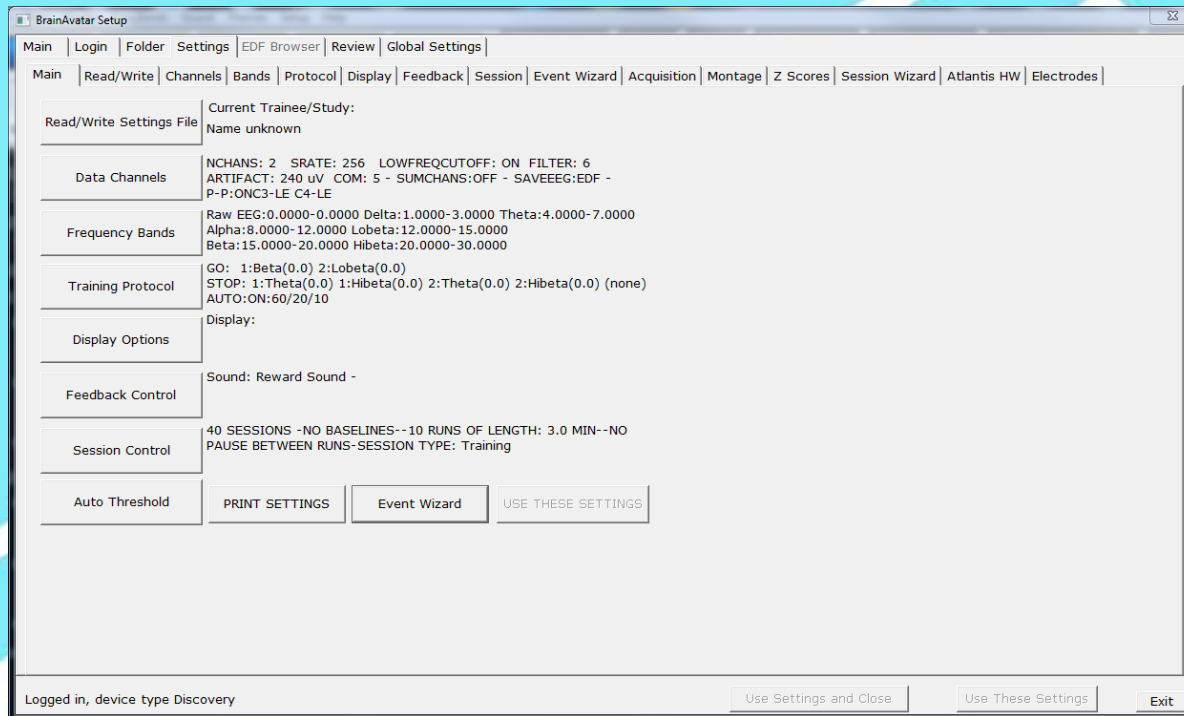


- Click “Settings”.

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BALANCE

The Protocol is now ready for Modification

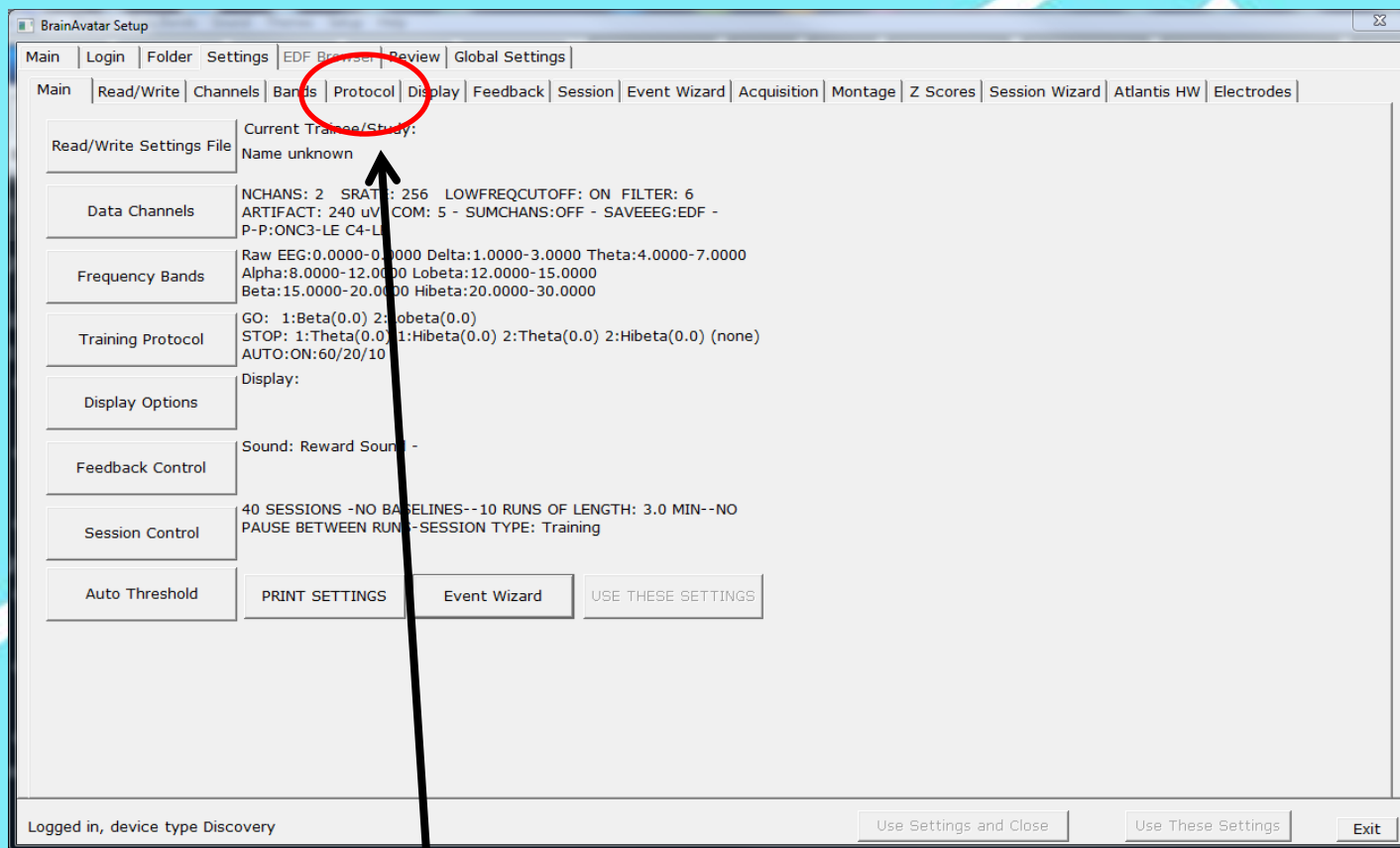


YOU ARE NOW ABOUT TO ENTER THE “BRAIN CENTER” OF THE BRAINAVATAR PROGRAM. ANY HAPHAZARD MODIFICATIONS HERE WITHOUT KNOWLEDGE MAY CAUSE UNPREDICTABLE RESULTS. THIS INSTRUCTION MANUAL WILL GIVE YOU THE PROPER KNOWLEDGE TO ALTER THESE CONTROL SCREENS WITHOUT CONCERN. AGAIN, YOU CAN ALWAYS INSTALL THE ORIGINAL SETTING FILE IF NECESSARY.

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BALANCE

The Protocol is now ready for Modification

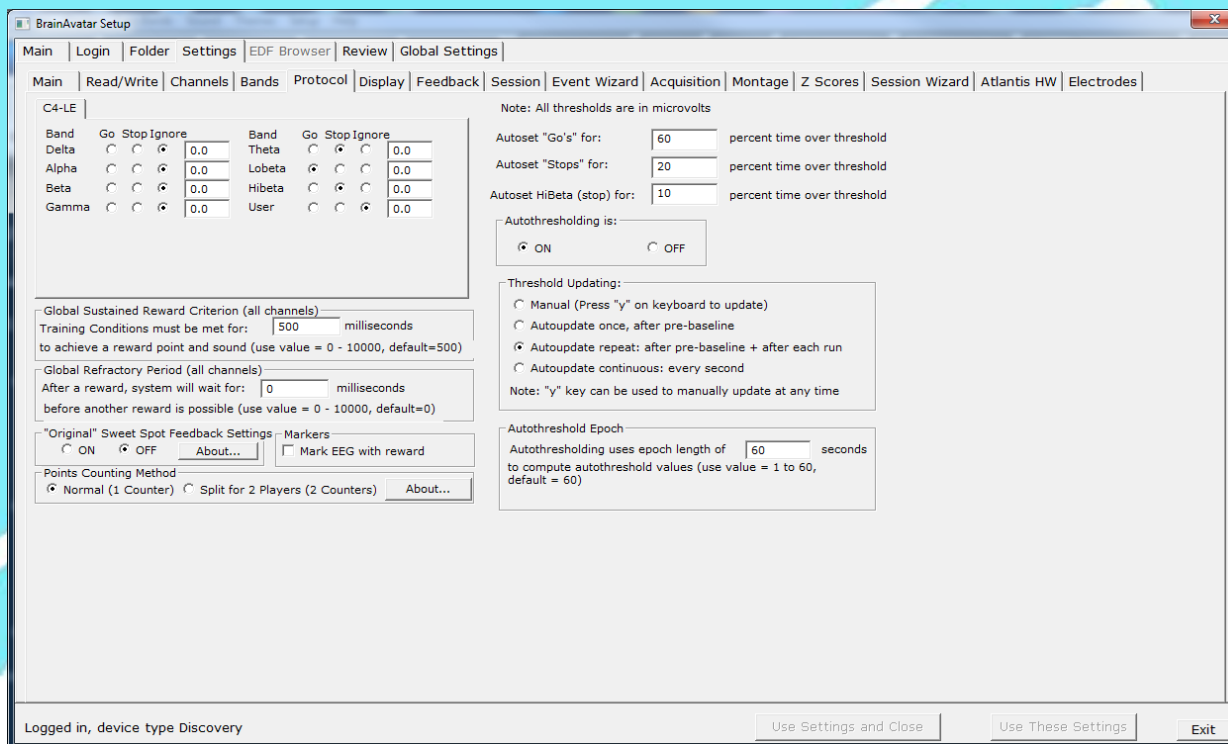


Click "Protocol".

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BALANCE

The Protocol is now ready for Modification



You are now viewing the Protocol Screen. Before we start learning to use this screen you should learn the distinction between the use of the BrainAvatar “built in” digital filters and the use of the Event Wizard.

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BALANCE

The Protocol is now ready for Modification

One of the greatest advantages of using the Brainmaster System is since its inception in 1995, Brainmaster Technologies has kept up with the evolution of the Biofeedback and Neurofeedback field and has included details of the majority of the modalities in one simple “easy to use” package.

In the beginning when most systems utilized only a one or two channel training paradigm, there was only a real need to perform 5 events. These events included the operation of three training bands with thresholding (typically theta, beta and hibeta), the accumulation of success points and an event to drive the feedback. Early on, the use of Brainmaster Technologies patented digital filtering controlled and monitored these events. They gave control of this to the neurofeedback professional through this “Protocol Screen” and the first 5 events of the “Event Wizard”.

As neurofeedback evolved it became necessary to add events, the “Event Wizard” kept pace and now offers control of up to 16 events with the possibility of more being offered at a future date if the need arises.

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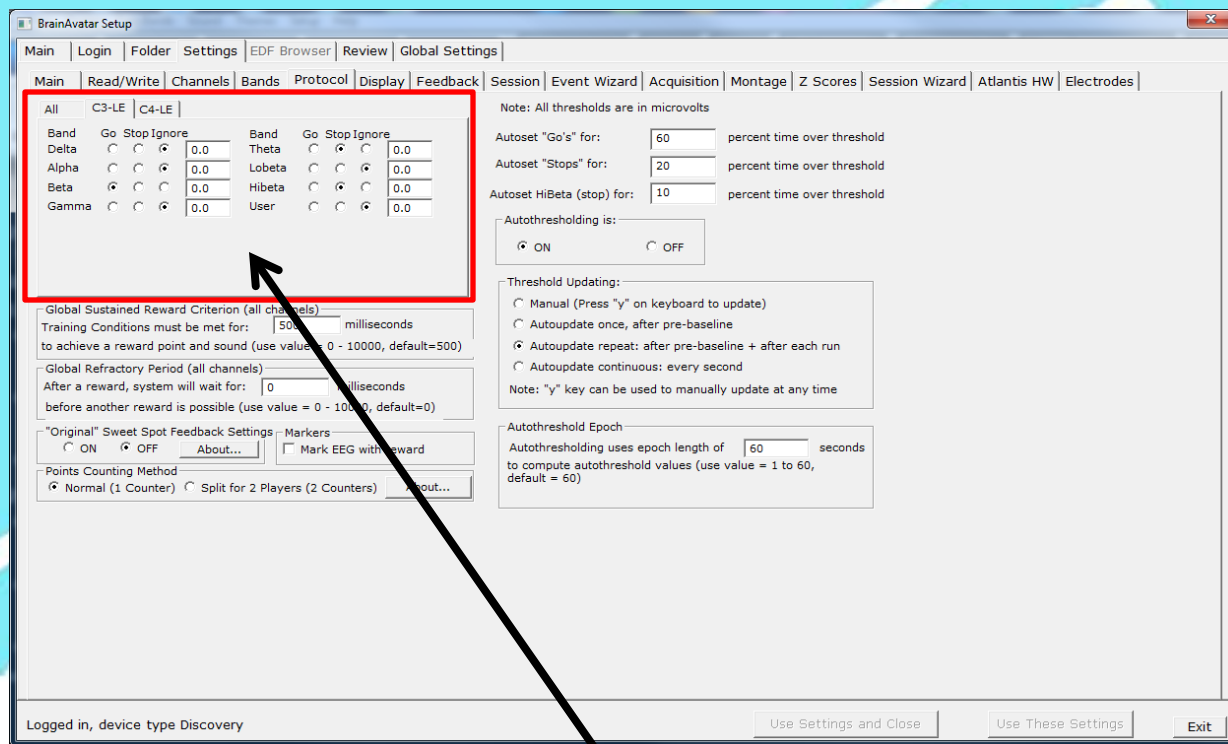
The Protocol is now ready for Modification



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BALANCE

The Protocol is now ready for Modification

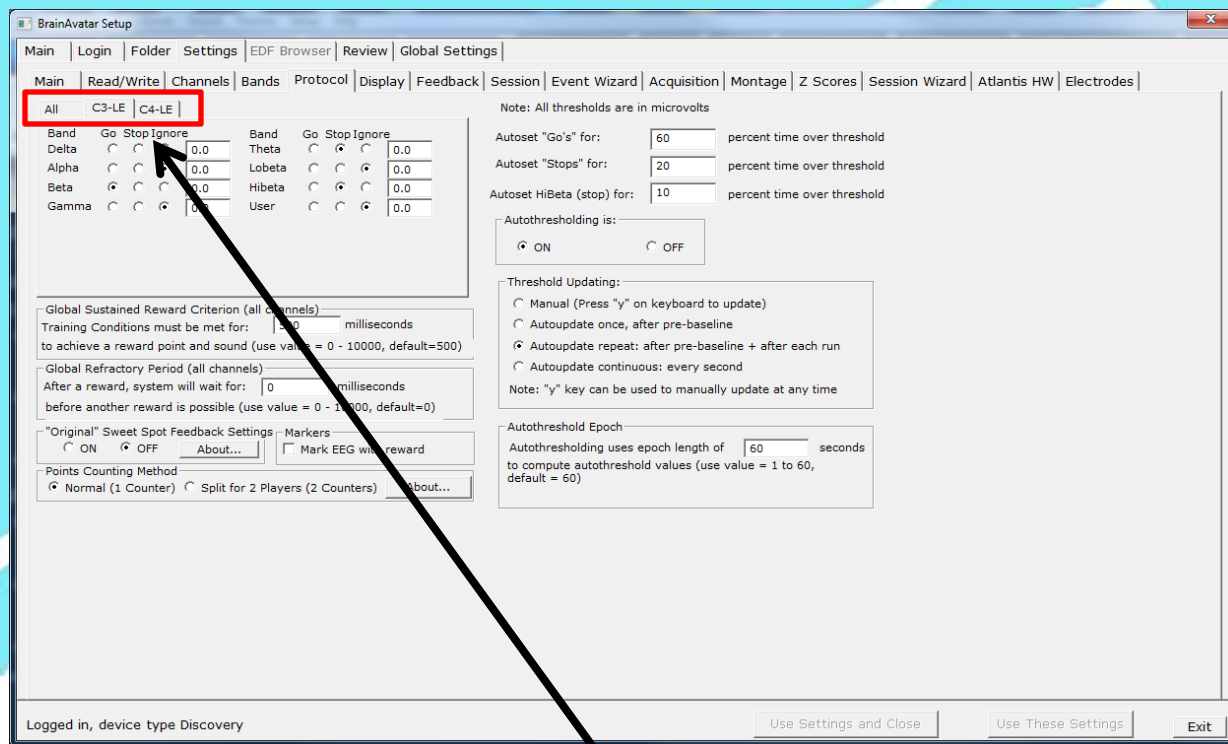


The box in the upper left corner controls the bands to be trained and whether they are to be rewards or inhibits. A reward band is defined as a “Go” and inhibit band is defined as a “Stop”. If a band is not to be used then “Ignore” is selected.

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BALANCE

The Protocol is now ready for Modification

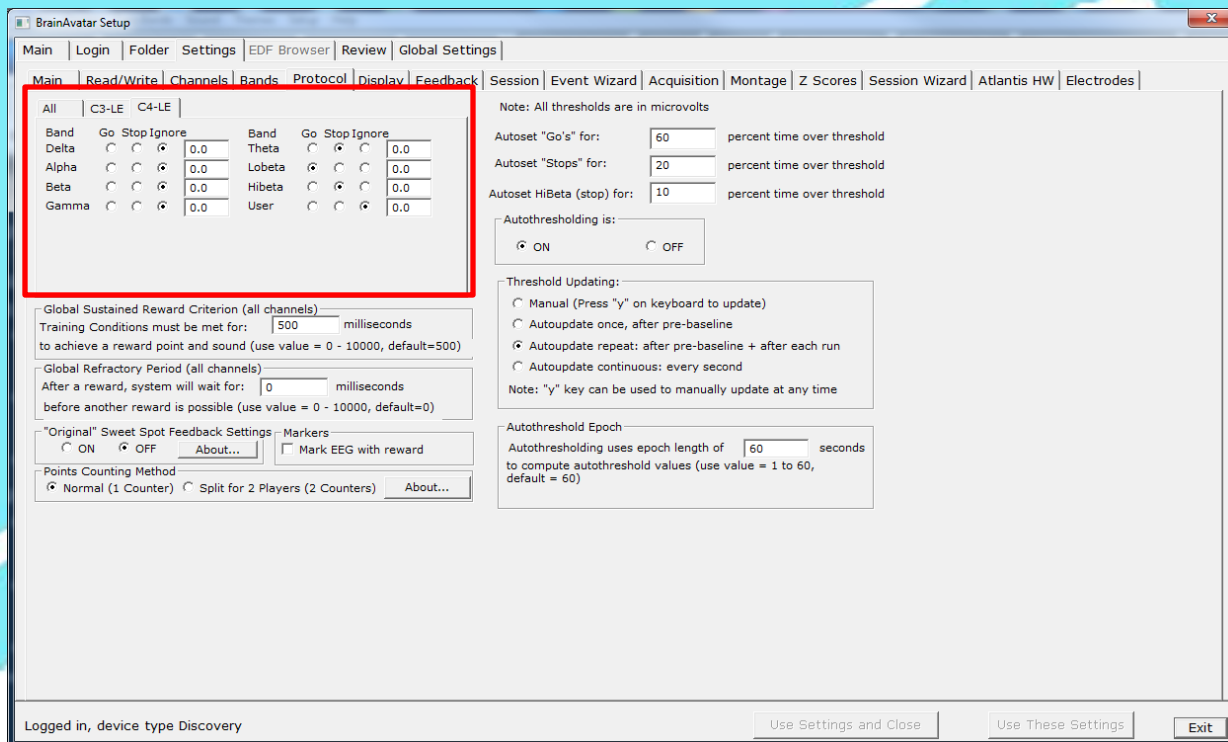


Notice there is a tab to control the protocol settings for C3-LE and C4-LE. The thresholds for the specific electrode placement may be selected by tapping the appropriate tab key.

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BALANCE

The Protocol is now ready for Modification

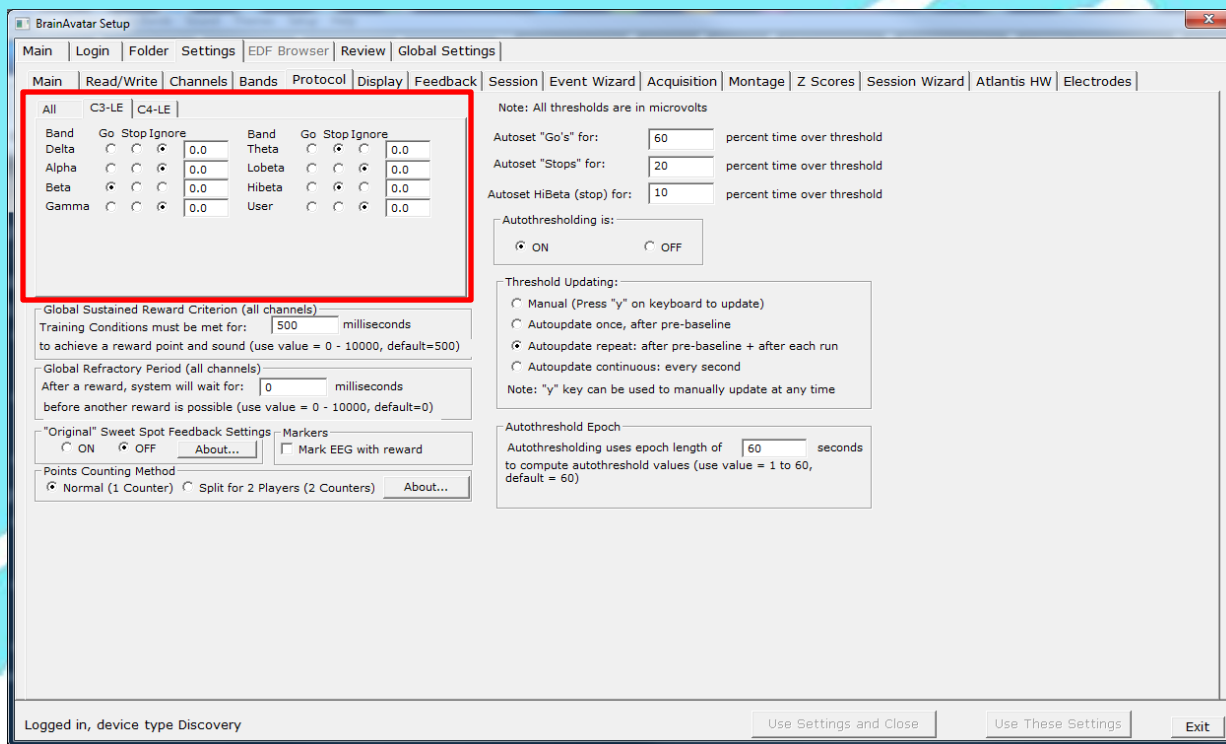


Notice for the Balance Protocol Theta is inhibited ("Stop"), Beta is rewarded ("Go") and Hibeta is inhibited ("Stop") for the C3 electrode. Remember, when reward criteria is met a tone or point is generated or a neurofeedback game or video advances. When an inhibit criteria is met the tone, point, game or video is halted.

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BALANCE

The Protocol is now ready for Modification

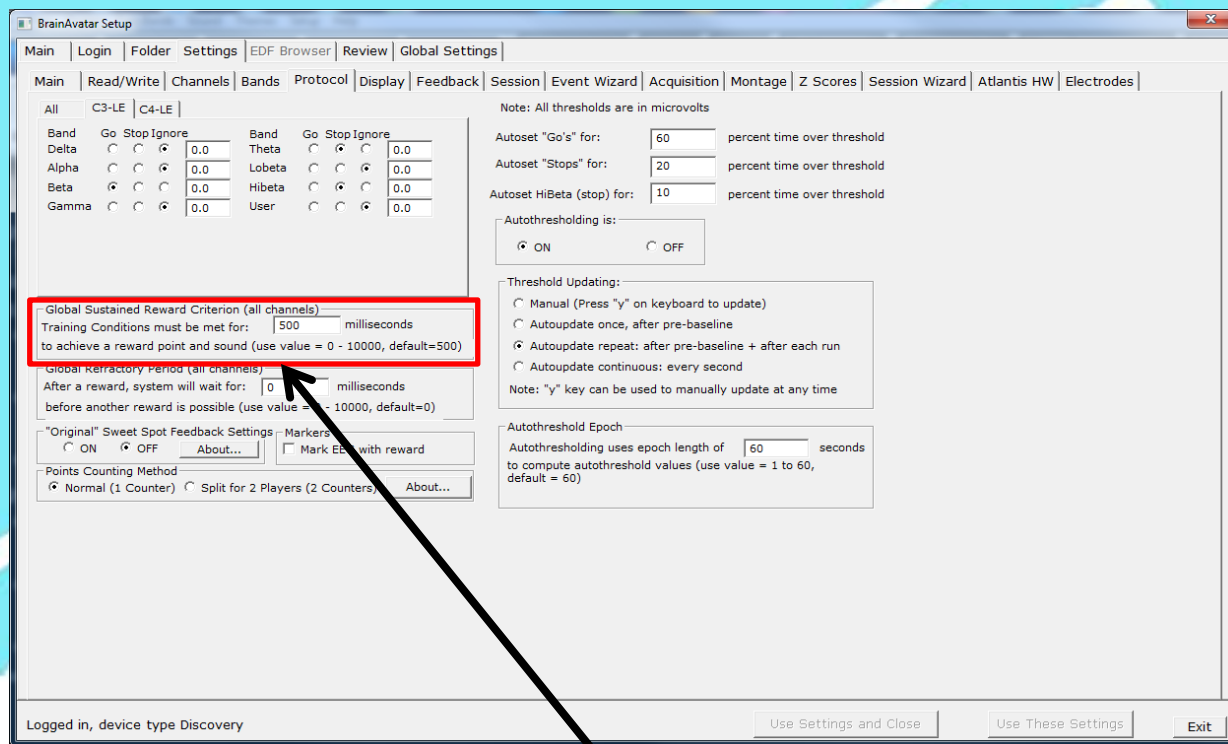


Notice for the Balance Protocol Theta is inhibited (“Stop”), SMR is rewarded (“Go”) and Hibeta is inhibited (“Stop”) for the C4 electrode. Remember, when reward criteria is met a tone or point is generated or a neurofeedback game or video advances. When an inhibit criteria is met the tone, point, game or video is halted.

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BALANCE

The Protocol is now ready for Modification

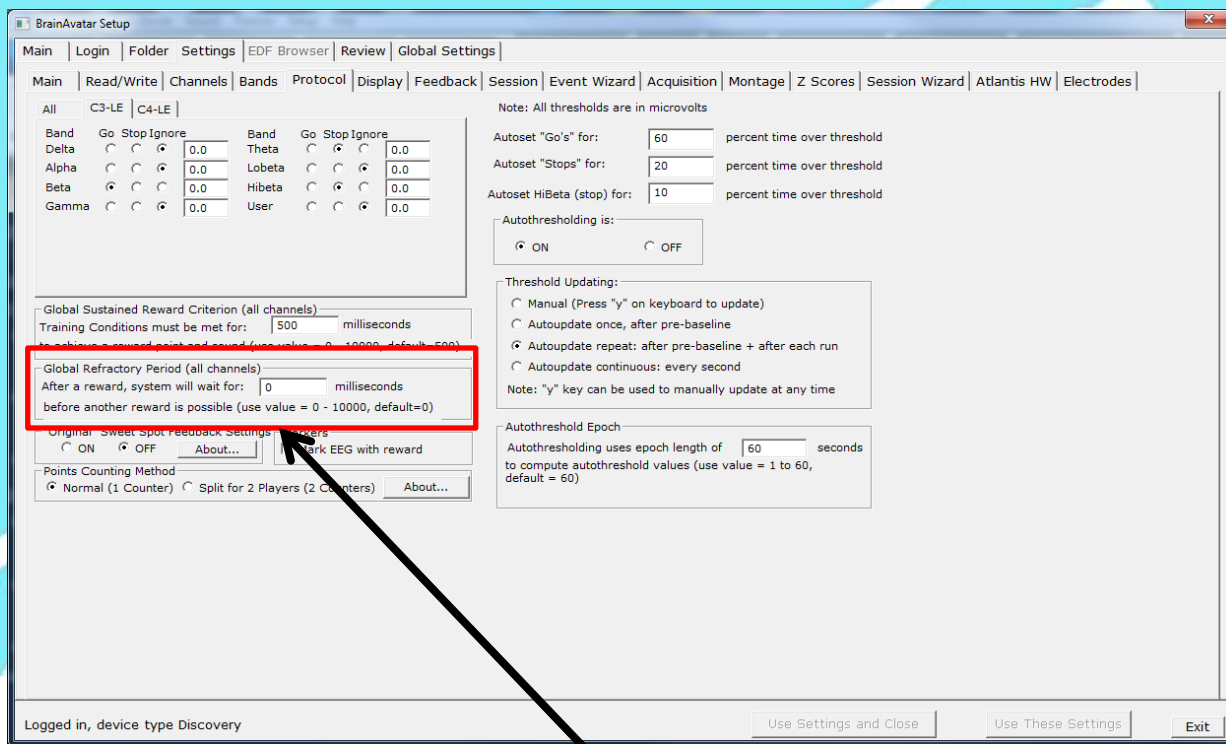


Global Sustained Reward Criterion is set for 500 milliseconds (1/2 a second). This means a reward level has to be maintained over a threshold for 1/2 a second before feedback takes place. Remember, if you want to change this the value entered has to be in milliseconds.

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BALANCE

The Protocol is now ready for Modification

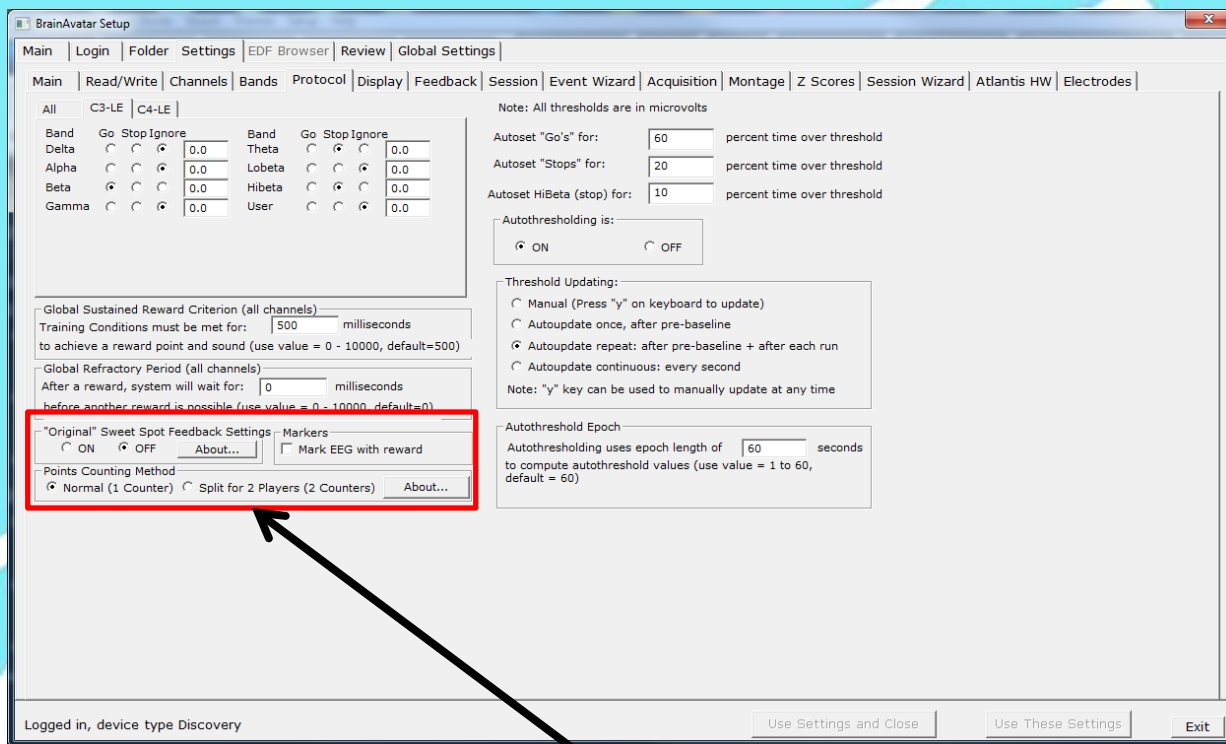


Global Refractory Period is set for 0 milliseconds. This depicts the amount of time before another reward tone, point, game or video advance is possible. In other words if this value were to be set a 500 milliseconds, a tone would sound if the reward criterion were met, however, another tone would not be produced until 1/2 a second elapses.

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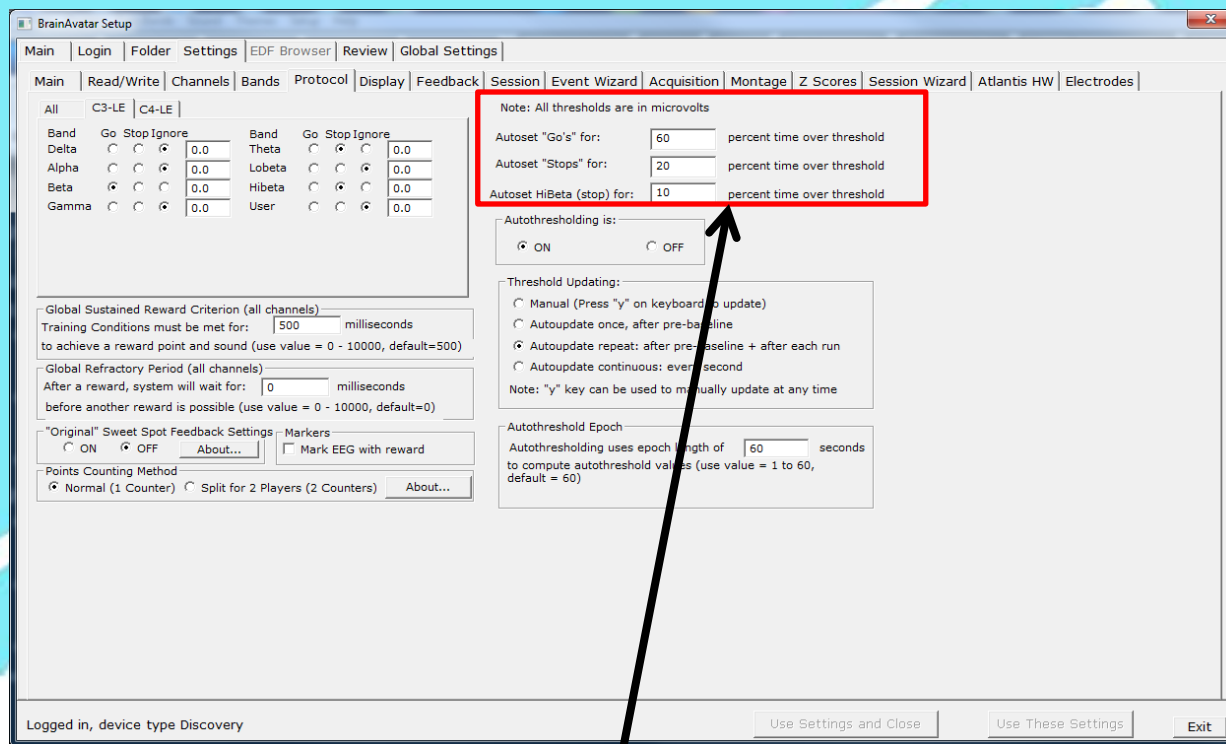


The “Original” Sweet Spot Feedback Setting is provided for those familiar with the archaic DOS based Neurocybernetics system and is seldom used. The Points Counting Method is default to “Normal” and again is seldom used except when there are two players.

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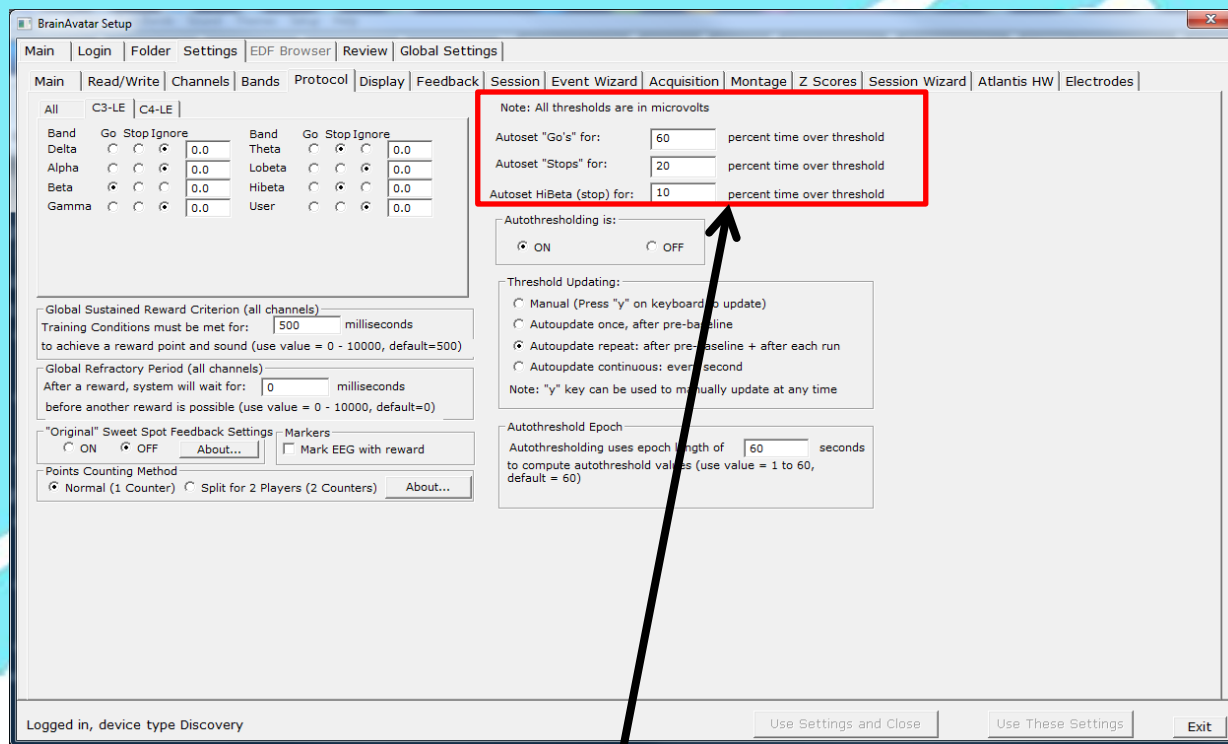


These are the % time over threshold automatic settings for the automatic thresholding control. Notice the reward defaults to 60%. The suggested reward % time over threshold for most protocols is 40%-60%. Inhibits are set for 20% time over threshold. Hibeta inhibits are set for 10% time over threshold.

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BALANCE

The Protocol is now ready for Modification

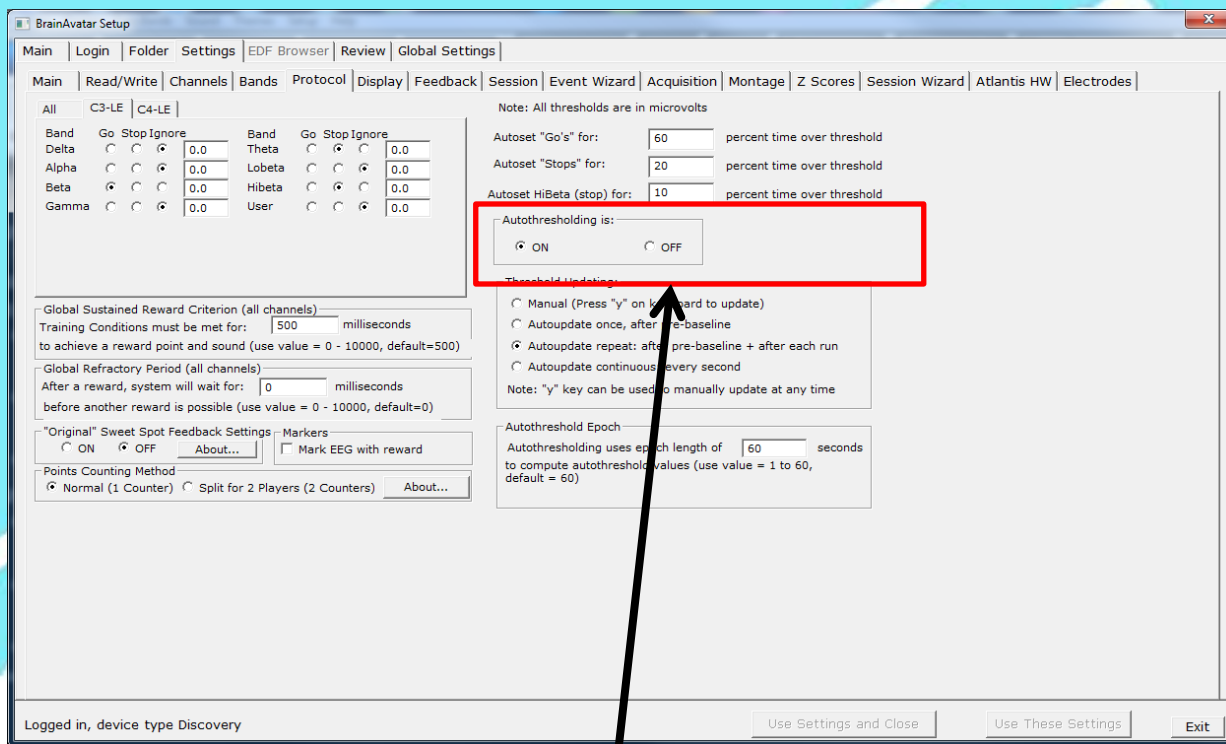


Notice that the inhibits are stated in % time over threshold even though inhibits are produced when theta or hibeta move below the threshold. Do not get confused by this point. In order to learn the proper use of threshold settings it is suggested you take one of the many BCIA Didactic courses offered by Stress Therapy Solution.

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The Protocol is now ready for Modification

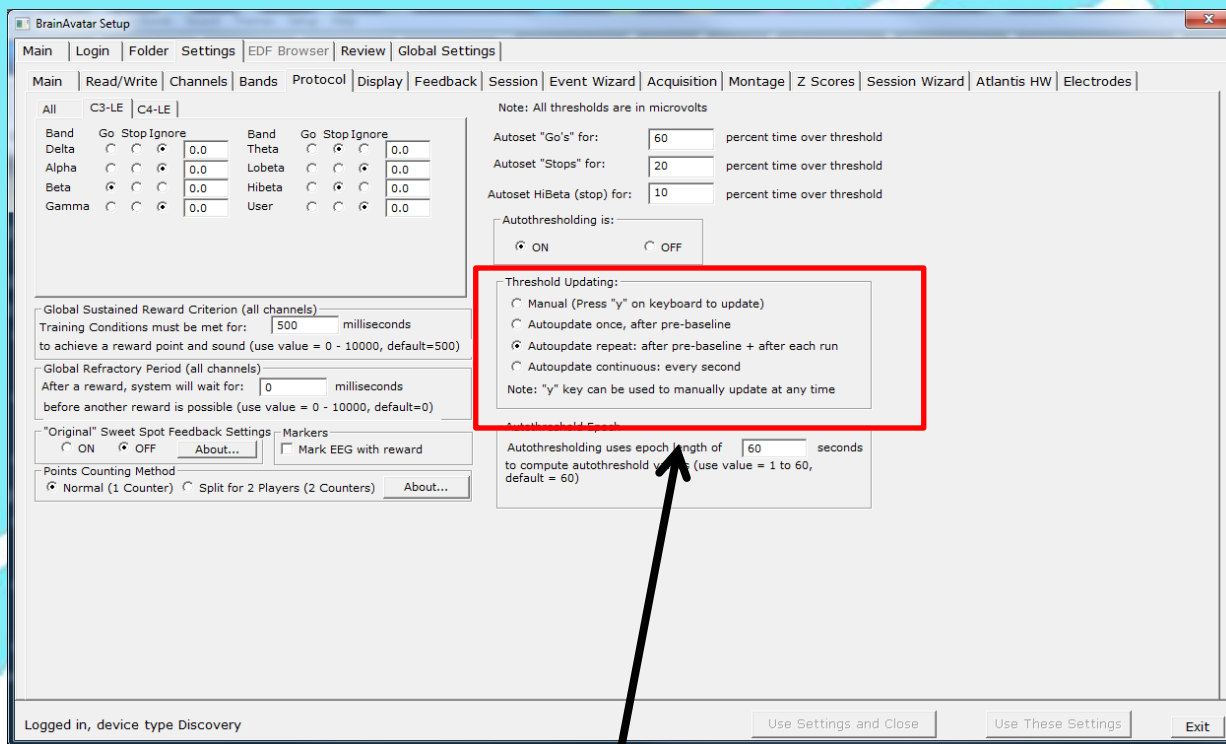


To change from Autothresholding to Manual thresholding select Autothresholding OFF. The use of manual thresholding will be covered later in this program.

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The Protocol is now ready for Modification

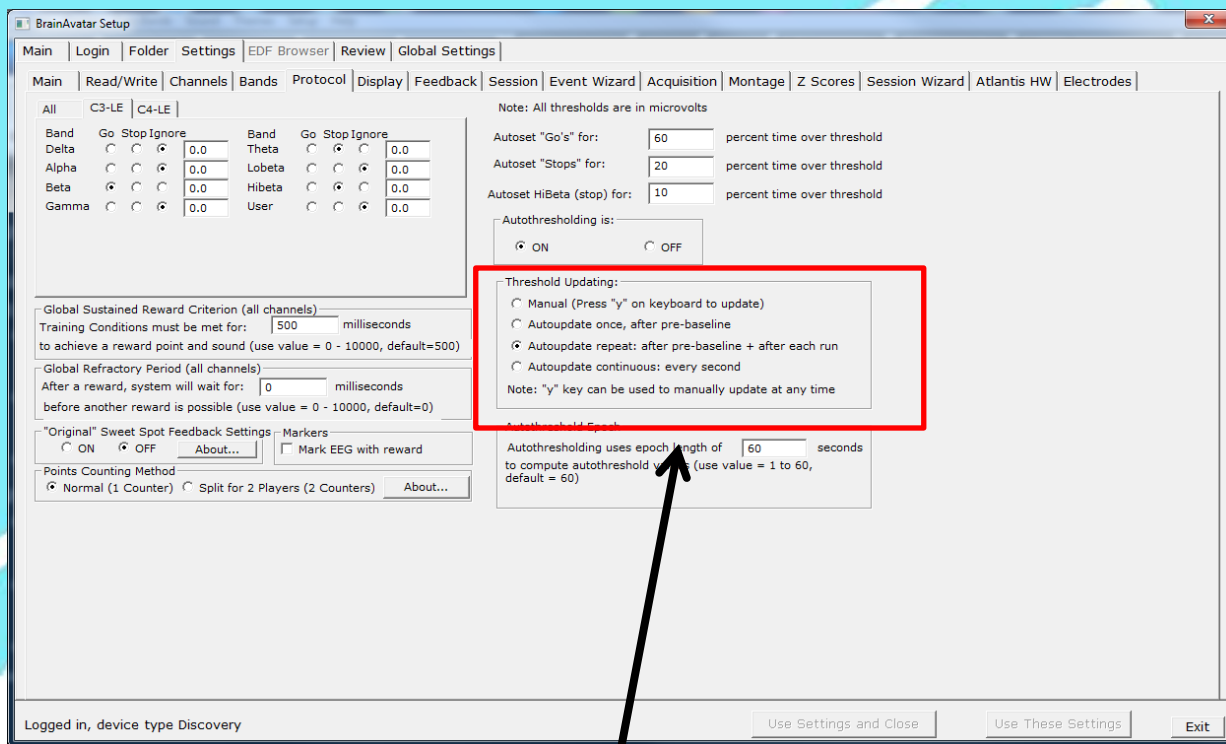


These four settings control Autothreshold Updating. The first choice is a Manual control. Whenever the “y” key on the keyboard is tapped the threshold on all thermometers will automatically be adjusted to the current amplitude of the frequency bands used.

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BALANCE

The Protocol is now ready for Modification

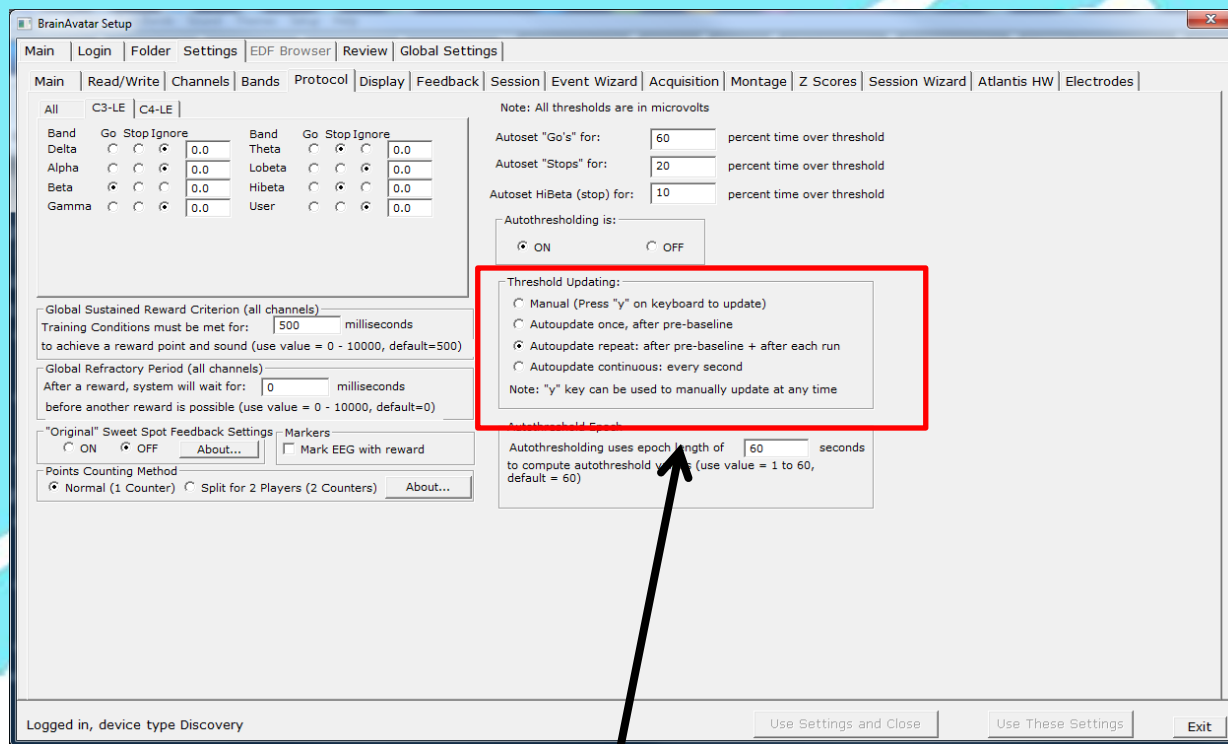


The second choice is for the system to Autoupdate only once after the pre-baseline period is complete. Baseline, Run Length and Number of Runs are controlled in the Session Tab and will be covered in another Level 2 Presentation.

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BALANCE

The Protocol is now ready for Modification



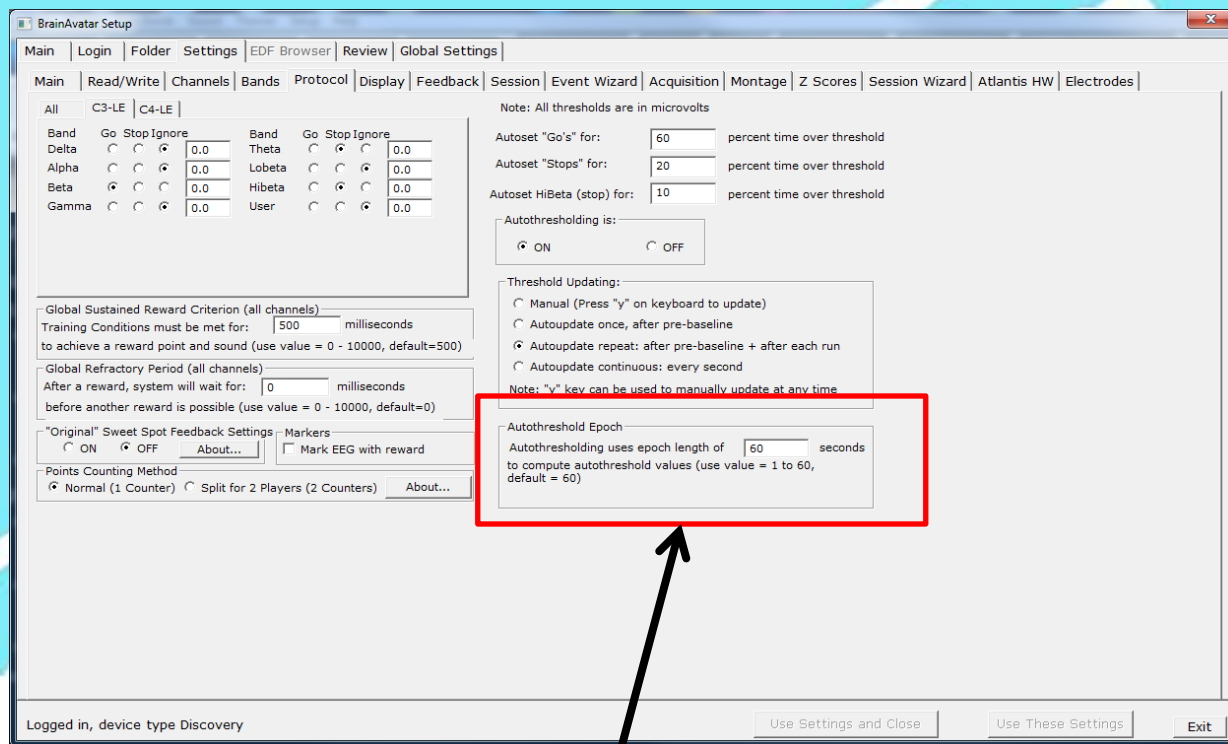
The third choice, Autoupdate repeat: after pre-baseline + after each run is the default selection and continuously updates the thresholds throughout the session.

The fourth choice, Autoupdate continuous: every second acts like a dynamic threshold continuously updating throughout the session.

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BALANCE

The Protocol is now ready for Modification

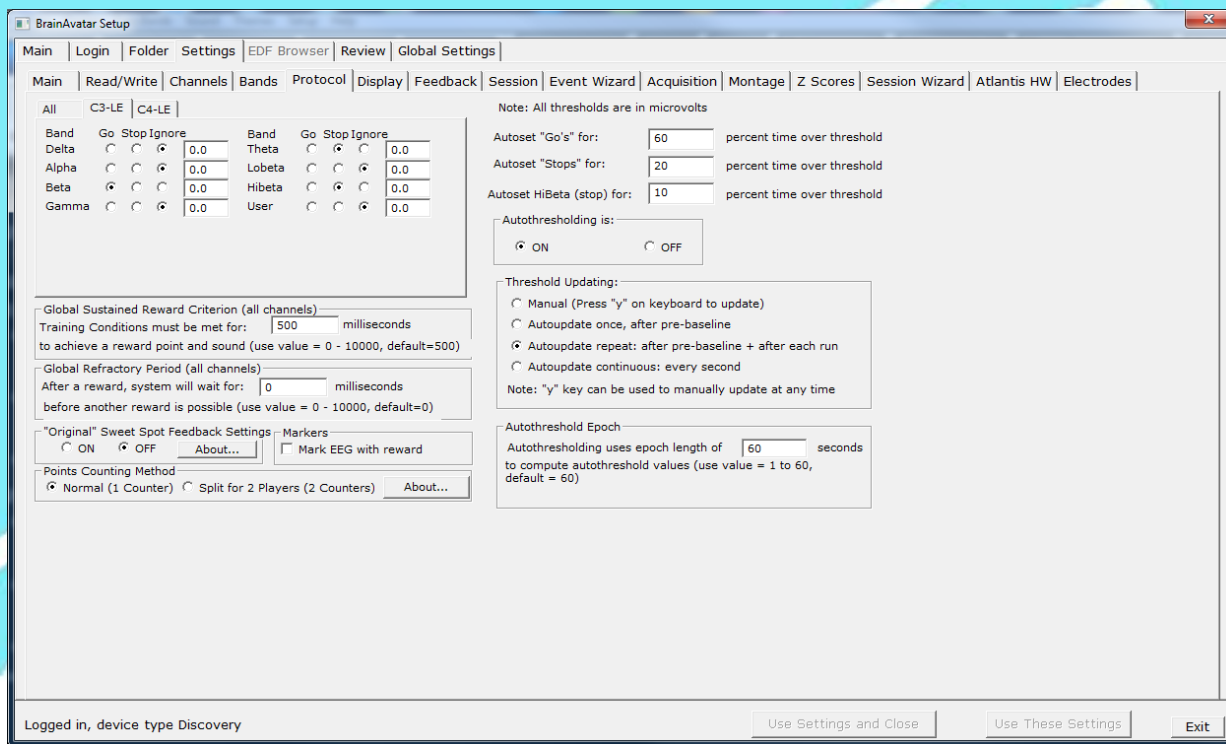


An epoch is a time period. In this case the epoch is defined as 60 seconds. The Autothreshold epoch when set to 60 seconds states that every 60 seconds the program takes a reading of the current amplitude and averages it with the other epochs to yield the Autothreshold value. If you reduce the epoch length the Autothreshold will calculate more quickly and thus update more rapidly.

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BALANCE

The Protocol is now ready for Modification

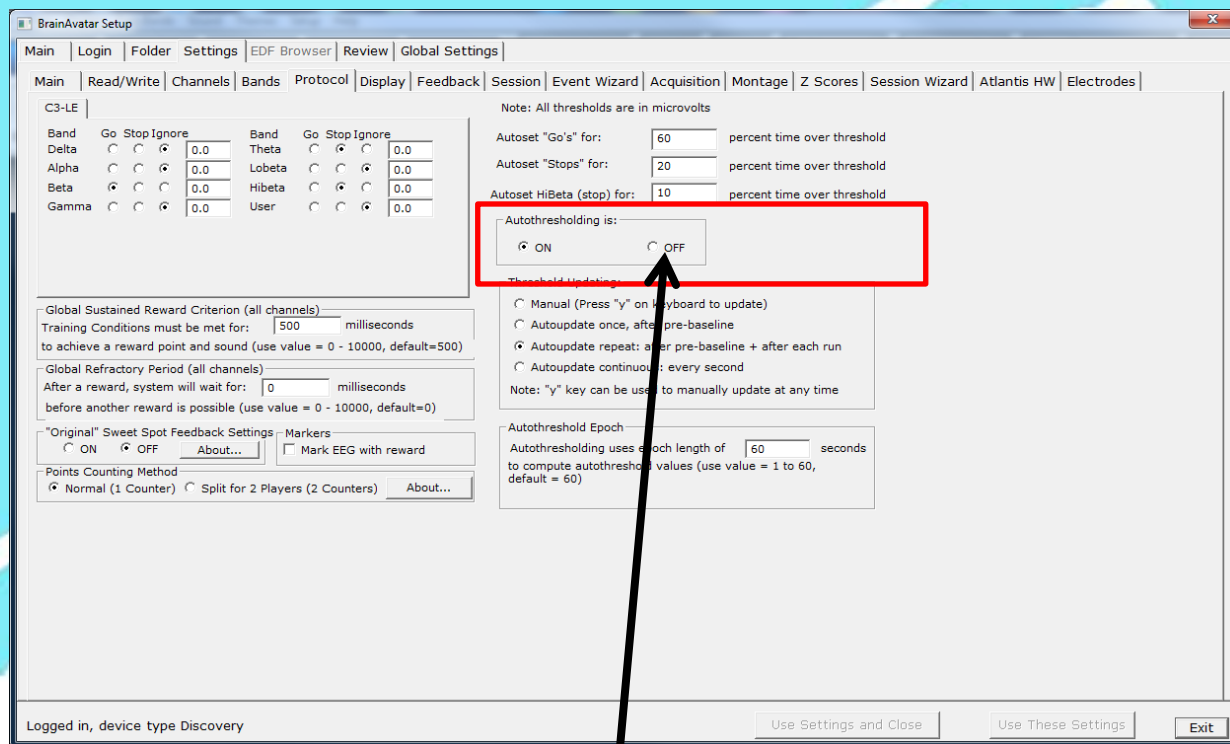


A wonderful thing about these protocol settings is that they may be adjusted on the fly while the client is being trained giving you a greater range of control over the session.

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BALANCE

The Protocol is now ready for Modification

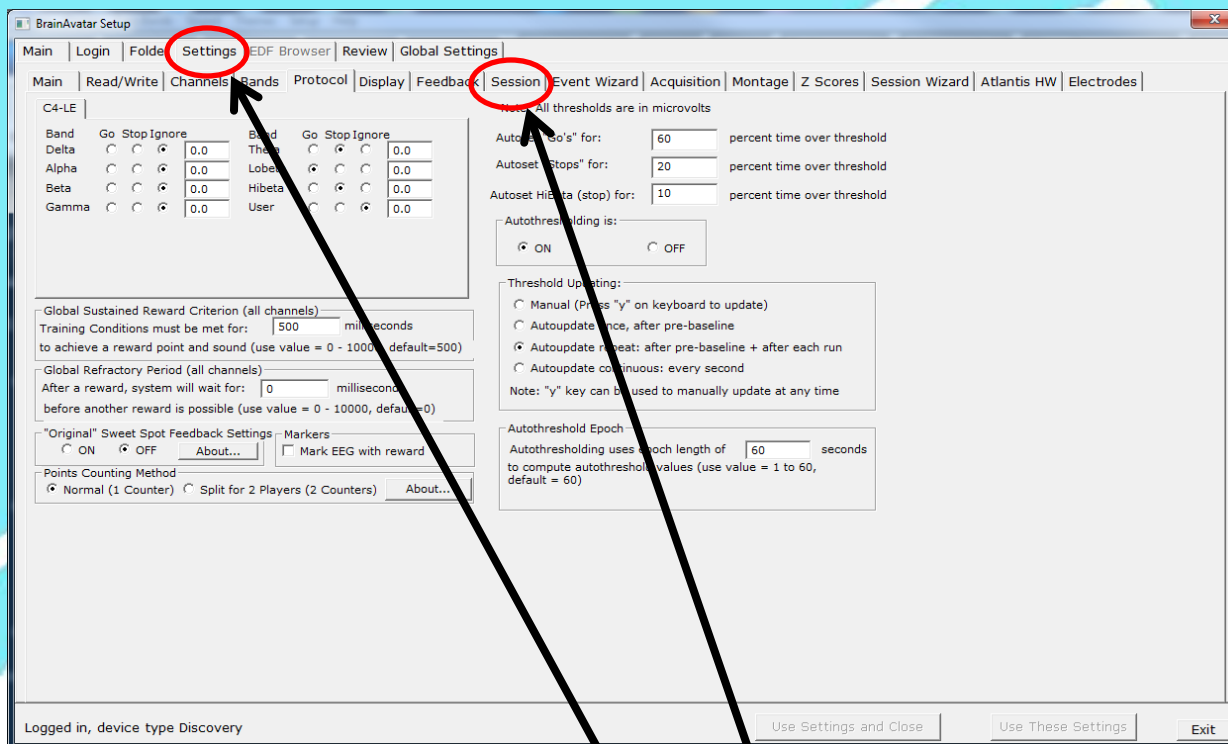


Now, let's learn how to change from Automatic to Manual Thresholding. To do this simply click Autothresholding to "OFF".

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BALANCE

The Protocol is now ready for Modification



In order to test the manual thresholding lets run a simulation. Select the "Settings" Tab at the top. Next select the Session Tab.

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BALANCE

The Protocol is now ready for Modification

BrainAvatar Setup

Main | Login | Folder | Settings | EDF Browser | Review | Global Settings

Main | Read/Write | Channels | Bands | Protocol | Display | Feedback | Session | Event Wizard | Acquisition | Montage | Z Scores | Session Wizard | Atlantis HW | Electrodes

NOTE: Please enter all times as whole seconds (1, 2, 3, etc)

Baseline Length (pre and post):
0 Seconds (before and after)
(Length of 0 means "no baselines")

Run Length:
180 Seconds
(0 means run indefinitely)

Number of Sessions:
40 sessions (80 maximum)
(0 allows repeated use of Test Session 1)

Number of Runs (Trials):
10 Runs
(Must have at least one Run)

Session Type:
☒ Assessment
☒ Training
☒ Simulation
☐ Playback
☐ Synthesize
☐ Calibration

☐ Pause Between Runs?

Session Wizard

☐ Use Session Wizard to control session (use with MINI-Q)

Logged in, device type Discovery

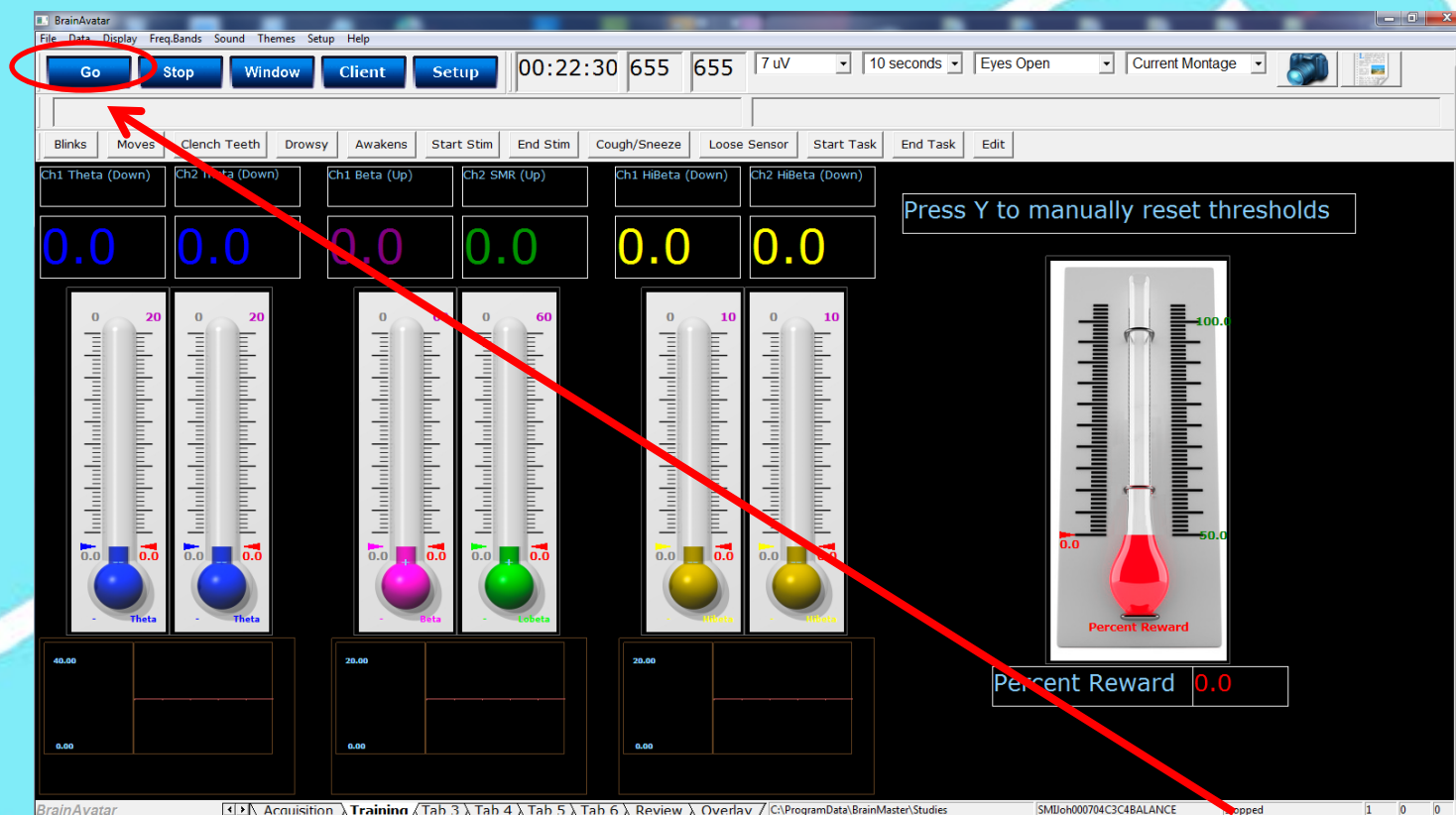
Use Settings and Close Use These Settings Exit

Click the Simulation radial button in the Session Type Window. Once selected click "Use Settings and Close".

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BALANCE

The Protocol is now ready for Modification

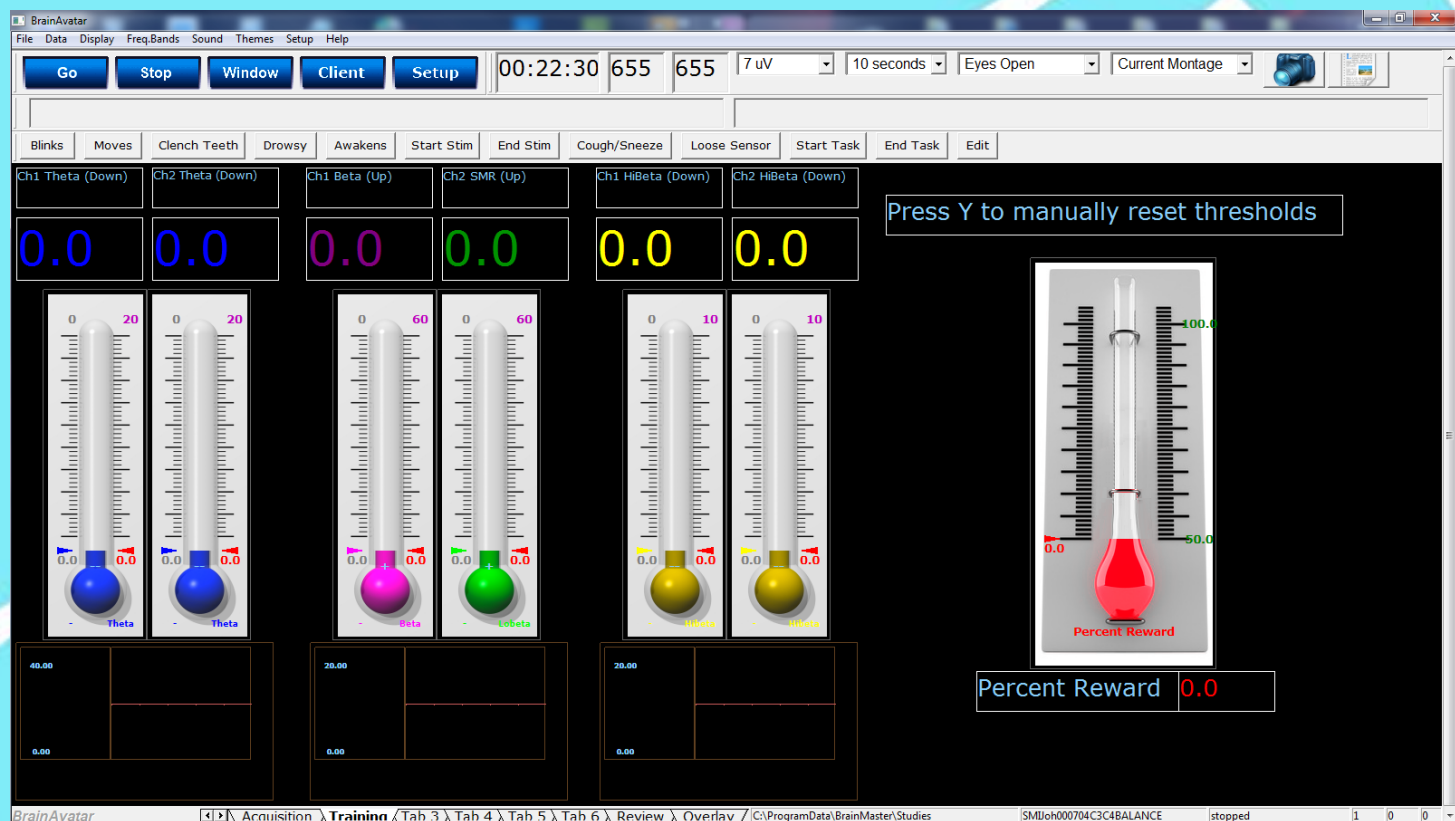


Make sure you are in the Training Tab of the protocol and click “Go”.

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BALANCE

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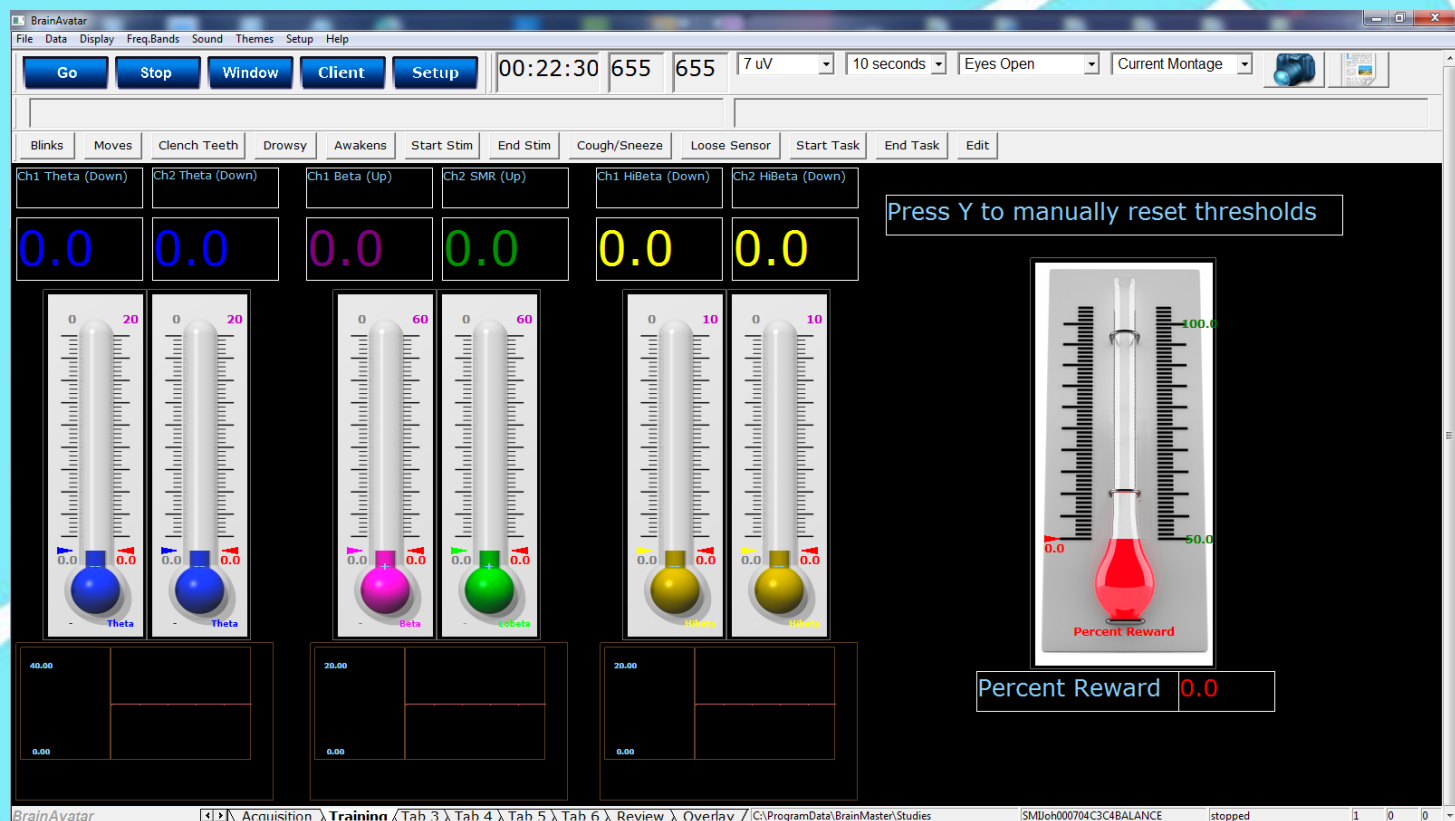


Now click the “1” key to select channel 1 and the “t” key (theta threshold) until the theta threshold reaches the desired level ($\approx 20\%$ above threshold). You can adjust the theta threshold downward by clicking “shift-t”.

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BALANCE

The Protocol is now ready for Modification

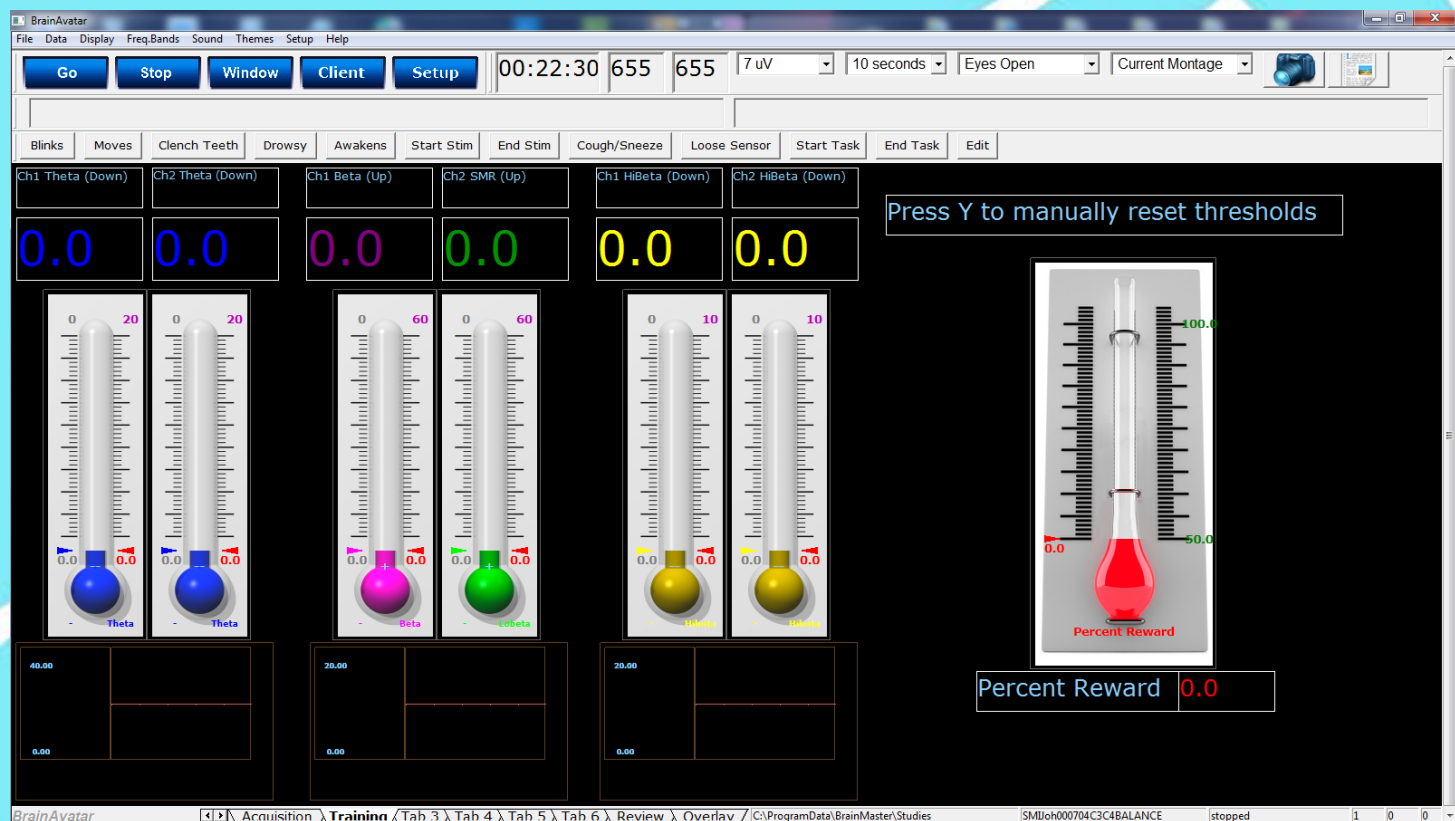


Now click the “2” key to select channel 2 and the “t” key (theta threshold) until the theta threshold reaches the desired level ($\approx 20\%$ above threshold). You can adjust the theta threshold downward by clicking “shift-t”.

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BALANCE

The Protocol is now ready for Modification

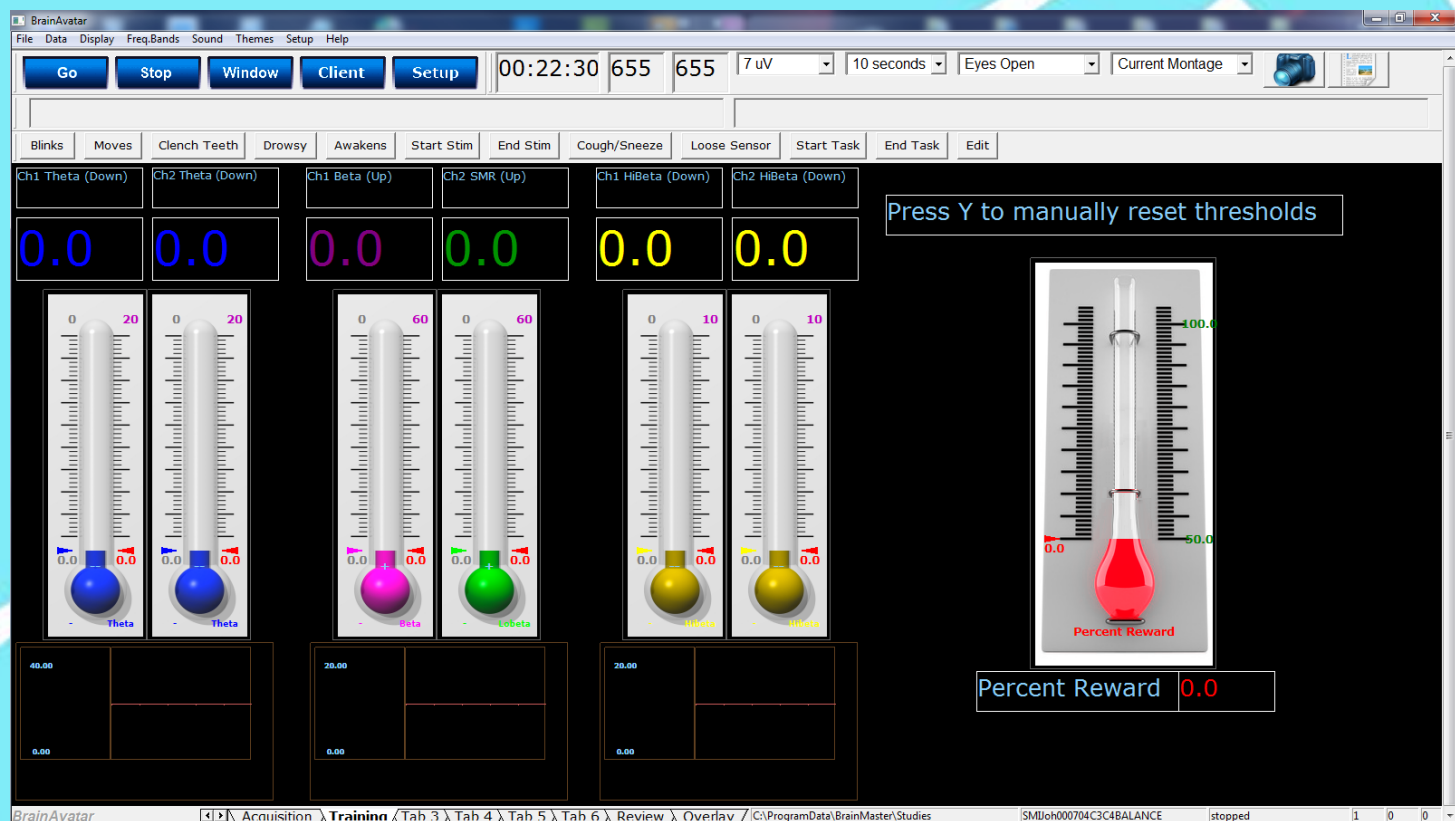


Now click the “1” key on the keyboard to select channel 1 and the “b” key (beta threshold) until the beta threshold reaches the desired level (~40-60% above threshold). You can adjust the beta threshold downward by clicking “shift-b”.

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BALANCE

The Protocol is now ready for Modification

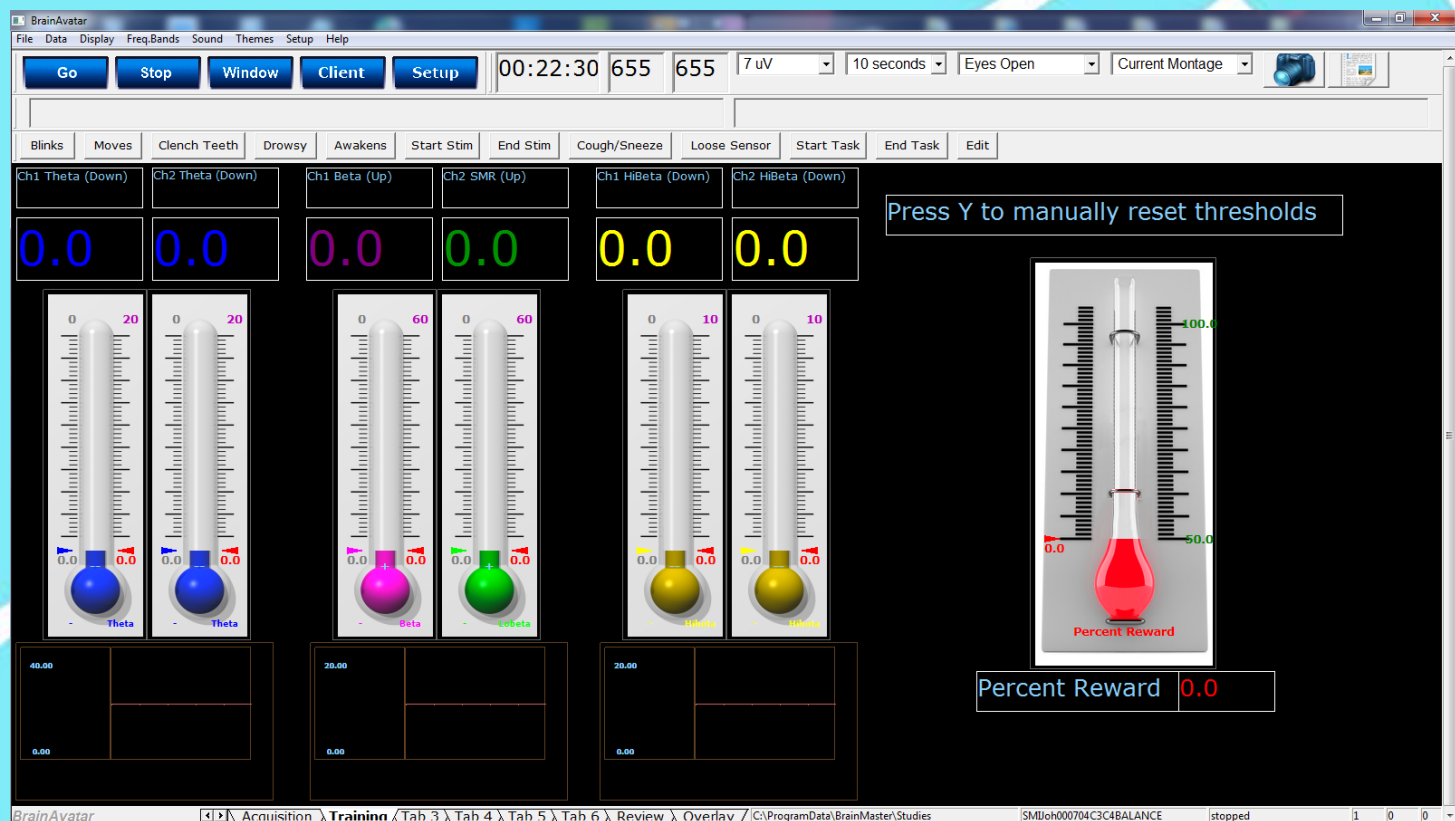


Now click the “2” key on the keyboard to select channel 2 and the “I” key (lobeta threshold) until the lobeta threshold reaches the desired level ($\approx 40\text{-}60\%$ above threshold). You can adjust the lobeta threshold downward by clicking “shift-I”.

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BALANCE

The Protocol is now ready for Modification

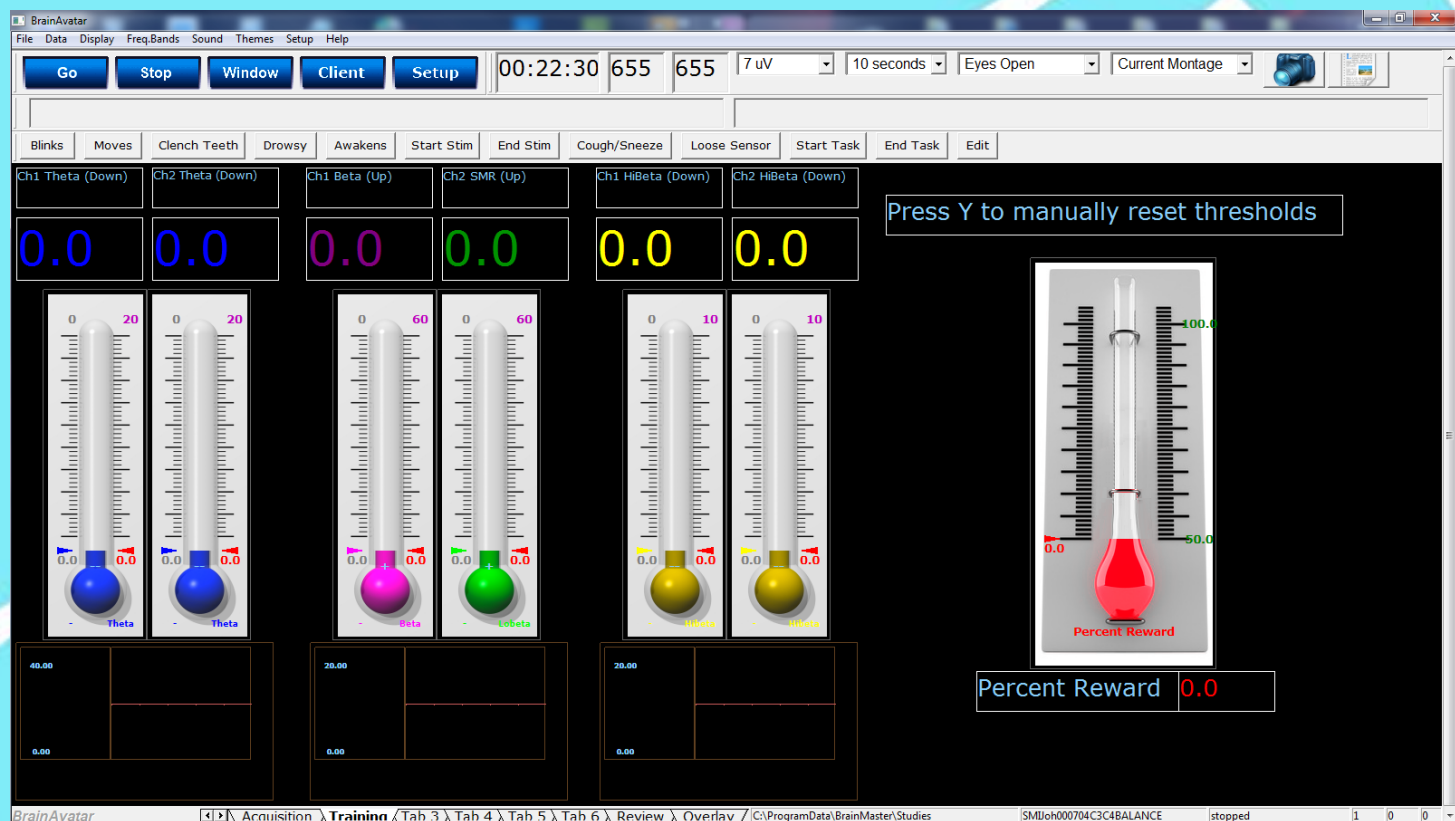


Now click the “1” key on the keyboard to select channel 1 and the “h” key (hibeta threshold) until the hibeta threshold reaches the desired level ($\approx 90\%$ above threshold). You can adjust the hibeta threshold downward by clicking “shift-h”.

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BALANCE

The Protocol is now ready for Modification

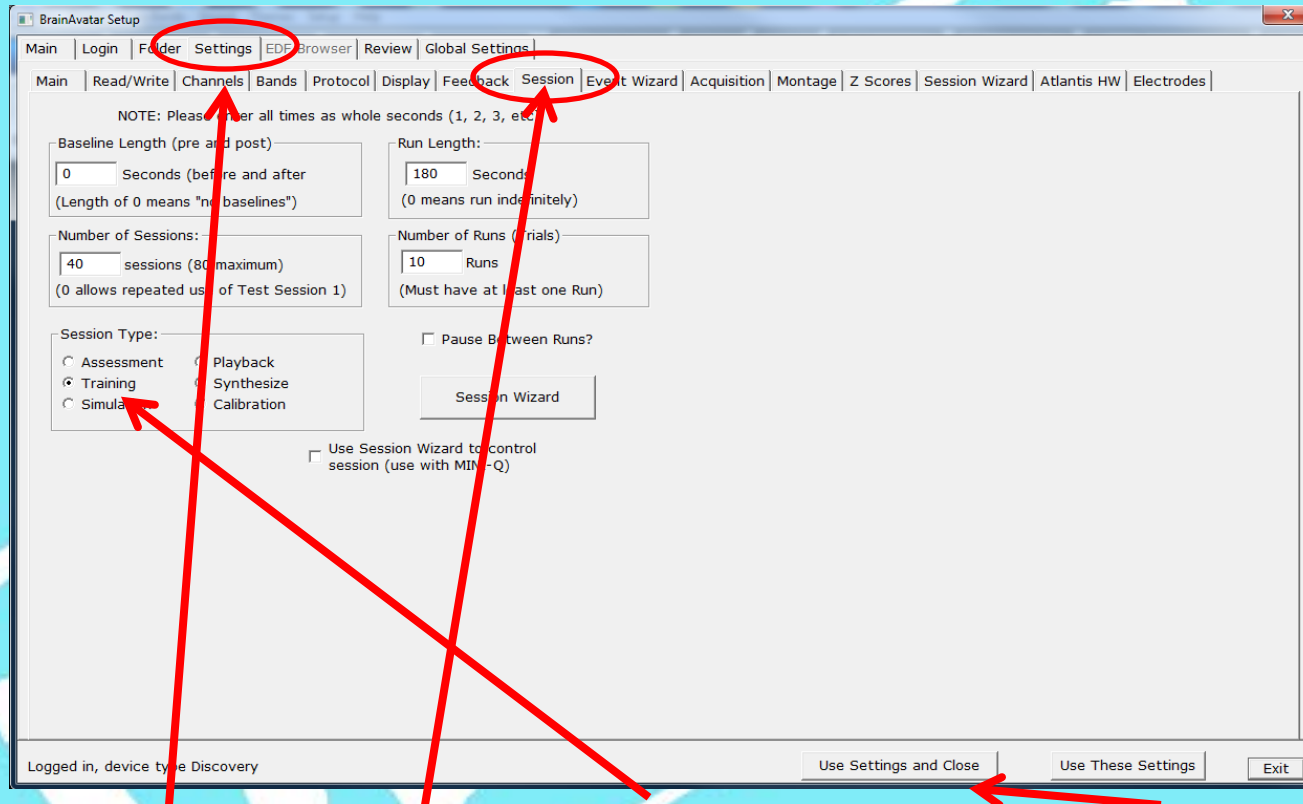


Now click the “2” key on the keyboard to select channel 2 and the “h” key (hibeta threshold) until the hibeta threshold reaches the desired level (≈90% above threshold). You can adjust the hibeta threshold downward by clicking “shift-h”.

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The Protocol is now ready for Modification

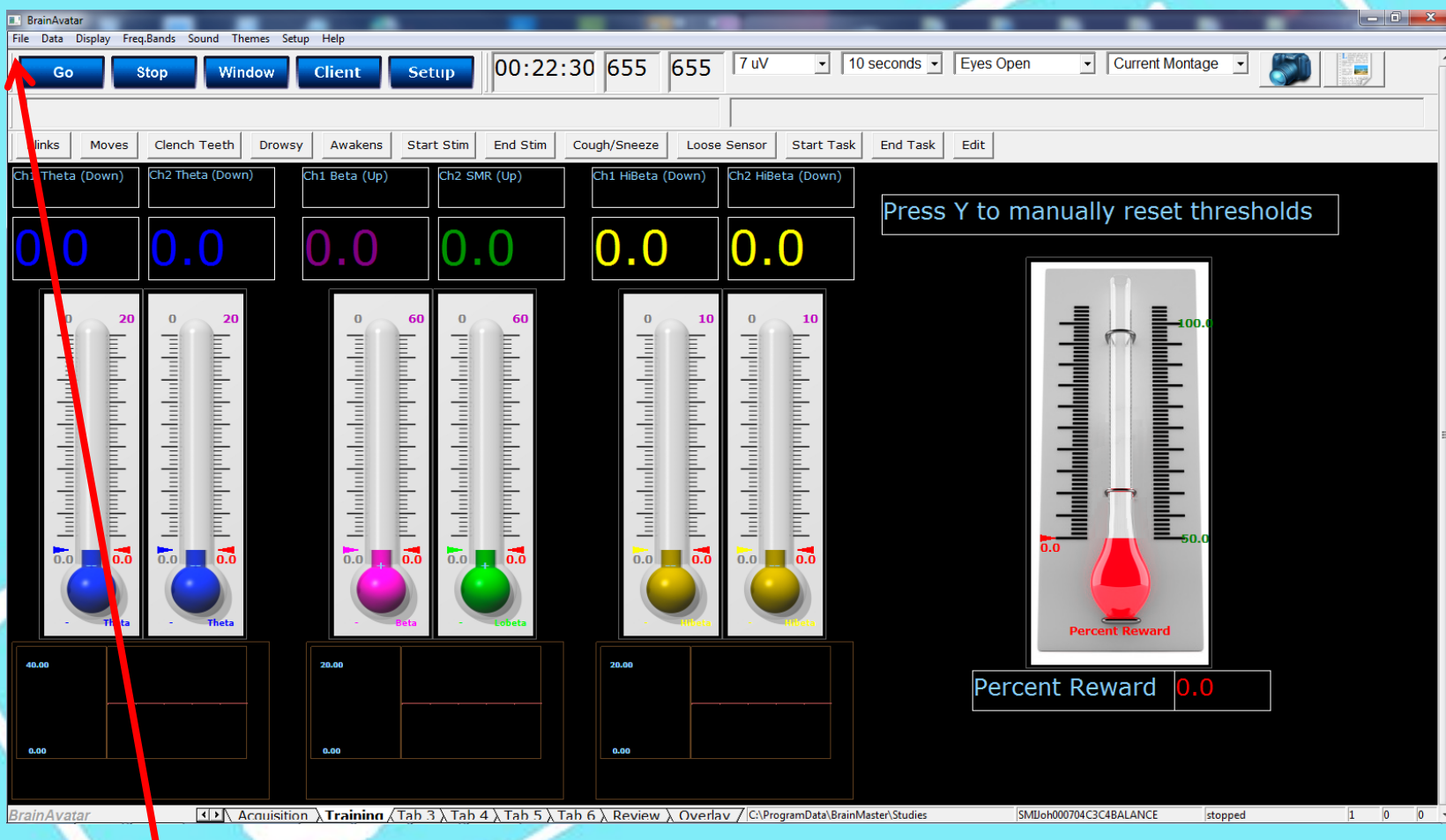


Let us now reset the setting back into training mode prior to saving it so that it is ready to be used with the client. Click Settings, then Session, then Training, and finally Use Settings and Close to exit the settings screen.

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BALANCE

Next we must save our changes



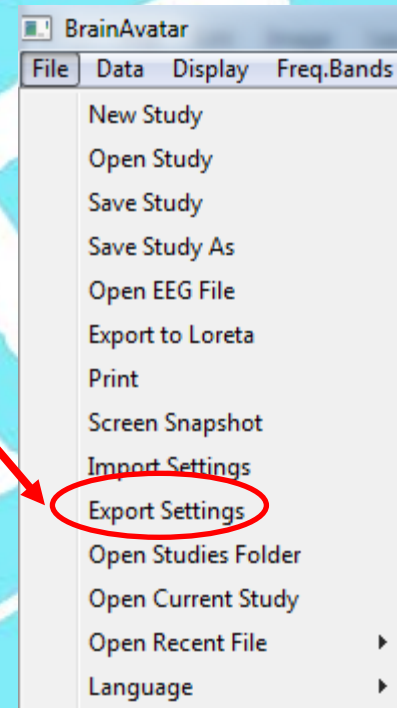
Click "File".

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BALANCE

Level 2

Next click “Export Settings”.

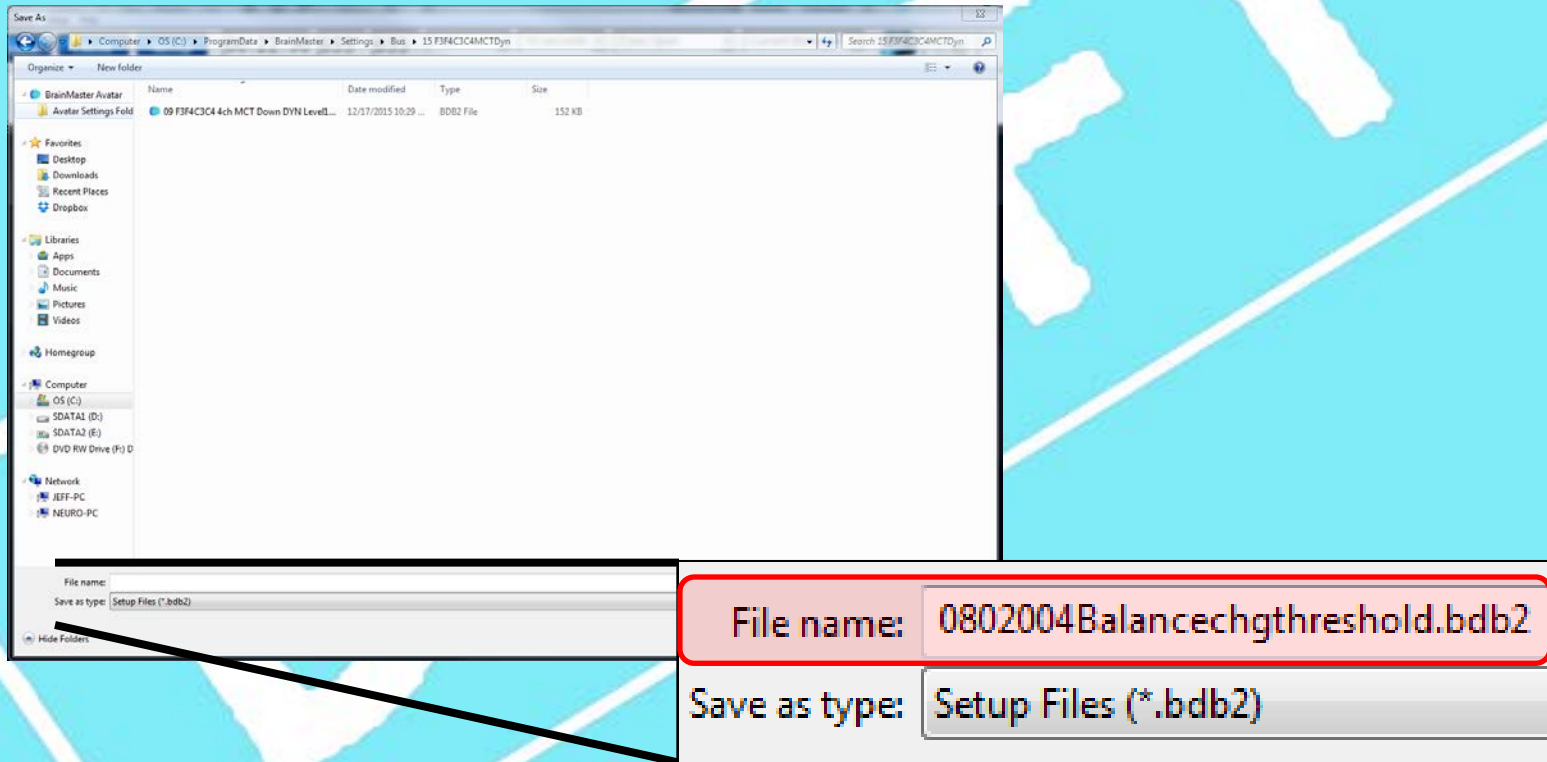


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BALANCE

Level 2

Find the folder where you keep these settings and name the file properly in the “File Name:” window.

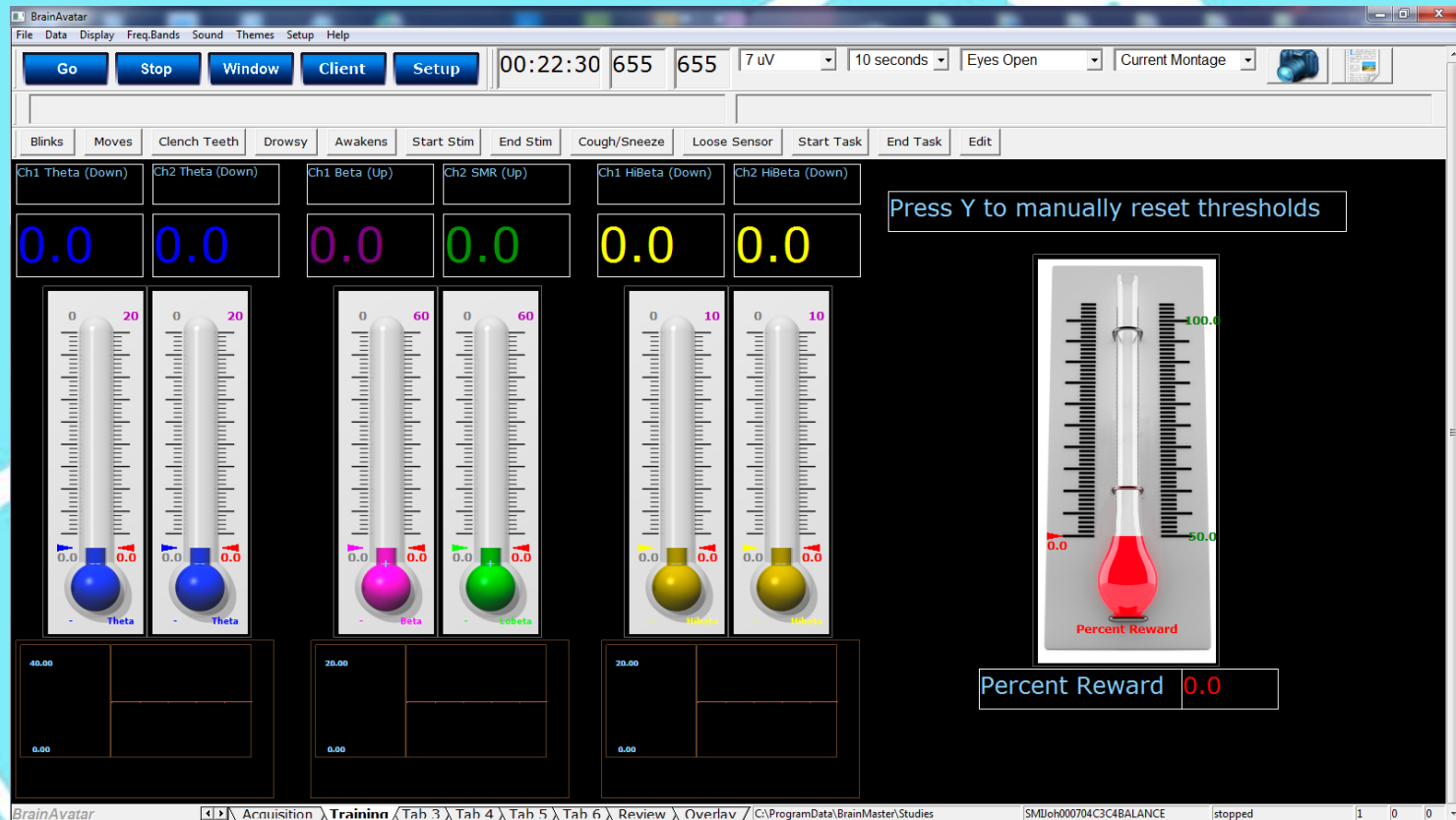


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BALANCE

Level 2

The Protocol is now ready to run with the revisions made.



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Get On The
BUS



BrainMaster
Universe
Simplified



“Balance”
Level 2