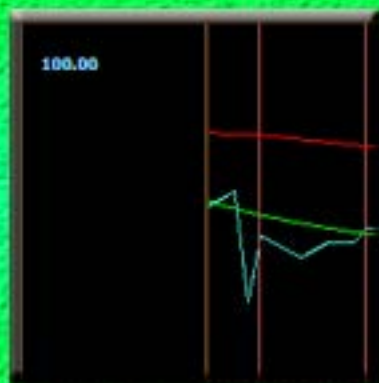


Power Point Manual

Get On The
BUS



BrainMaster
Universe
Simplified



4ch PZOK
Atlantis
BDX™
Level 3

4chPZOK+PZMO

Level 3

- How can I modify the 4chPZOK Settings to include PZMO?
- *Zplus including PZMO and PZME is a very valuable compliment to PZOK...contact Brainmaster Sales to acquire.

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.

4chPZOK+PZMO

Level 3

- PREREQUISITES
- In order to accomplish this study module you should have completed all PZOK Level 1 and Level 2 training modules as well as the Level 3 including the Upper and Lower Limits to PZOK modules.

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4chPZOK+PZMO

Level 3

- At level 1 the “4chPZOK” Setting provides ZScore training for 4 channel locations on the surface (not LORETA).
- By providing ZScore training, the surface of the brain tends towards normalization. The setting rewards the brain when moving outliers towards a normal window determined by the practitioner while those ZScores in the normal range remain within.

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4chPZOK+PZMO

Level 3

- The Z-Plus package addresses outliers in updated ways, which increase the power and flexibility of PZOK training.
- PZMO (PZ Motive) accounts for the momentum (movement of all ZScores that are outside of the specified window (Outliers) towards or away from the PZOK window.
- PZMO can be positive or negative. When it is positive the net movement of all Zscores outside the window is inwards towards normal.

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4chPZOK+PZMO

Level 3

- When it is negative the net movement of all Zscores outside the window is away from normal.
- The PZMO Threshold is a number representing the % of Z-Scores outside of the window that has moved within the window at any given moment of time.
- When the threshold conditions are met a wav sound is produced which is like giving the client a “Gold Star” for additional achievement.

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4chPZOK+PZMO

Level 3

- By including a single statement in the event wizard PZMO may be added to PZOK.
- The equation would be:
- If “ $x = \text{PercentZMOUL}((\text{TrnT}(1,8)), (\text{TrnT}(1,4)))$ ”; IS GREATER THAN 10 (play wav file). This event would allow the user to hear a “beep” every time they achieved a 10% movement of the outliers towards the normal window during the session.

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4chPZOK+PZMO

Level 3

- This module will direct you how to add the PZMO algorithm to PZOK.
- However, if you are not interested in learning how to add it and simply want to use it you may find the setting file included in this folder.

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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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4chPZOK

Level 2

Lets Begin

- Make Sure the Atlantis Amplifier is plugged in.

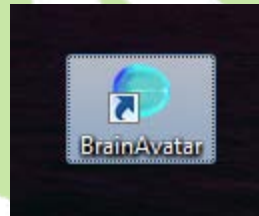


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4chPZOK+PZMO

Level 2

- Open BrainAvatar by double-clicking the BrainAvatar Icon.

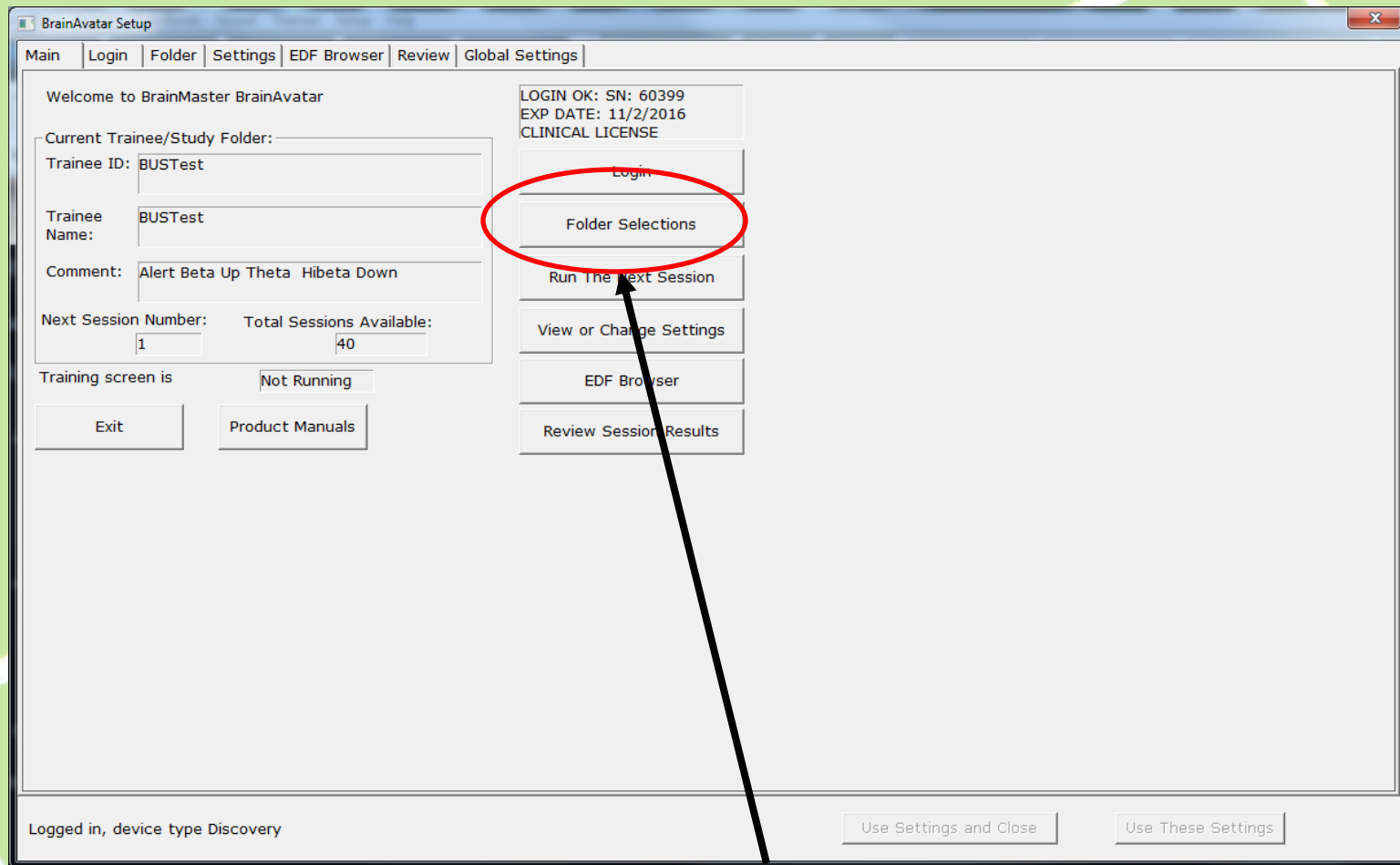


All protocols are for demo and research purposes only. Clinicians must determine protocol choices. All protocols must be used within scope of practice and scope of competence.

- 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”.

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.

- 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

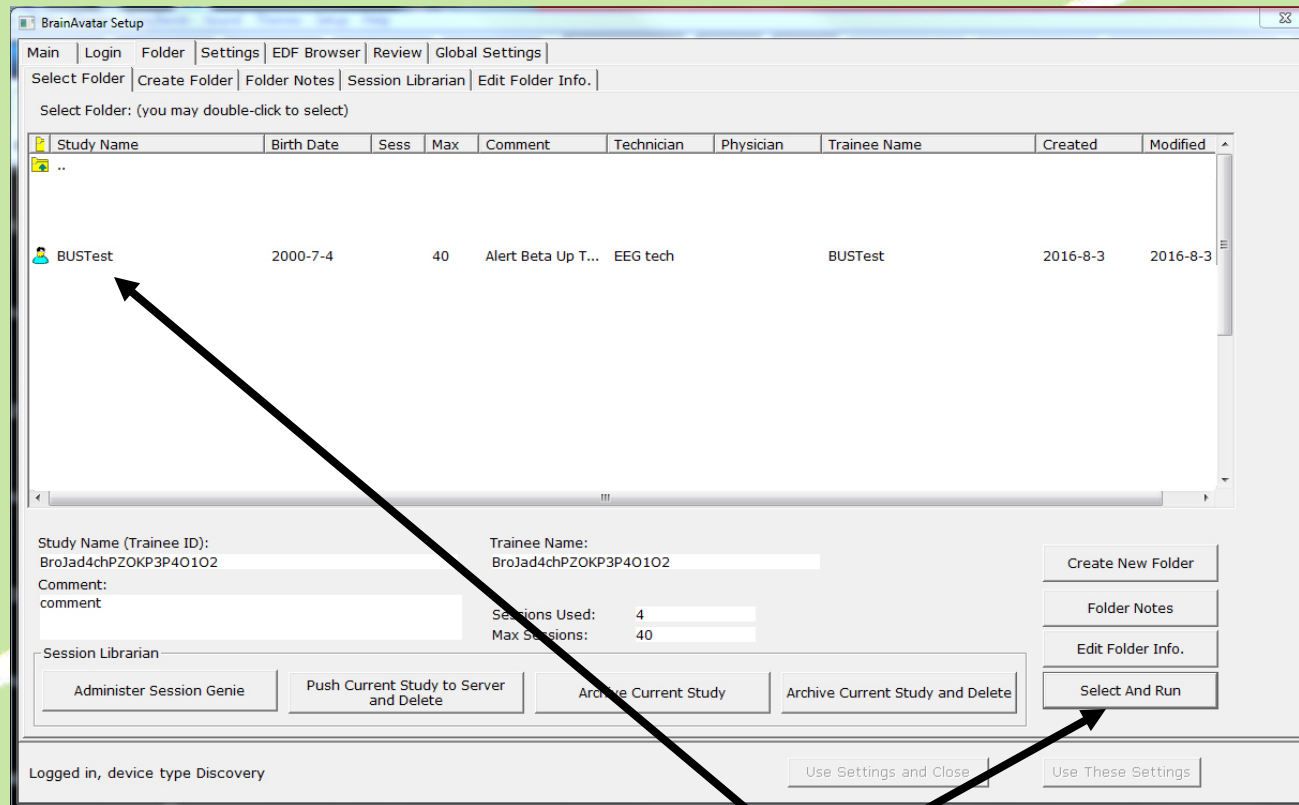
Create New Folder | Folder Notes | Edit Folder Info. | Select And Run

Logged in, device type Discovery

Use Settings and Close | Use These Settings

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.

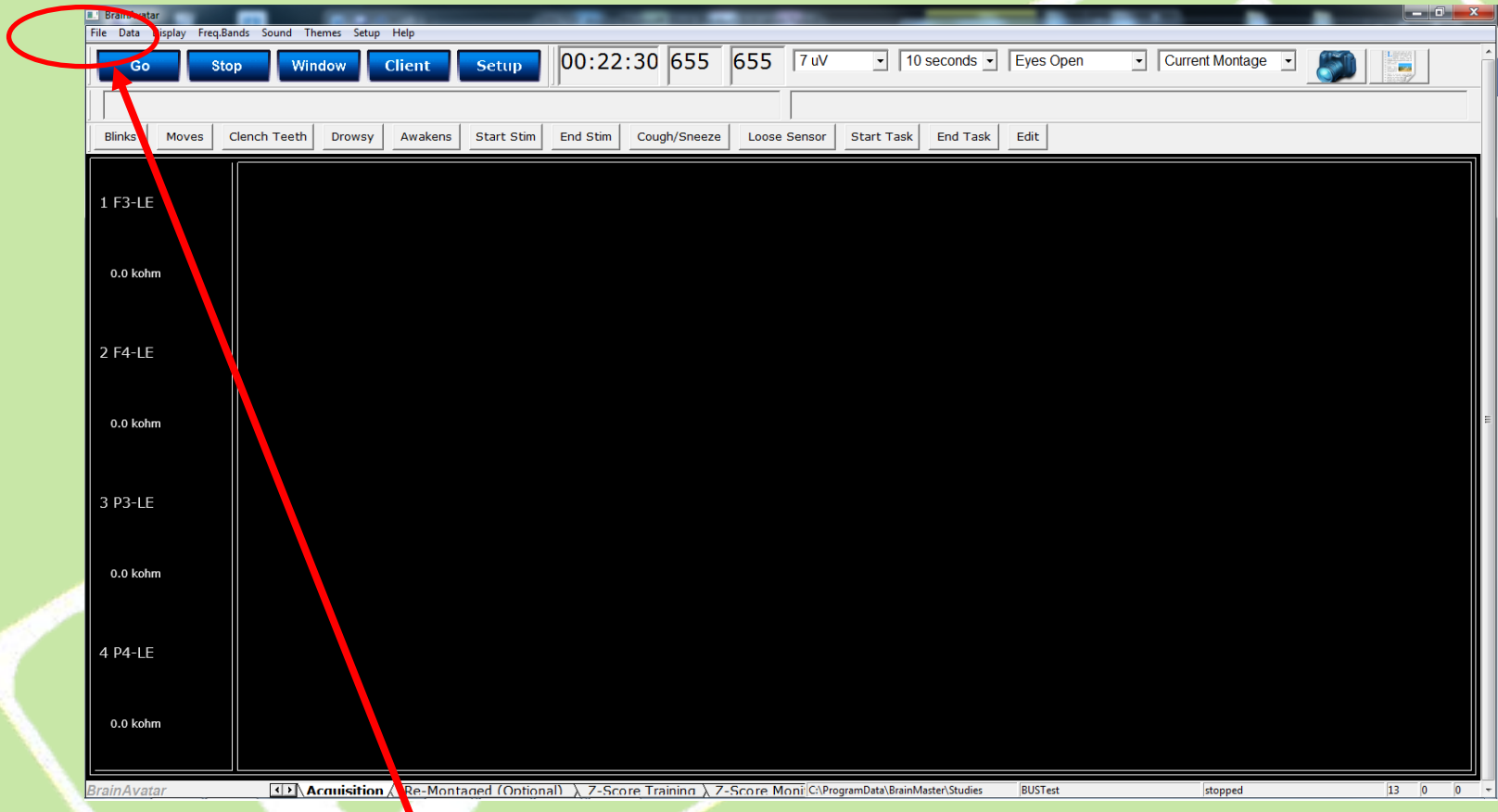
- The Select Folder Screen will appear.



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

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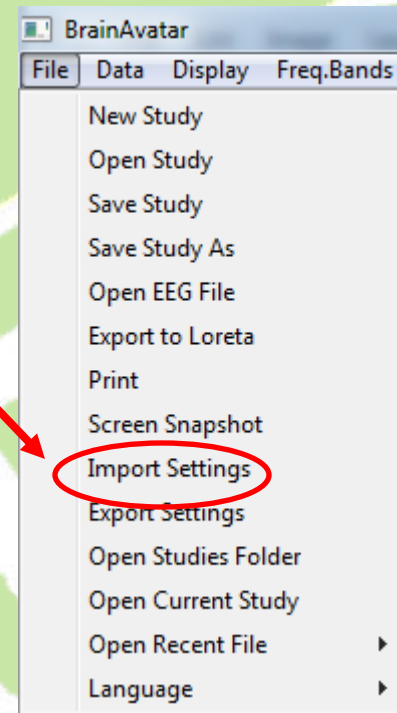
- The BrainAvatar Acquisition Screen is illuminated. Let's load the Level 3 PZOK Setting with the addition of Upper and Lower Limits to learn how to develop this settings file.




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

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- Next click “Import Settings”.



- Scroll to find the original PZOK Level 3 File and double click it.

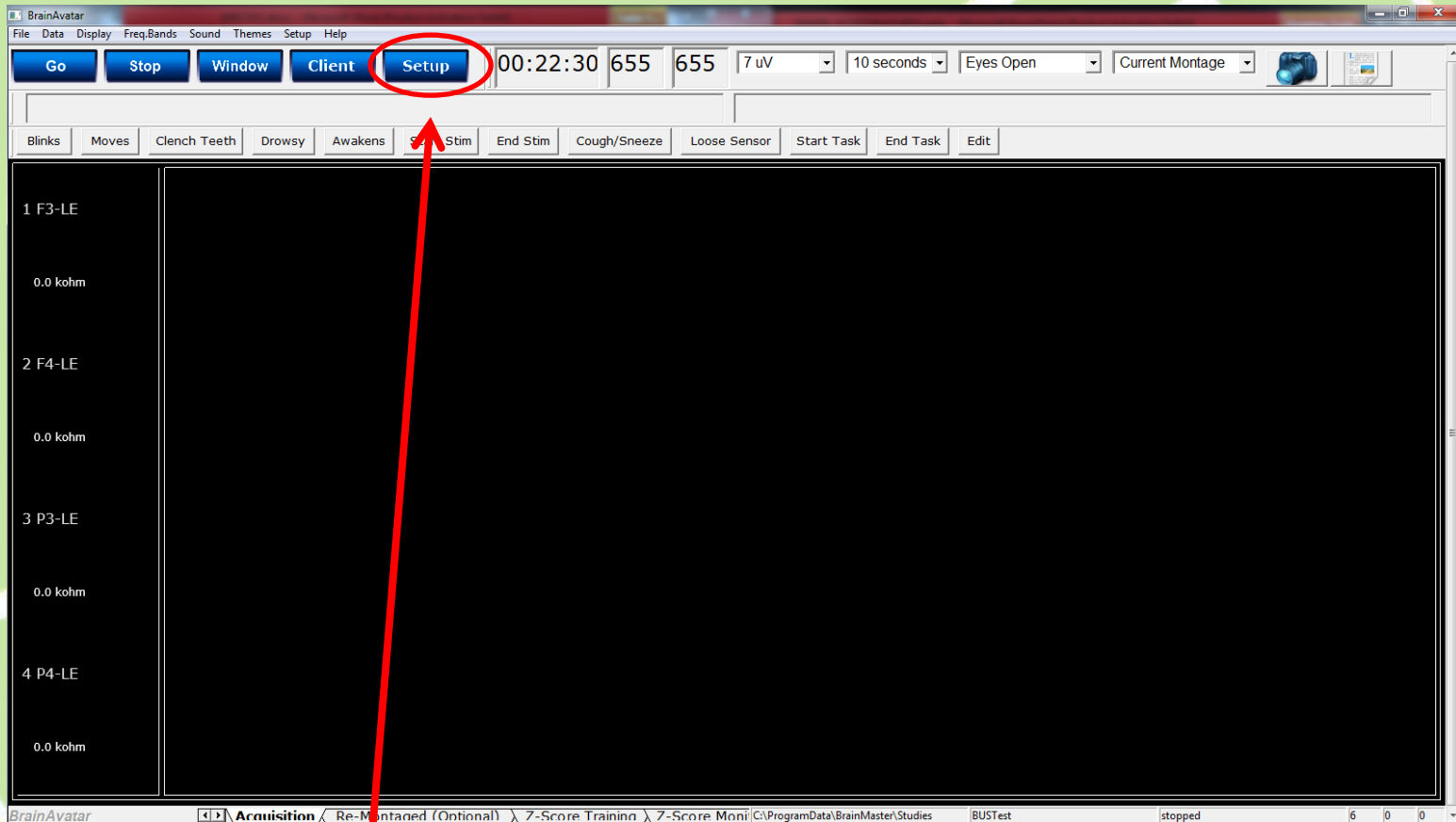
Name	Date modified	Type	Size
 2103011chgtoUL.bdb2	8/27/2016 4:10 PM	BDB2 File	166 KB

- The PZOKUL Level 3 setting is imported into the BUS Study and is now ready for modification.

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4chPZOK+PZMO

The Protocol is now ready for Modification

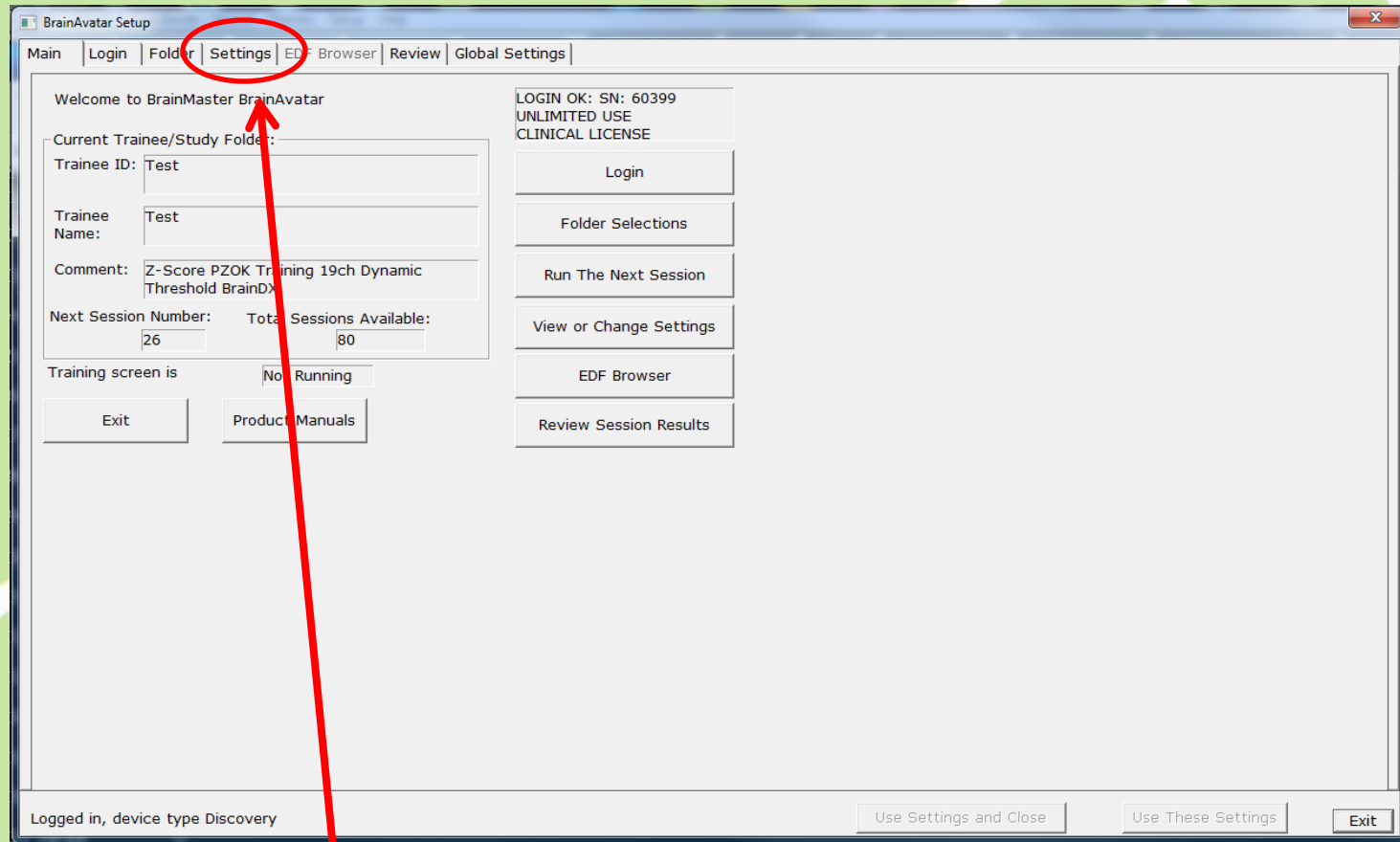


- Click “Setup”.

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4chPZOK+PZMO

The Protocol is now ready for Modification

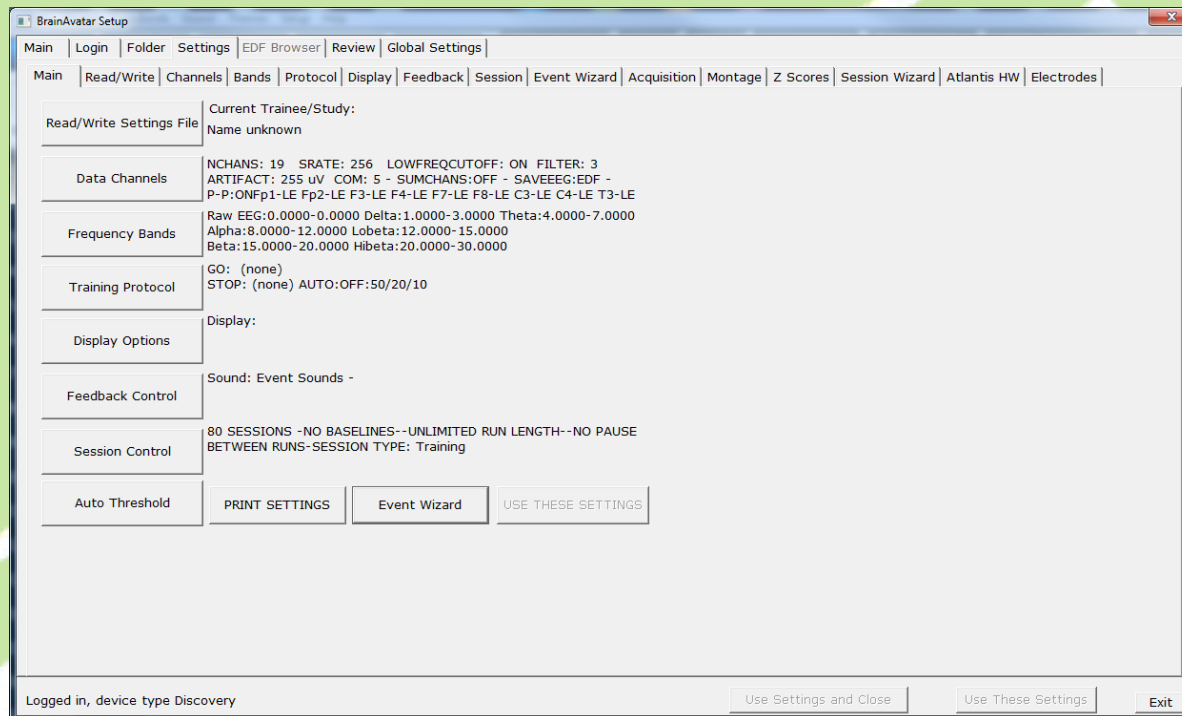


- Click “Settings”.

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4chPZOK+PZMO

The Protocol is now ready for Modification

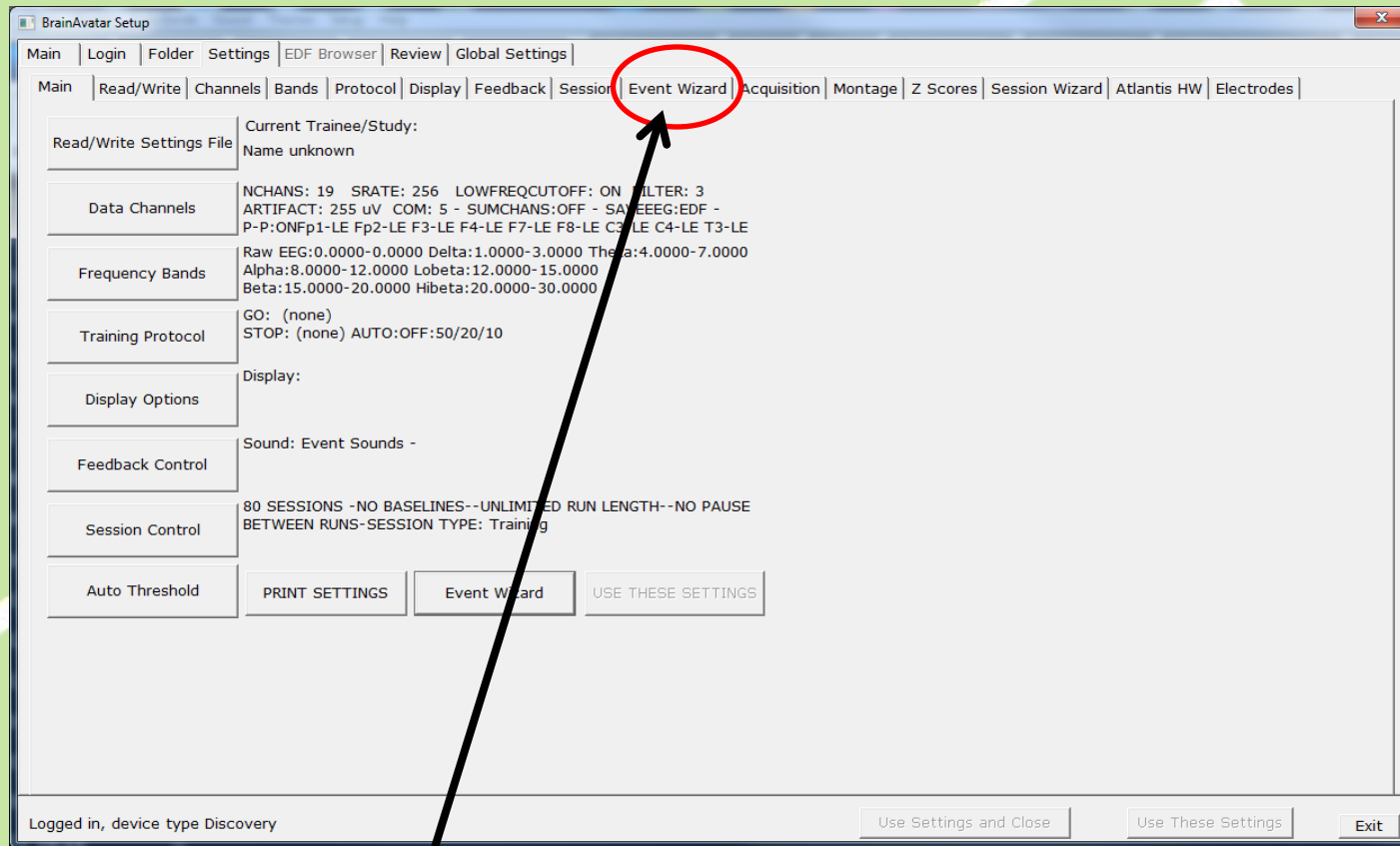


YOU ARE NOW ABOUT TO ENTER THE “BRAIN CENTER” OF THE BRAINAVATAR PROGRAM. ANY HAPHAZARD MODIFICATIONS HERE WITHOUT KNOWLEDGE MAY CAUSE UNPREDICTABLE RESULTS. THIS INSTRUCTION MANUAL WILL GIVE YOU THE PROPER KNOWLEDGE TO ALTER THESE CONTROL SCREENS WITHOUT CONCERN. AGAIN, YOU CAN ALWAYS INSTALL THE ORIGINAL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

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4chPZOK+PZMO

The Protocol is now ready for Modification

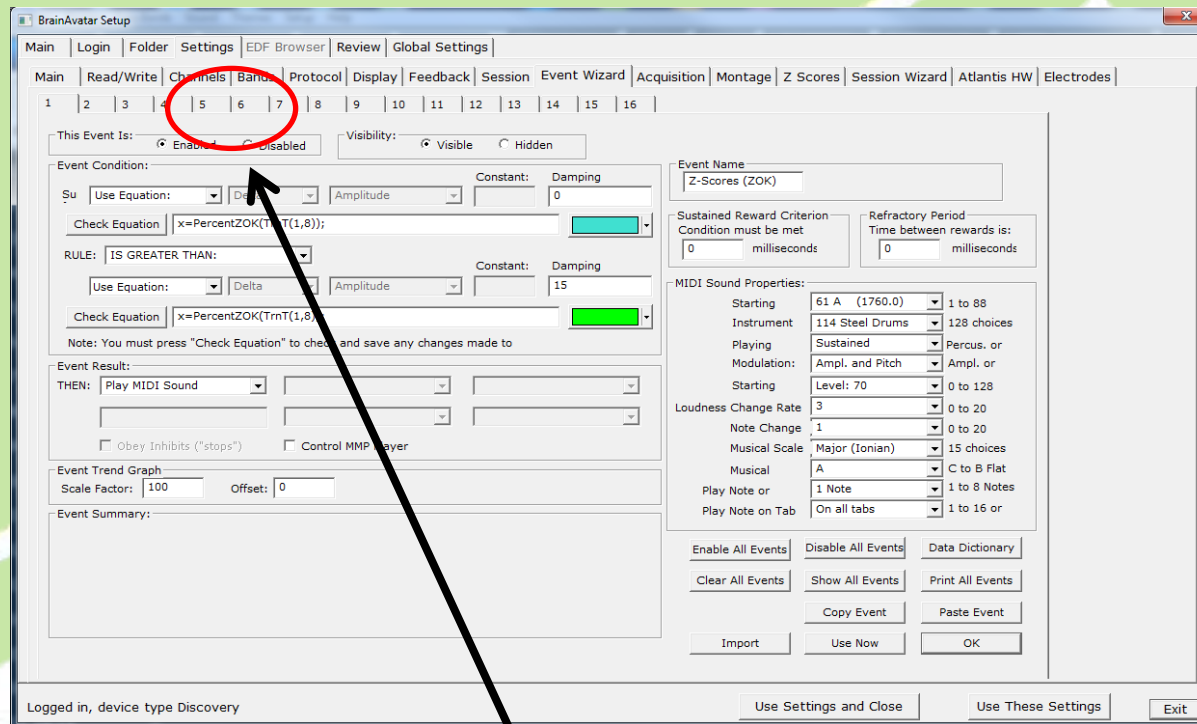


Click "Event Wizard".

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.

4chPZOK+PZMO

The Protocol is now ready for Modification

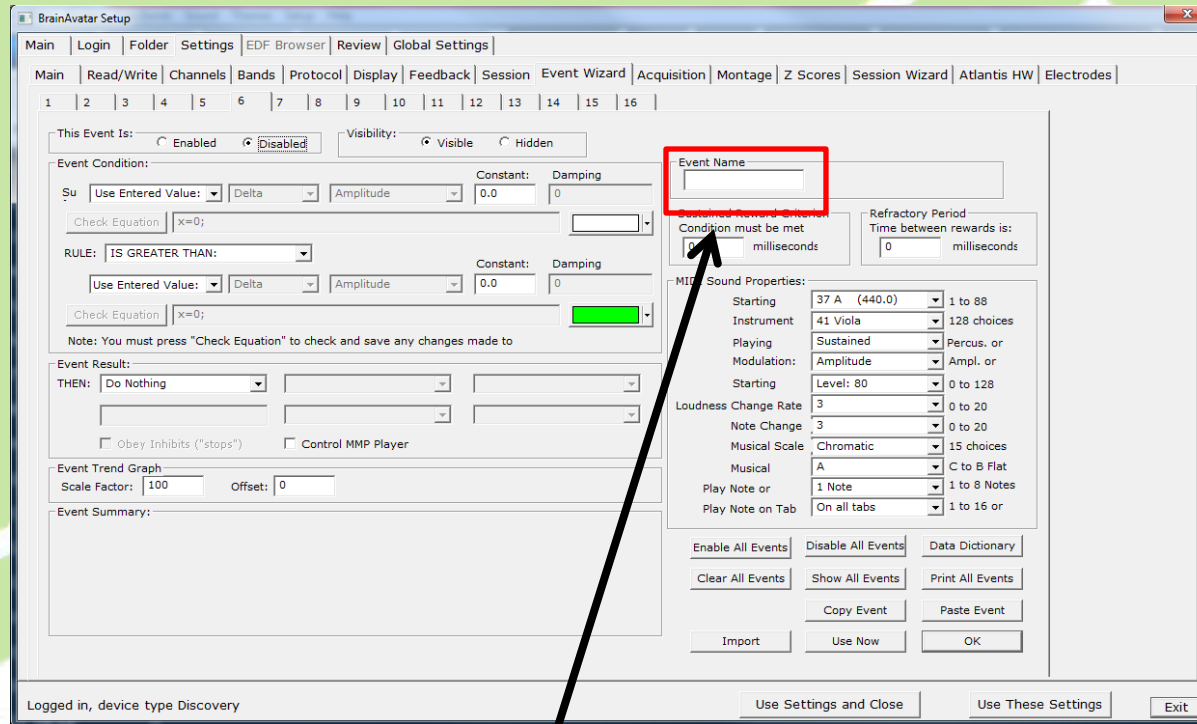


This is the Event Wizard which contains all of the conditions which make the Protocol run. The setting we will be initiating is “Event 6”. Click “Event 6”.

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4chPZOK+PZMO

The Protocol is now ready for Modification

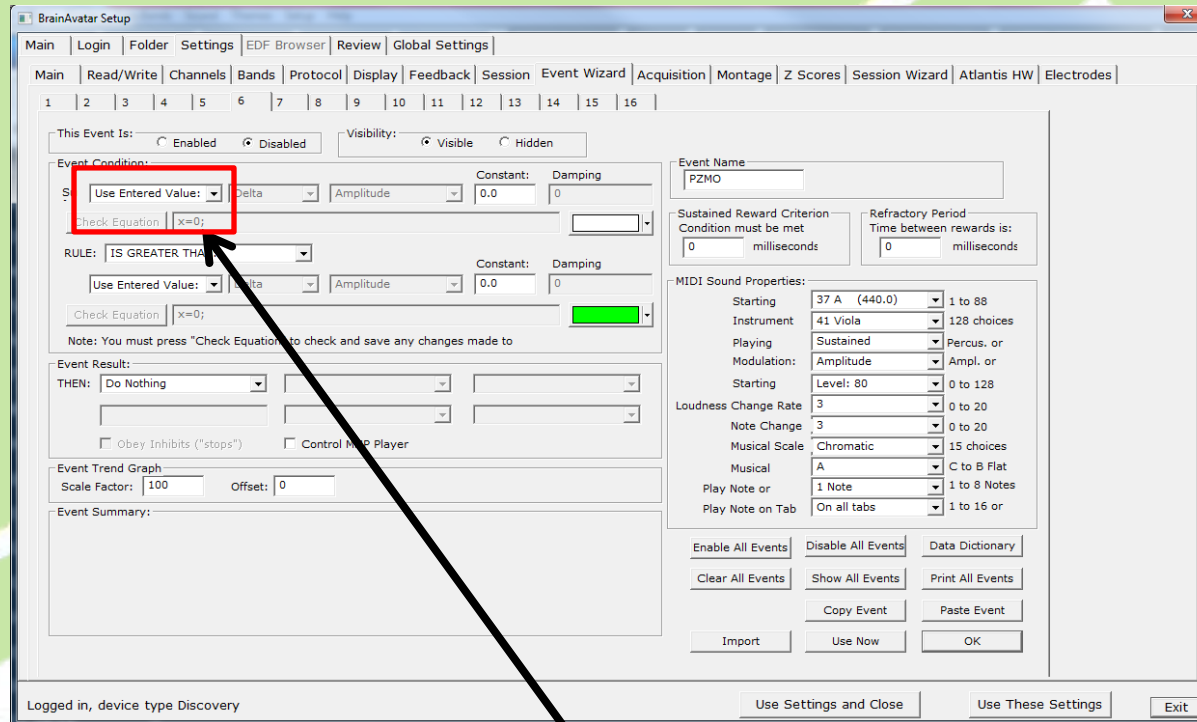


As you may notice, since Event 6 has not been used it comes up with all settings in default. In the Event Name box type “PZMO” to get things started.

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4chPZOK+PZMO

The Protocol is now ready for Modification

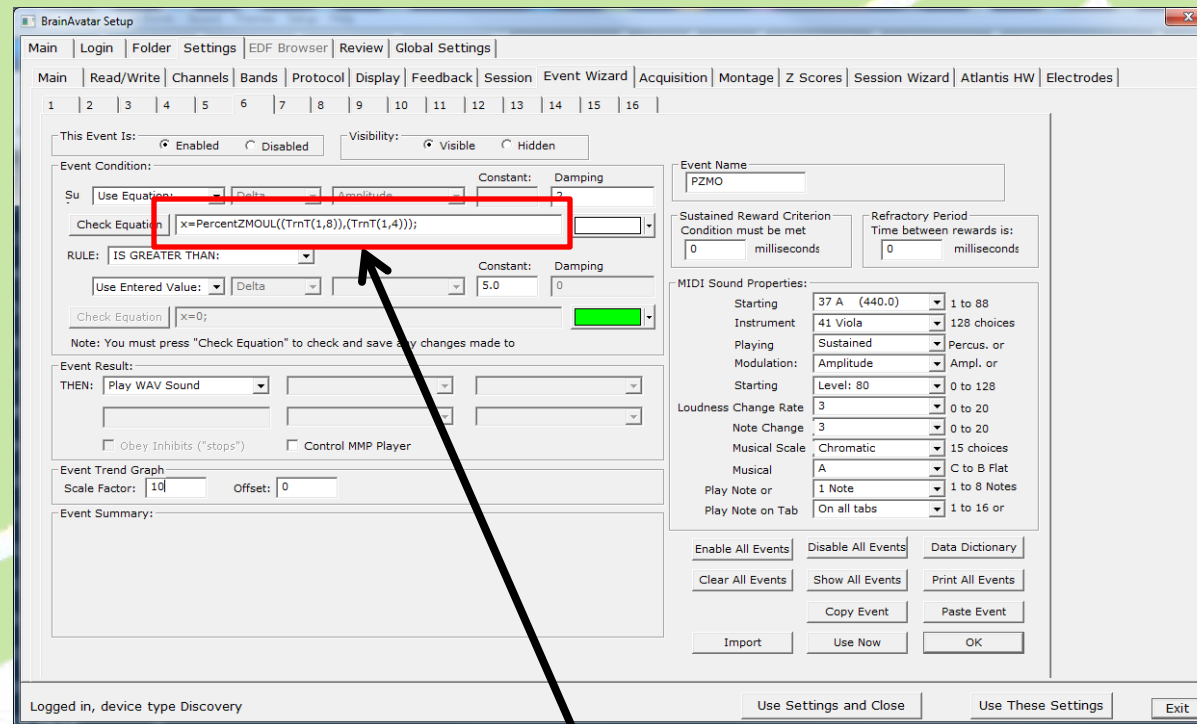


Next, we will be entering the PZMO equation. Change “Use Entered Value” to “Use Equation” in the Event Condition Box. Enter the following in the Equation window: $x = \text{PercentZMOUL}(\text{TrnT}(1,8)), (\text{TrnT}(1,4)))$; Make sure to copy it exactly including the semicolon at the end.

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4chPZOK+PZMO

The Protocol is now ready for Modification

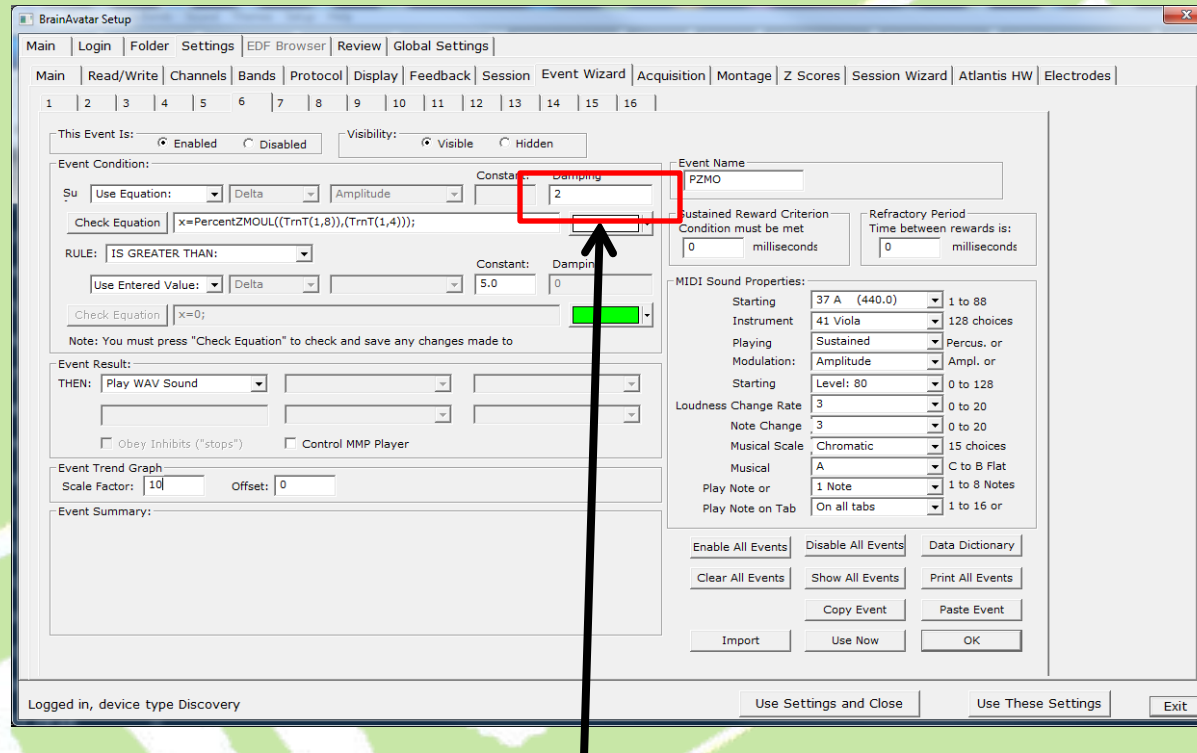


Let's interpret the equation $x = \text{PercentZMOUL}(\text{TrnT}(1,8), \text{TrnT}(1,4));$
PercentZMOUL engages the PZMO algorithm using the same Upper and Lower window limits within the PZOK equation. TrnT(1,8) uses the "u" key to define the Upper limit and TrnT(1,4) uses the "l" key to define the Lower limit.

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4chPZOK+PZMO

The Protocol is now ready for Modification

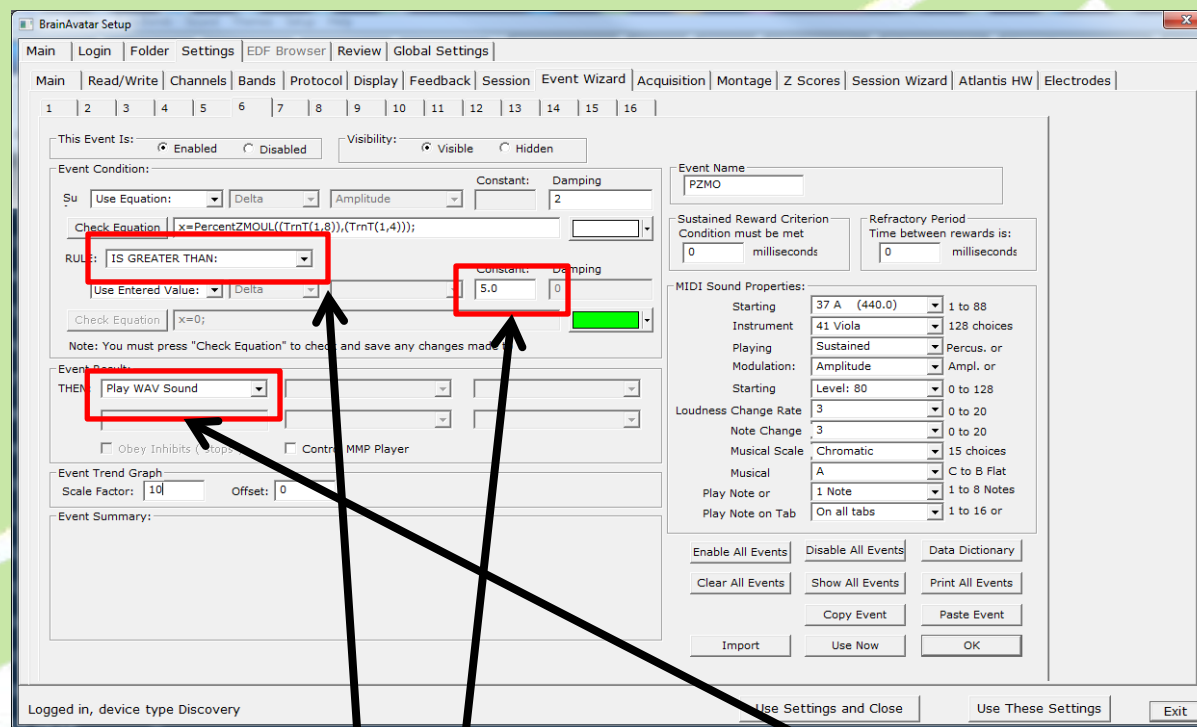


Enter a damping value of 2 so that movement in the tables and meters are slowed somewhat for ease of viewing without effecting the speed of feedback.

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4chPZOK+PZMO

The Protocol is now ready for Modification

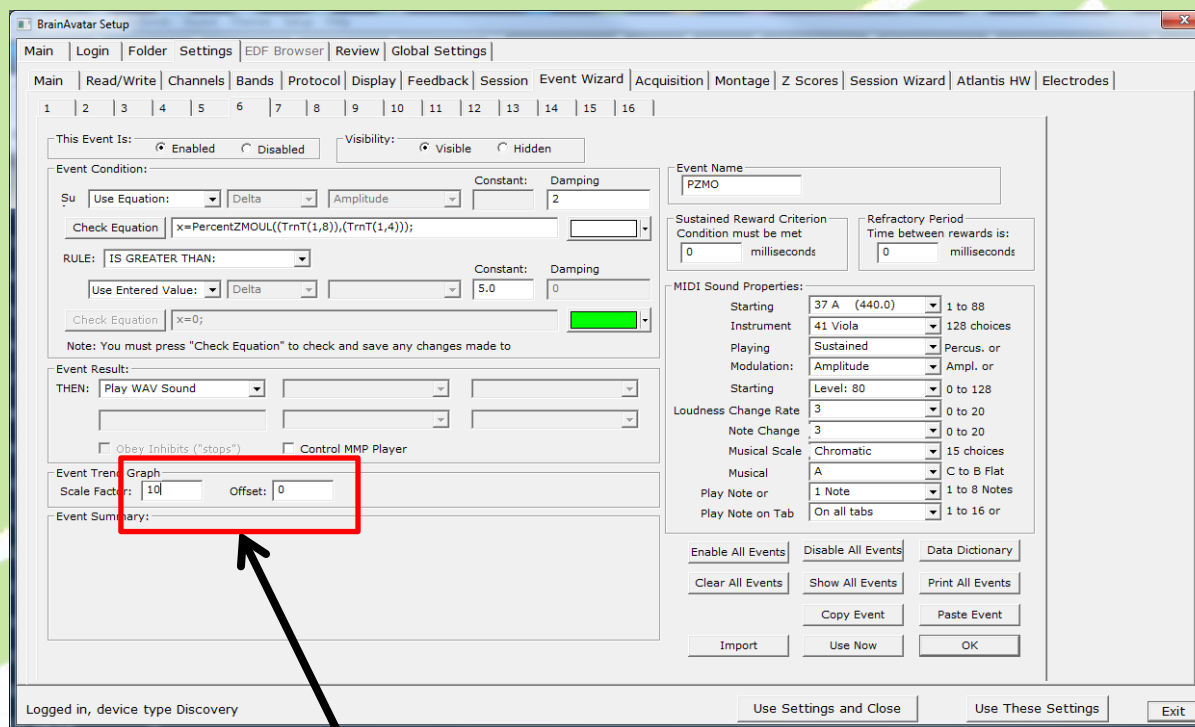


The Rule should be “Greater Than” and the “Entered Value Constant” can initially be set at 5% denoting a 5% movement of outliers towards the window will create a beep. In the “Event Result Then:” Window enter “Play Wav Sound” to define the “Beep”.

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4chPZOK+PZMO

The Protocol is now ready for Modification

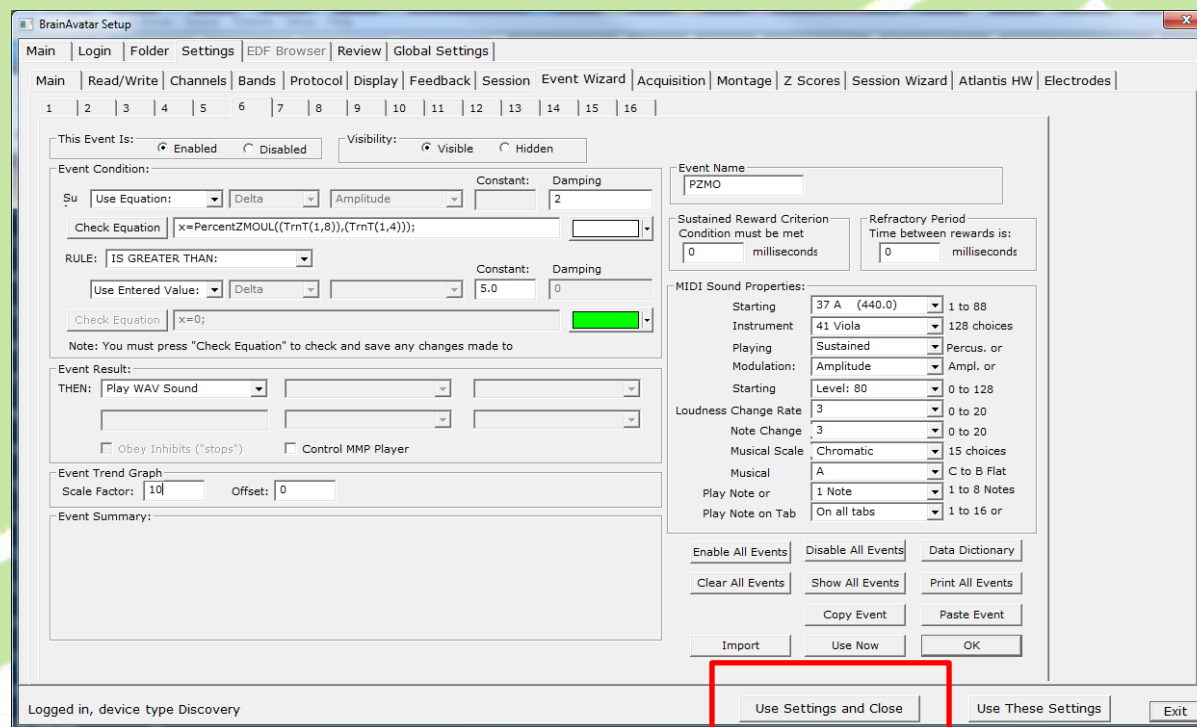


In the Event Trend Graph Window enter a Scale Factor of 10 with an offset of 0 so the graph of this event goes from 0 to 10% with a midline at 5%.

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4chPZOK+PZMO

The Protocol is now ready for Modification

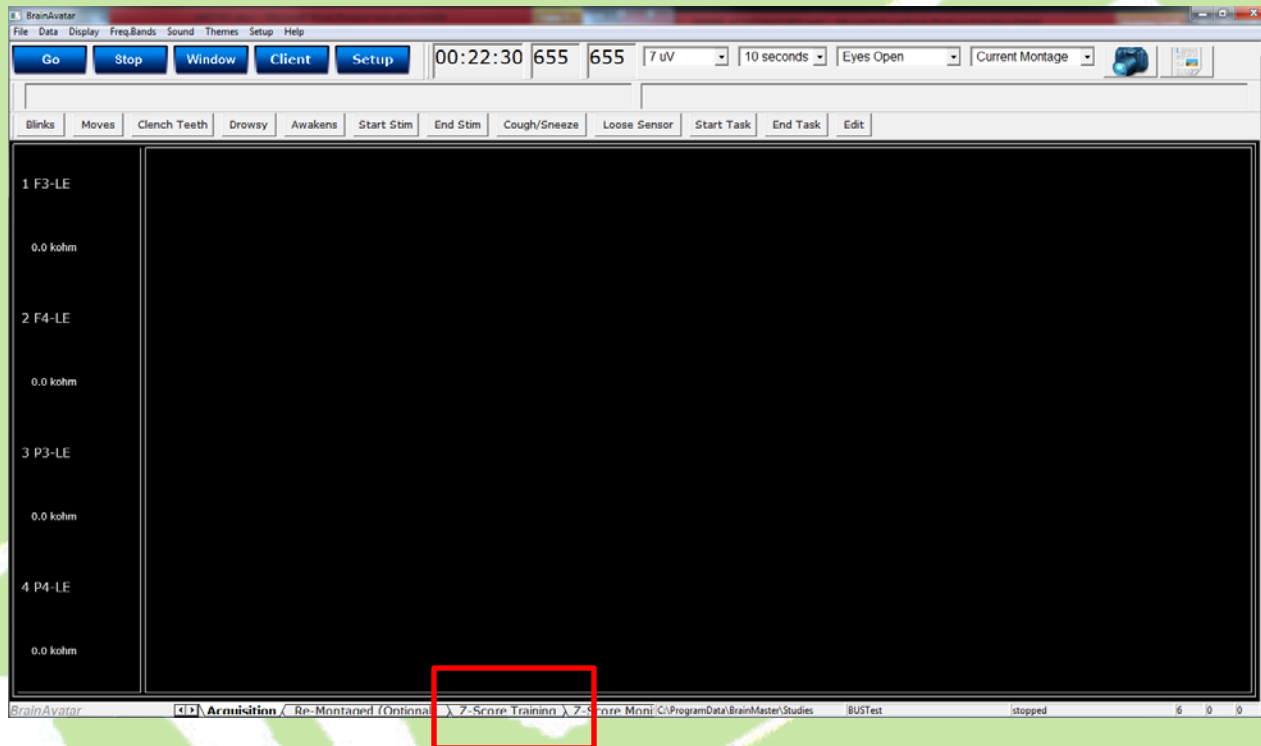


Click “Use Settings and Close” to save and activate these additions.

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4chPZOK+PZMO

The Protocol is now ready for Modification

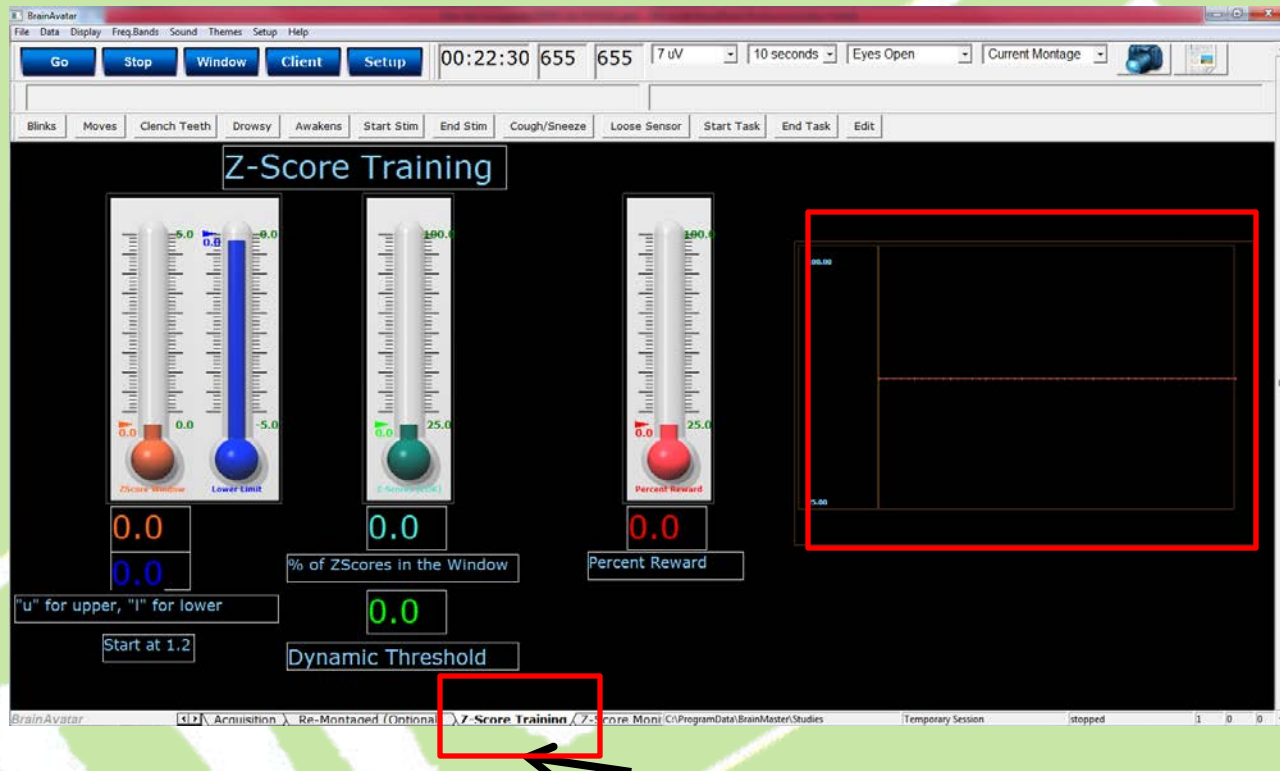


Our next task is to visually represent PZMO on our PZOK Training Screen. Click the Z-Score Training Tab on the BrainAvatar Tab Row.

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4chPZOK+PZMO

The Protocol is now ready for Modification

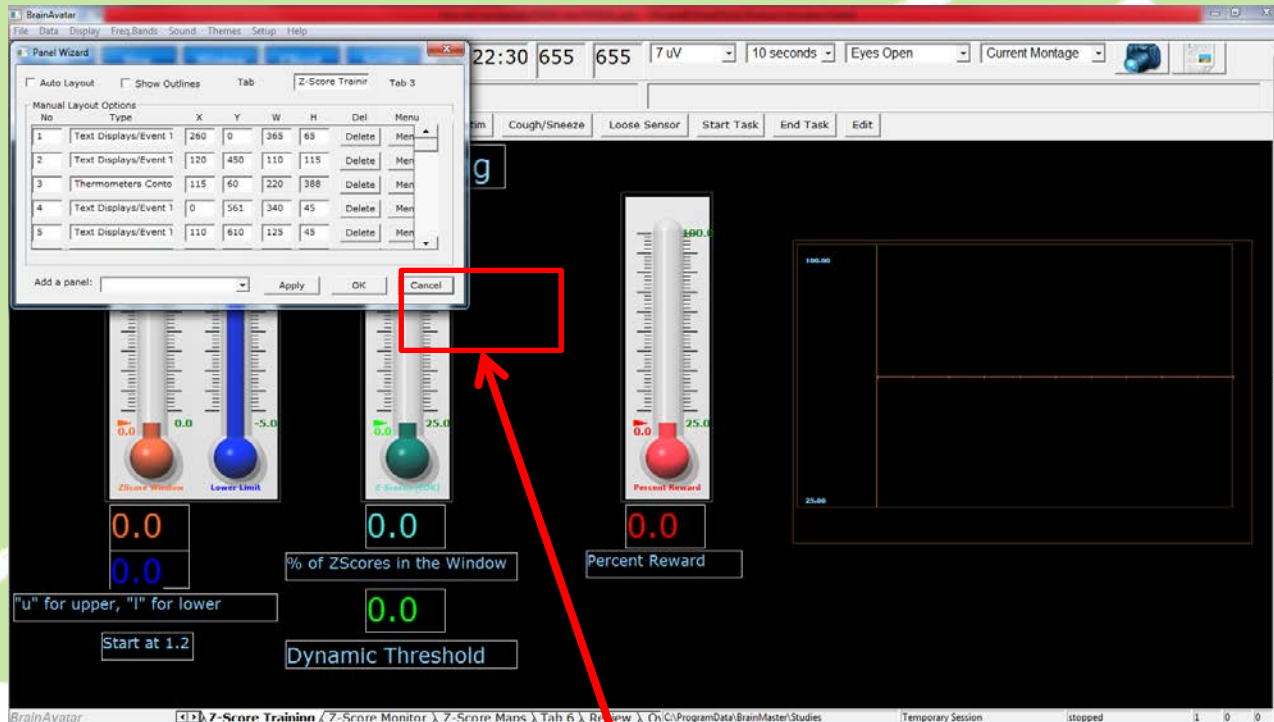


Let's make some room for the PZMO Wide Trend Event Graph on the right underneath the PZOK Wide Trend Event Graph. Our first step is to decrease the size of the PZOK Event Trend Graph and move it to the top. Right-Click the Z-Score Training Tab to call up the Panel Wizard

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4chPZOK+PZMO

The Protocol is now ready for Modification

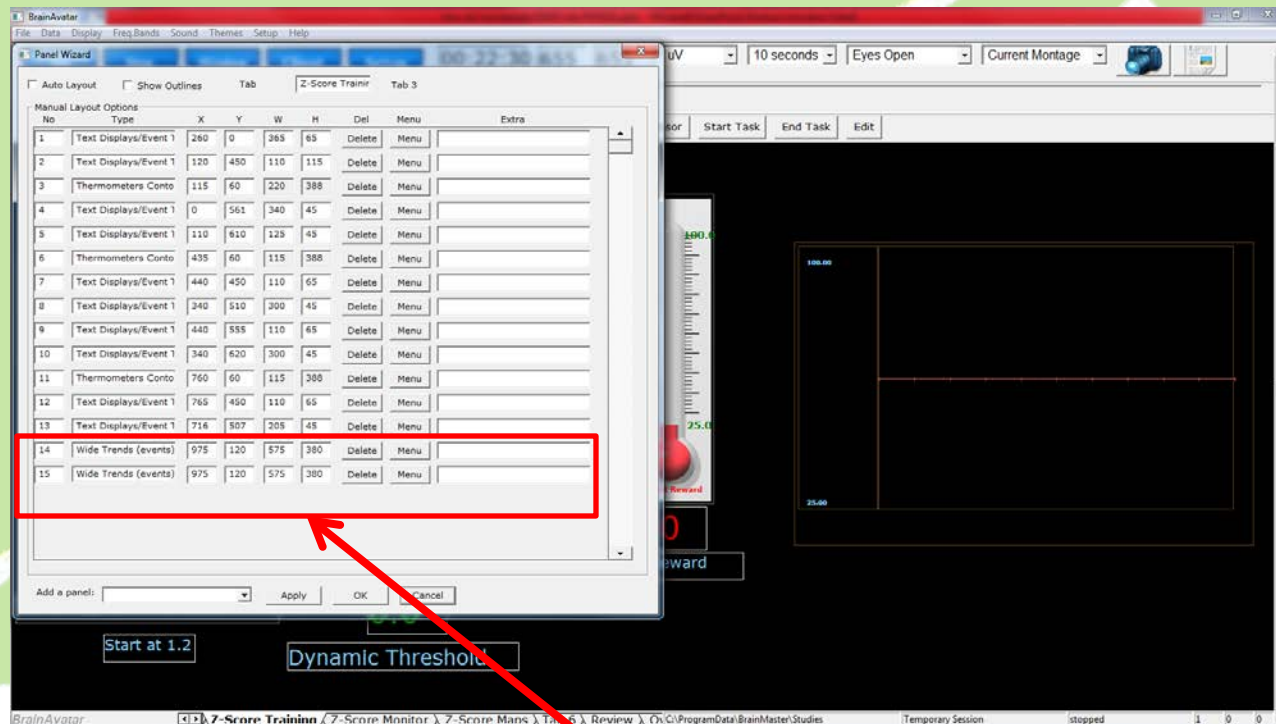


You may increase the size of the Panel Wizard so it becomes more visible and workable by holding the left mouse button down and dragging the lower right corner of the panel wizard window down and to the right.

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4chPZOK+PZMO

The Protocol is now ready for Modification

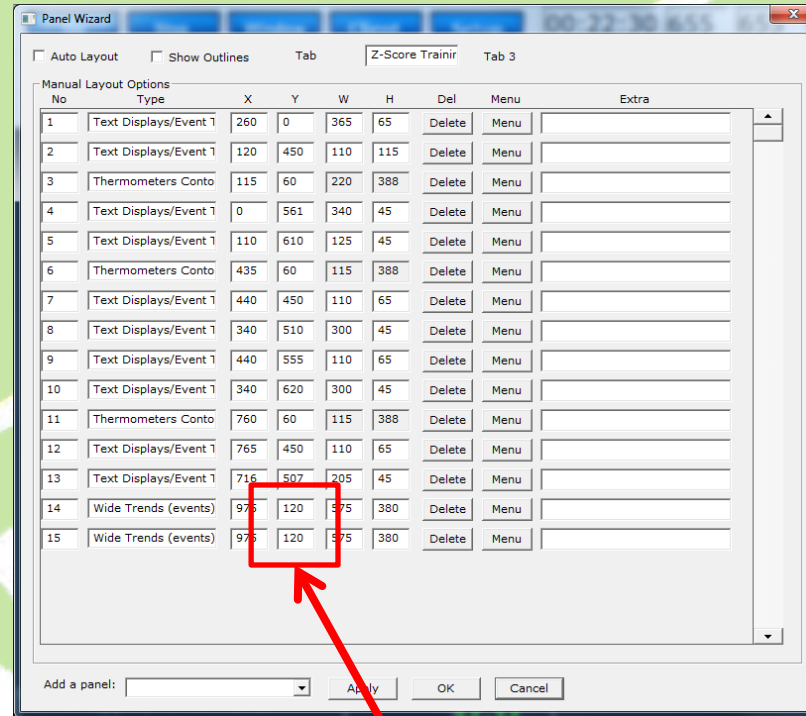


These lower 2 wide trend events control the size and location the PZOK Graph. There are 2 wide trend event graphs stacked on top of each other. One displays Event 1 PZOK and the second displays Event 2 “Percent Reward”. Since they have the same scale they appear as one graph.

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4chPZOK+PZMO

The Protocol is now ready for Modification

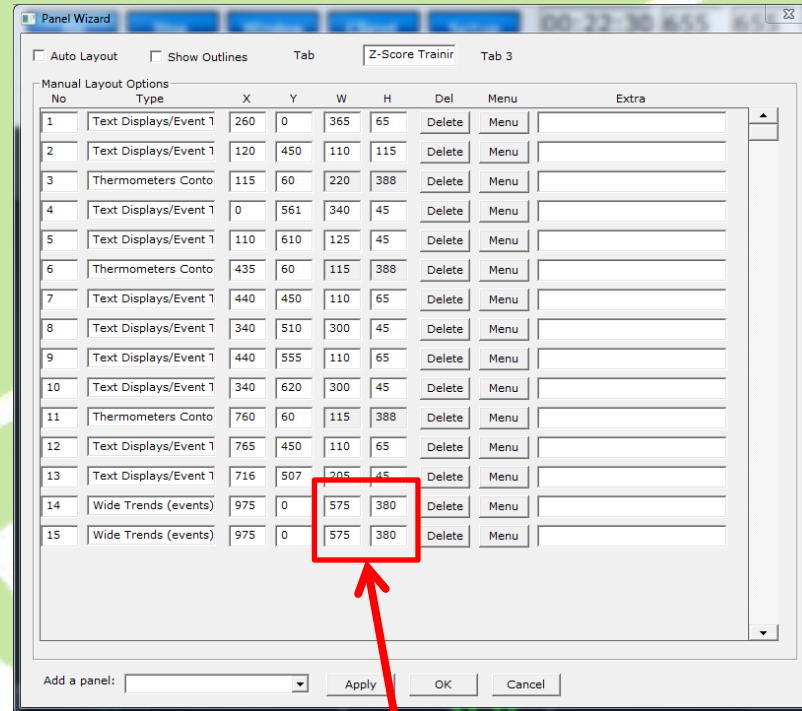


To move the graphs to the top of the page change the Y coordinate from 120 to 0 on each wide trend event graph thus moving them up 120 pixels to the top of the page.

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4chPZOK+PZMO

The Protocol is now ready for Modification

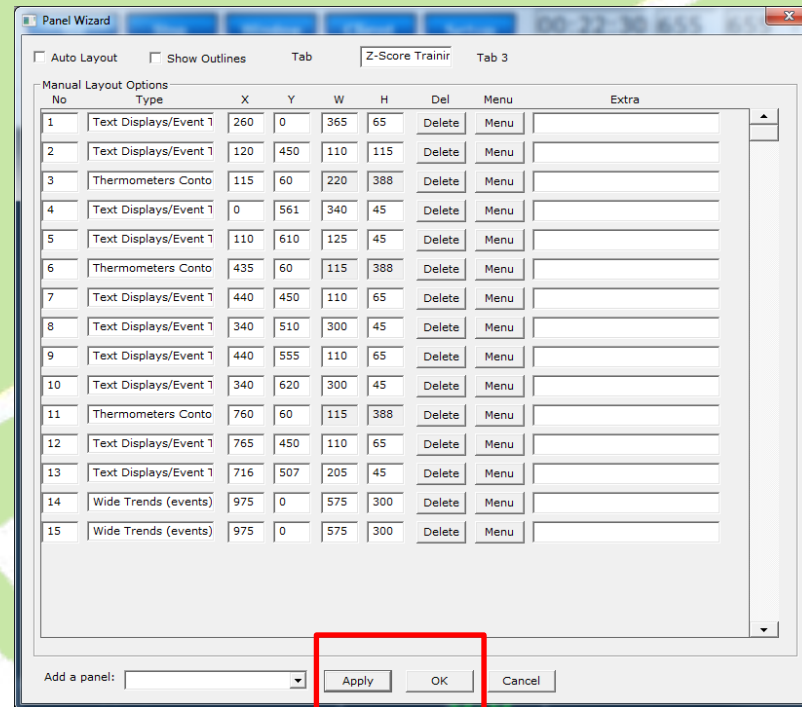


Also, we can change the size of the wide trend event graphs to create more room. Leave the widths at 575 pixels and change the height to 300 pixels.

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4chPZOK+PZMO

The Protocol is now ready for Modification

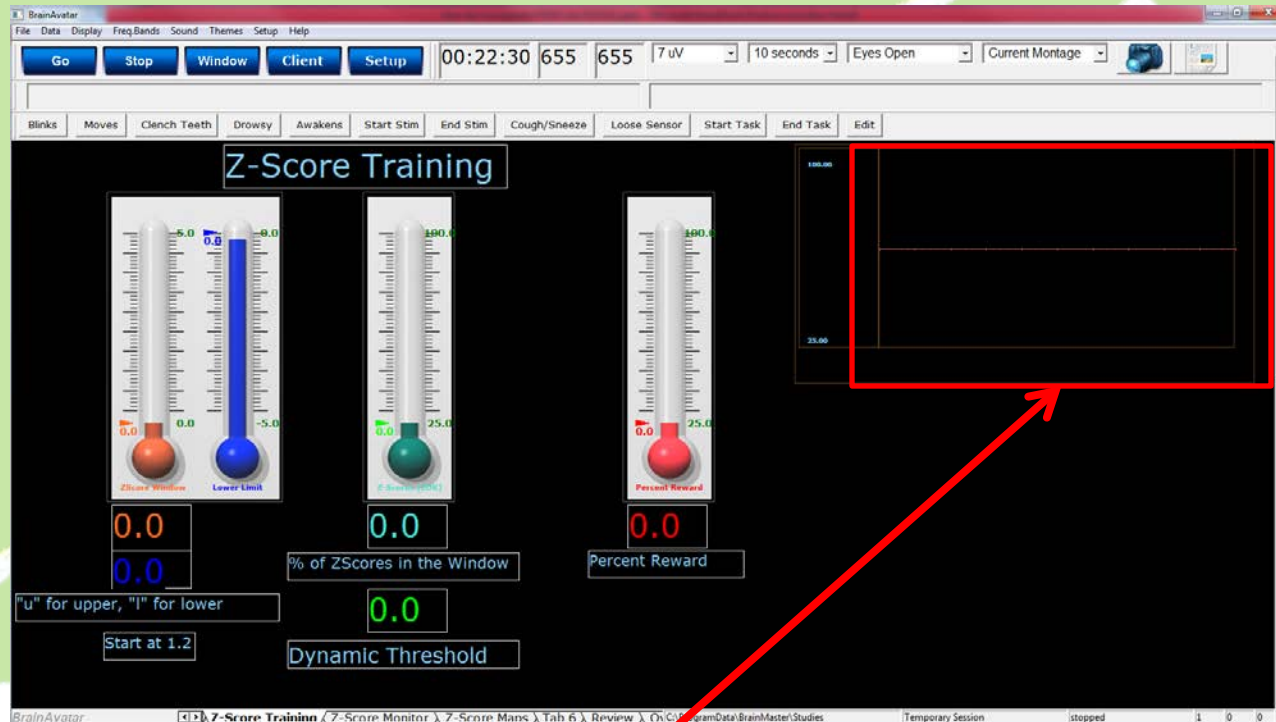


Next click “Apply” and then “OK” to enact the changes.

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4chPZOK+PZMO

The Protocol is now ready for Modification

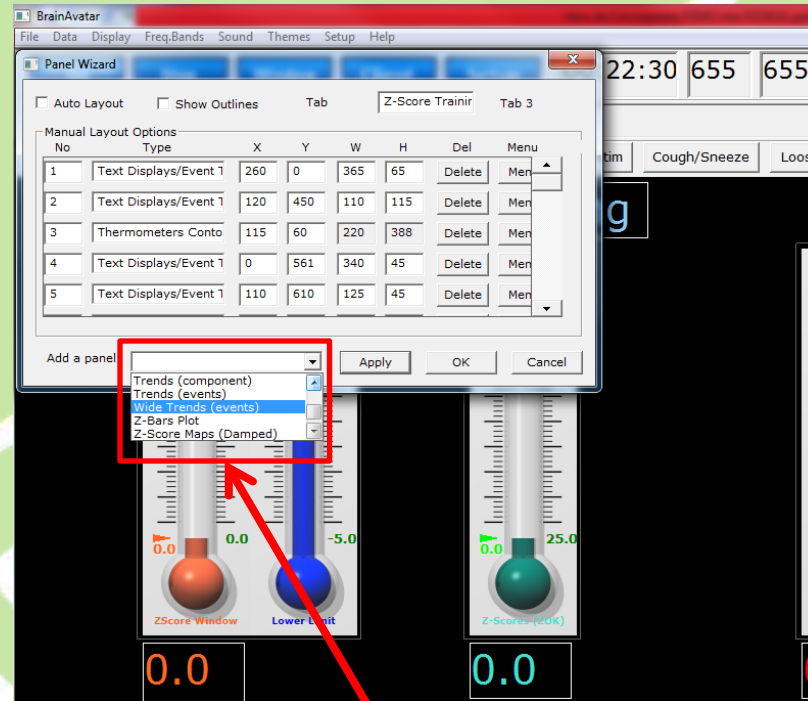


Notice how our PZOK Wide Trend Event Graph has been shifted to the top and is resized to create more room. Our next step is to create our PZMO Wide Trend Event Graph and place it underneath our PZOK Graph. Right-Click the Z-Score Training tab to call up the Panel Wizard.

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4chPZOK+PZMO

The Protocol is now ready for Modification

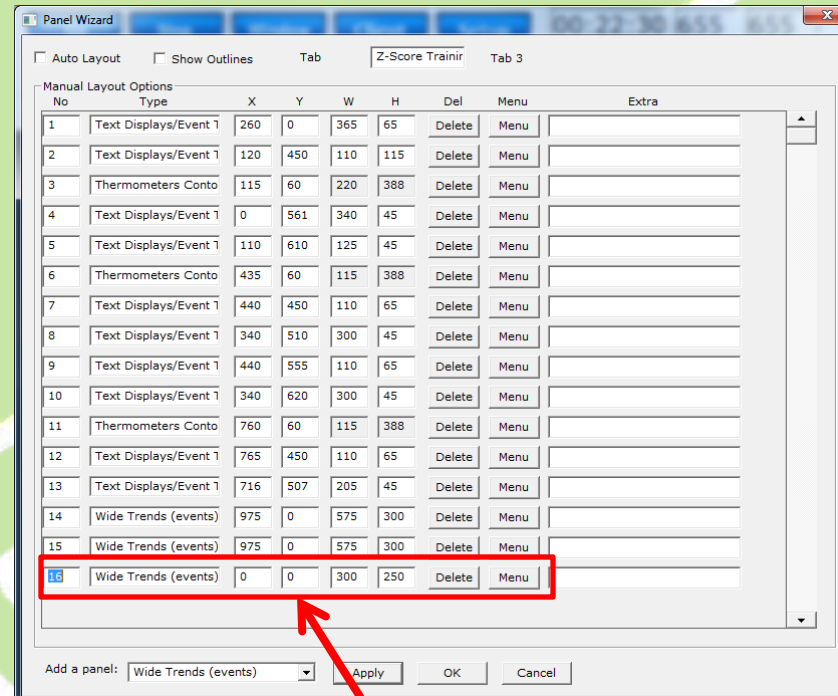


Using the Add a panel drop down menu click “Wide Trend (Events)”.

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4chPZOK+PZMO

The Protocol is now ready for Modification



If you widen out the Panel Wizard as you did before you will find our new Wide Trend (Events) Graph listed on the bottom in placement Number 16. We can now adjust the placement and the size of this graph. Using the PZOK graph as a reference.

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4chPZOK+PZMO

The Protocol is now ready for Modification

Panel Wizard

☐ Auto Layout ☐ Show Outlines Tab Z-Score Train Tab 3

Manual Layout Options

No	Type	X	Y	W	H	Del	Menu	Extra
1	Text Displays/Event 1	260	0	365	65	Delete	Menu	
2	Text Displays/Event 1	120	450	110	115	Delete	Menu	
3	Thermometers Conto	115	60	220	388	Delete	Menu	
4	Text Displays/Event 1	0	561	340	45	Delete	Menu	
5	Text Displays/Event 1	110	610	125	45	Delete	Menu	
6	Thermometers Conto	435	60	115	388	Delete	Menu	
7	Text Displays/Event 1	440	450	110	65	Delete	Menu	
8	Text Displays/Event 1	340	510	300	45	Delete	Menu	
9	Text Displays/Event 1	440	555	110	65	Delete	Menu	
10	Text Displays/Event 1	340	620	300	45	Delete	Menu	
11	Thermometers Conto	760	60	115	388	Delete	Menu	
12	Text Displays/Event 1	765	450	110	65	Delete	Menu	
13	Text Displays/Event 1	716	507	205	45	Delete	Menu	
14	Wide Trends (events)	975	0	575	300	Delete	Menu	
15	Wide Trends (events)	975	0	575	300	Delete	Menu	
16	Wide Trends (events)	975	0	300	250	Delete	Menu	

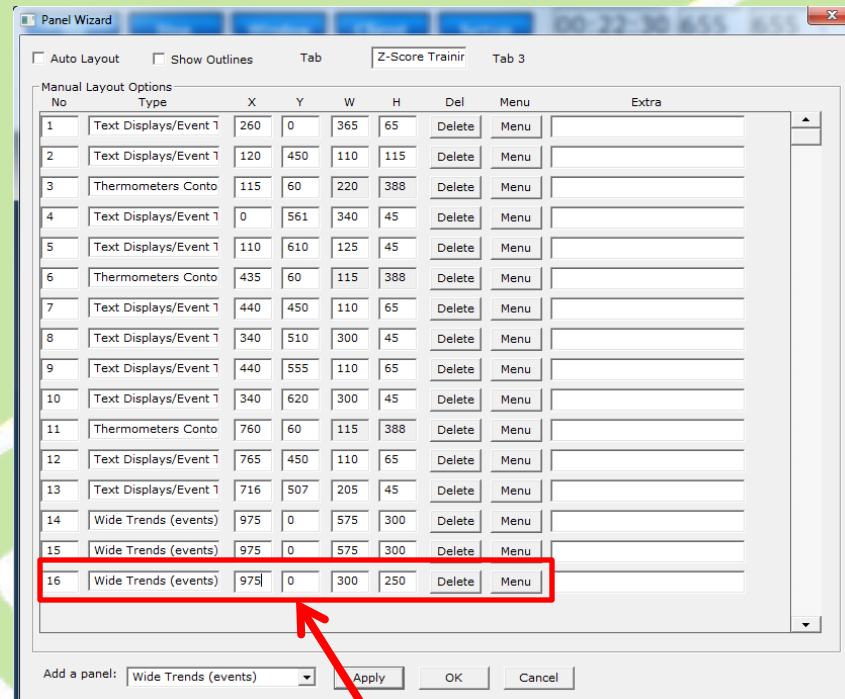
Add a panel: Wide Trends (events) [Apply] [OK] [Cancel]

Since the location of this graph will be the same along the x-axis as the PZOK graph, type 975 in the x coordinate box.

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4chPZOK+PZMO

The Protocol is now ready for Modification



Since the width of the PZOK Graph is 300 Pixels, we would like the PZMO graph to be placed right underneath. Therefore the Y coordinate will be 300 Pixels. Place 300 in the Y coordinate box.

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4chPZOK+PZMO

The Protocol is now ready for Modification

Panel Wizard

Auto Layout ☐ Show Outlines ☐ Tab Z-Score Traini Tab 3

Manual Layout Options

No	Type	X	Y	W	H	Del	Menu	Extra
1	Text Displays/Event 1	260	0	365	65	Delete	Menu	
2	Text Displays/Event 1	120	450	110	115	Delete	Menu	
3	Thermometers Conto	115	60	220	388	Delete	Menu	
4	Text Displays/Event 1	0	561	340	45	Delete	Menu	
5	Text Displays/Event 1	110	610	125	45	Delete	Menu	
6	Thermometers Conto	435	60	115	388	Delete	Menu	
7	Text Displays/Event 1	440	450	110	65	Delete	Menu	
8	Text Displays/Event 1	340	510	300	45	Delete	Menu	
9	Text Displays/Event 1	440	555	110	65	Delete	Menu	
10	Text Displays/Event 1	340	620	300	45	Delete	Menu	
11	Thermometers Conto	760	60	115	388	Delete	Menu	
12	Text Displays/Event 1	765	450	110	65	Delete	Menu	
13	Text Displays/Event 1	716	507	205	45	Delete	Menu	
14	Wide Trends (events)	975	0	575	300	Delete	Menu	
15	Wide Trends (events)	975	0	575	300	Delete	Menu	
16	Wide Trends (events)	975	300	300	250	Delete	Menu	

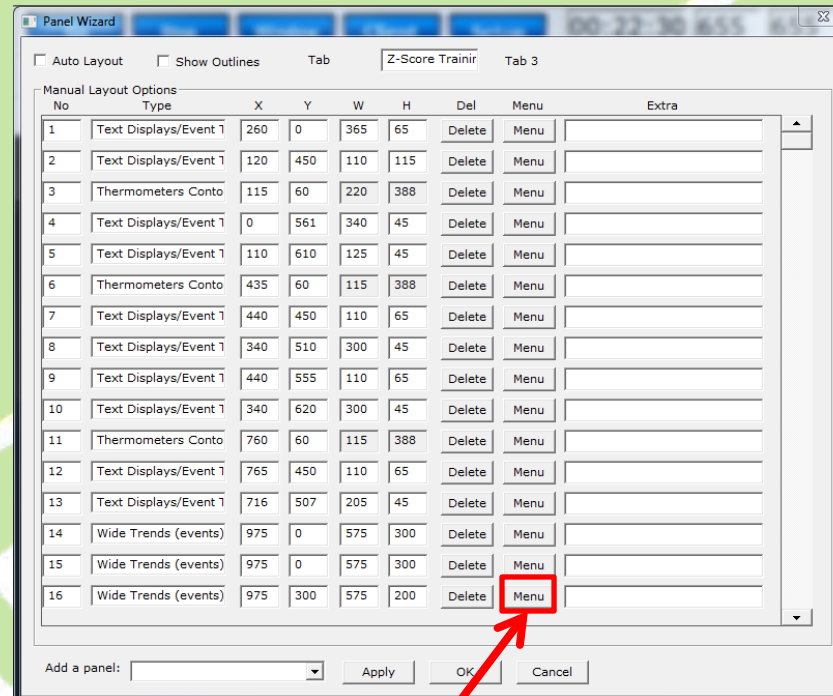
Add a panel: Apply OK Cancel

Perhaps we would like this graph to be the same width as the PZOK Graph. Type in 575 pixels into the width box. Perhaps we would like the PZMO graph to be a bit shorter than the PZOK graph. Lets type in 200 (pixels) into the Height Box.

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4chPZOK+PZMO

The Protocol is now ready for Modification

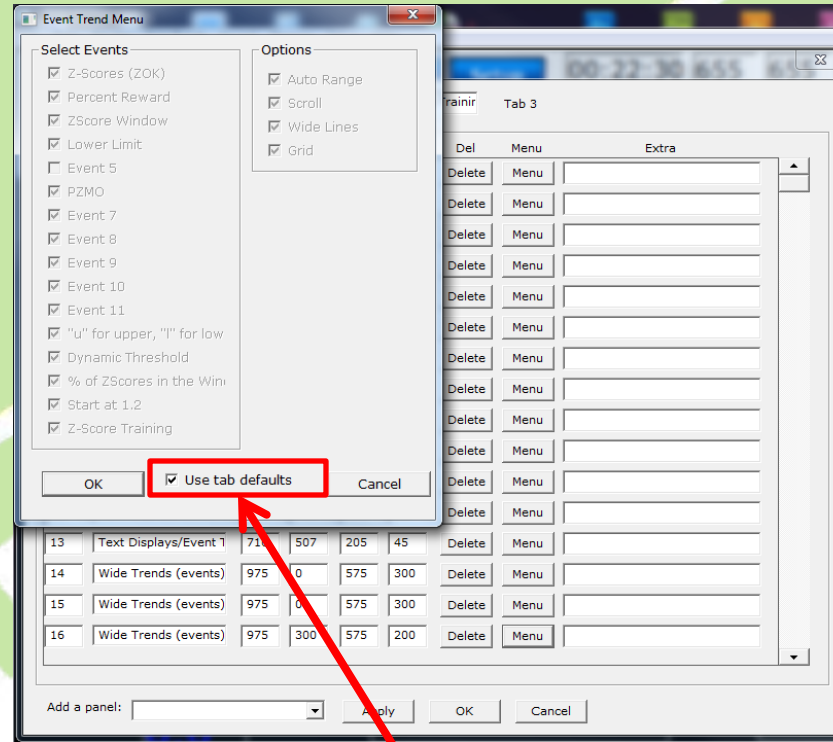


Now, click the Menu key so that we may tell BrainAvatar exactly what we would like to show on the graph.

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4chPZOK+PZMO

The Protocol is now ready for Modification

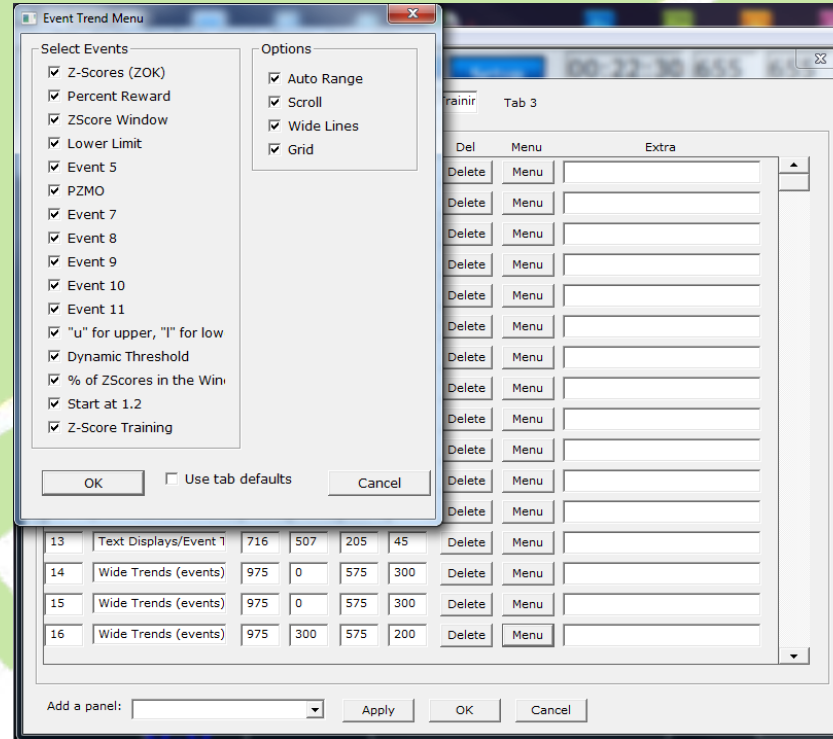


As before, we must click off the “Use tab defaults” check box to enable custom options.

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4chPZOK+PZMO

The Protocol is now ready for Modification

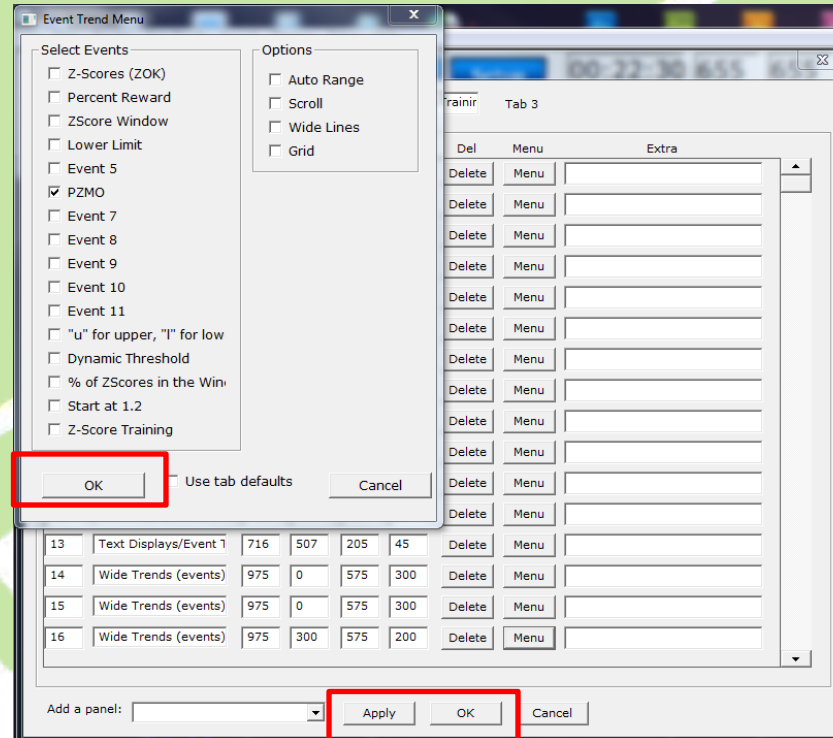


Click off all of the options except PZMO along the left side for this is the only event we would like displayed.

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.

4chPZOK+PZMO

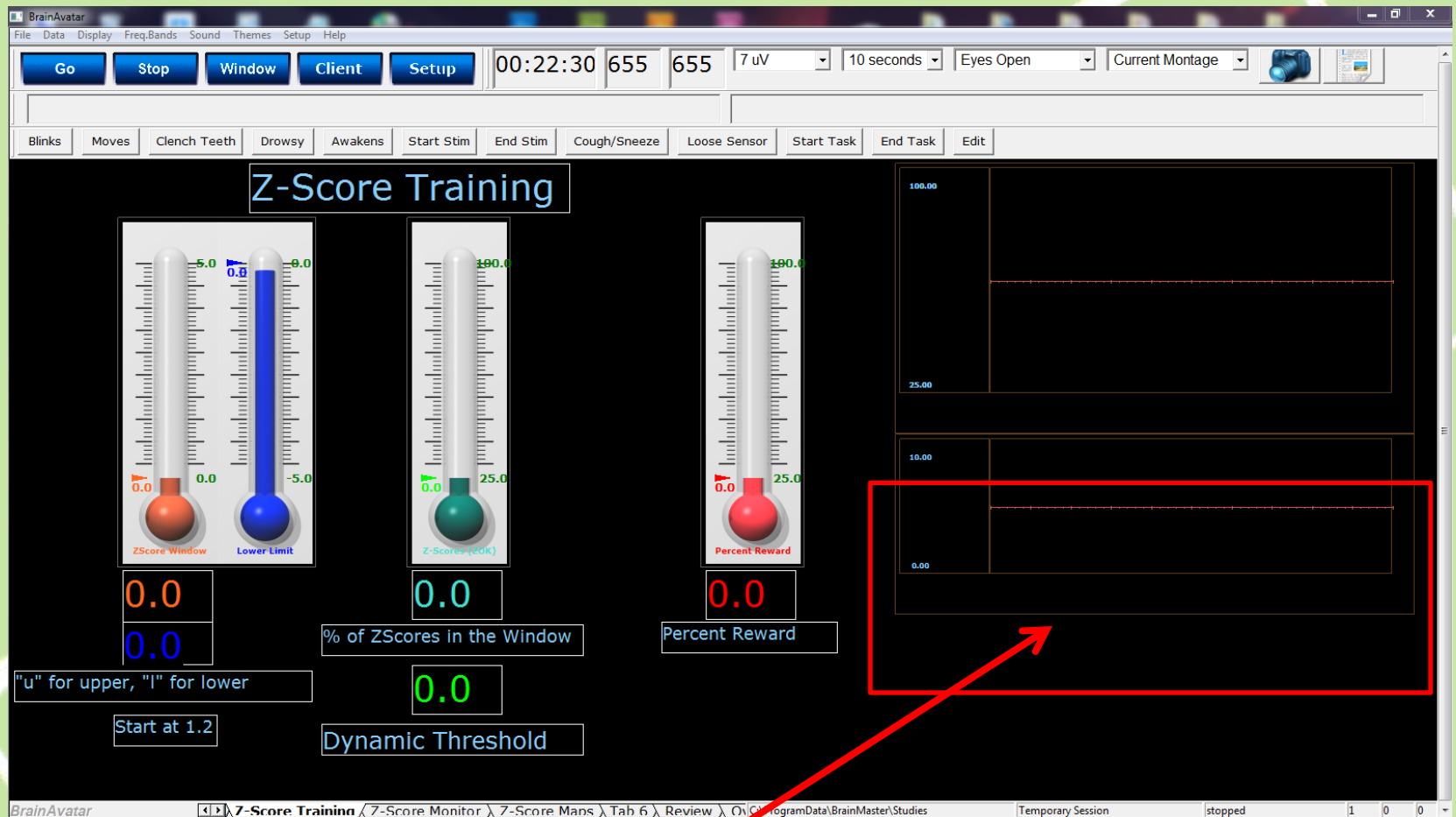
The Protocol is now ready for Modification



Finally click “OK” on the Event Trend Menu and then “Apply” and “OK” on the Panel Wizard to activate our selections

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.

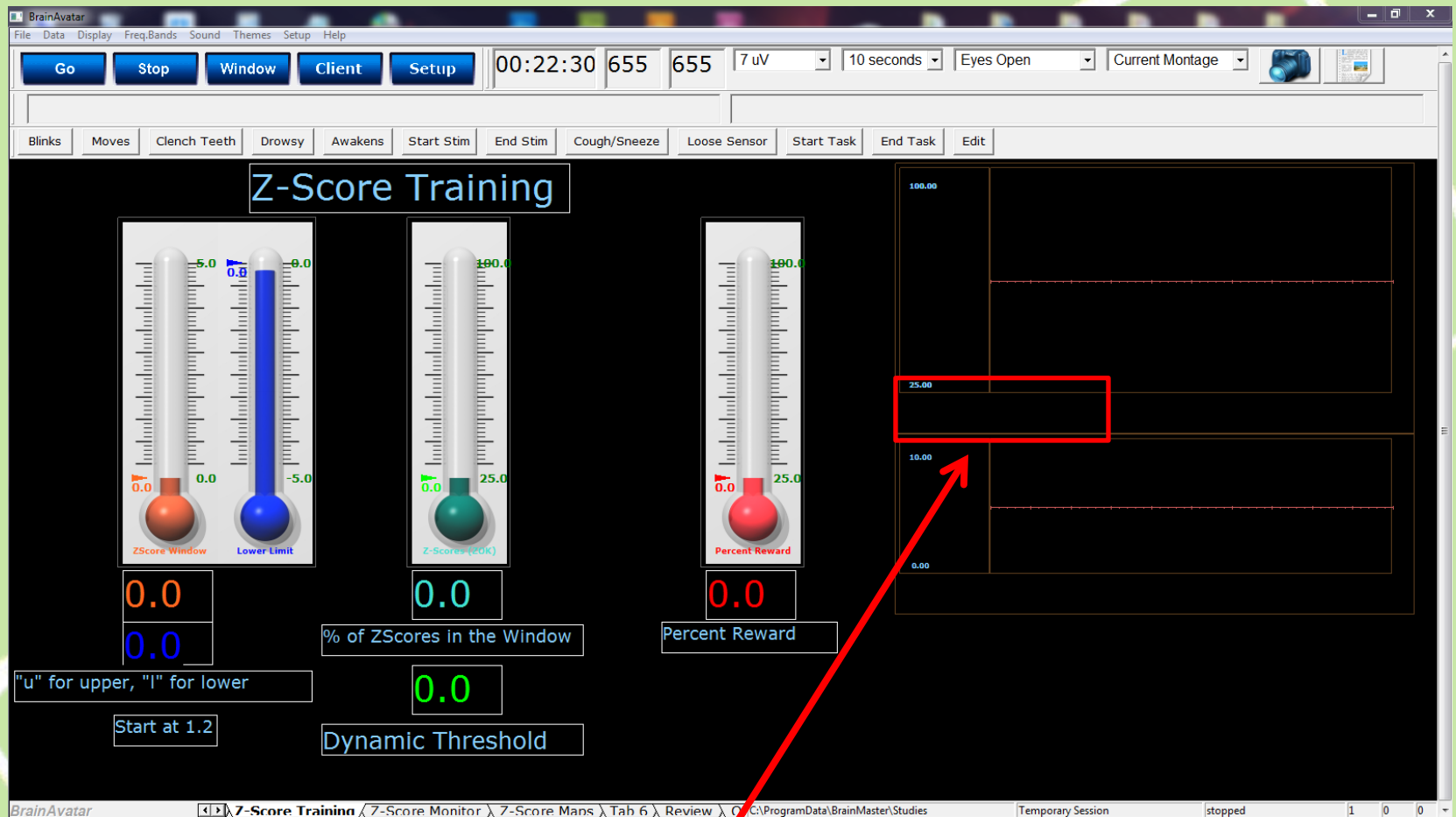
4chPZOK+PZMO



As you can see, our PZMO graph is properly placed and formatted. Now lets create some labels and meters so that we can see the actual numbers involved.

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.

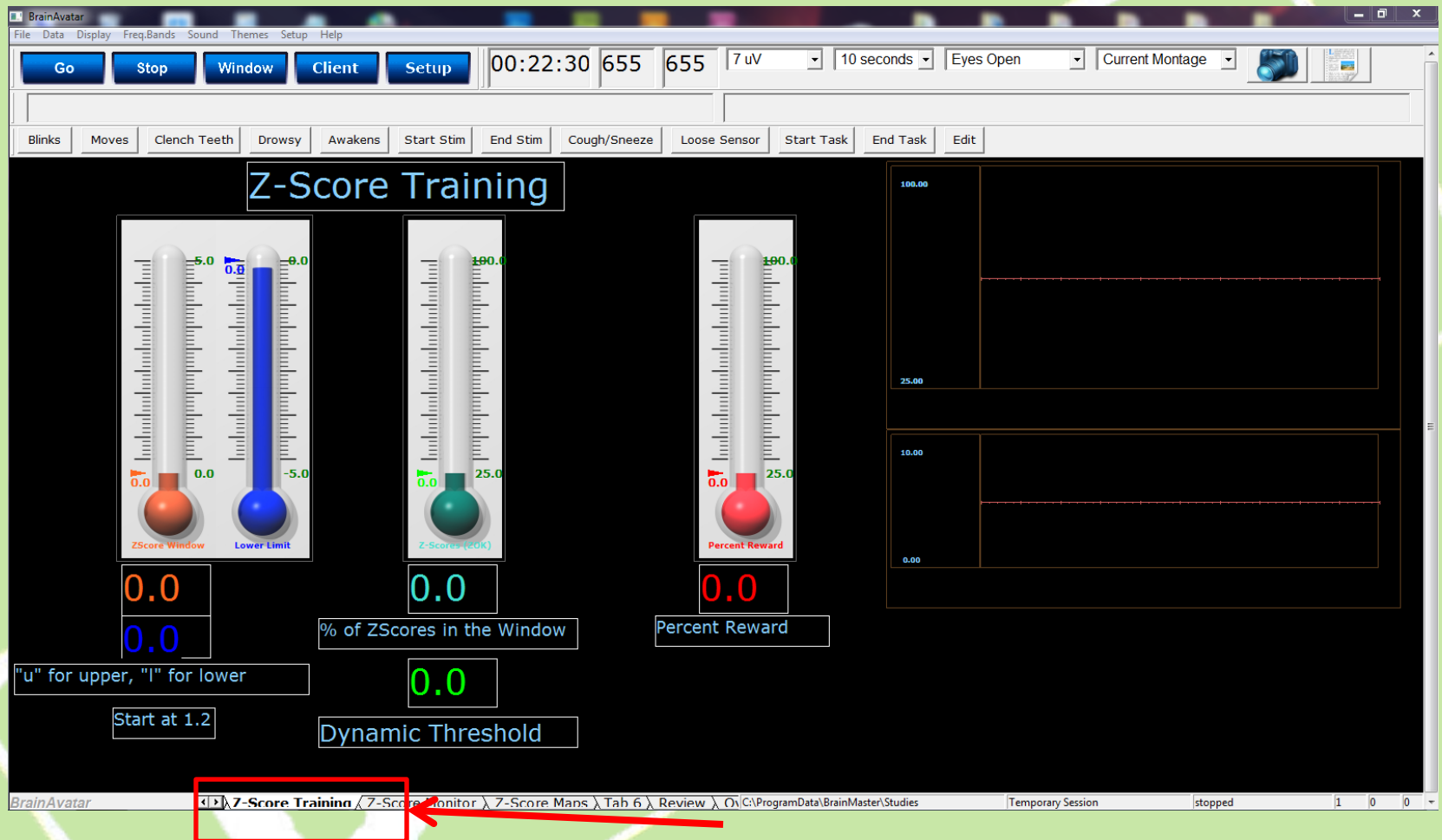
4chPZOK+PZMO



Let's place a label naming PZOK along with the %of Z-Scores in the window and Threshold in the depicted location.

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.

4chPZOK+PZMO

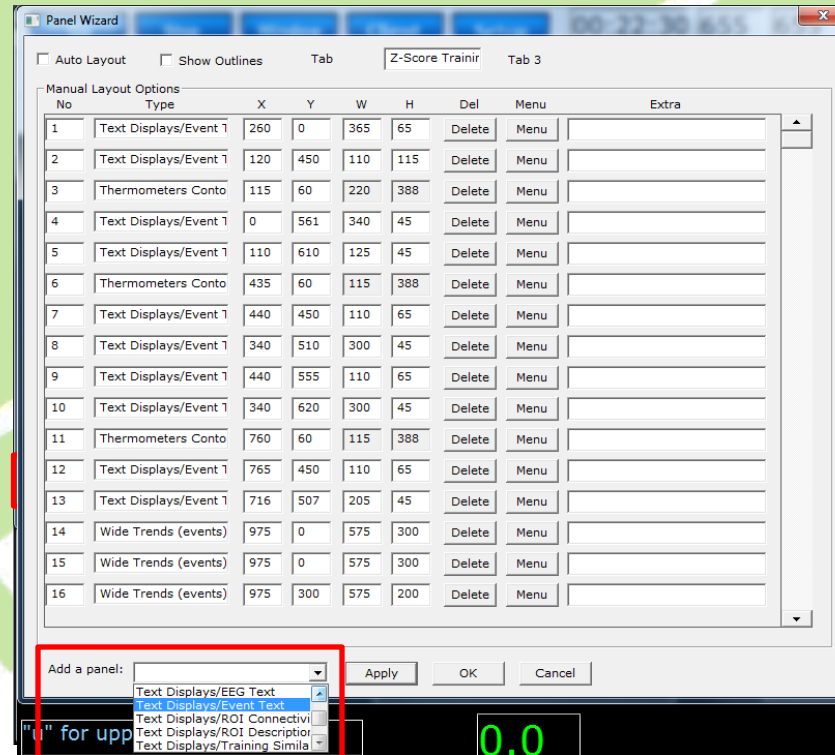


To do this let's call up the Panel Wizard by Right-Clicking the Z-Score Training Tab.

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.

4chPZOK+PZMO

The Protocol is now ready for Modification

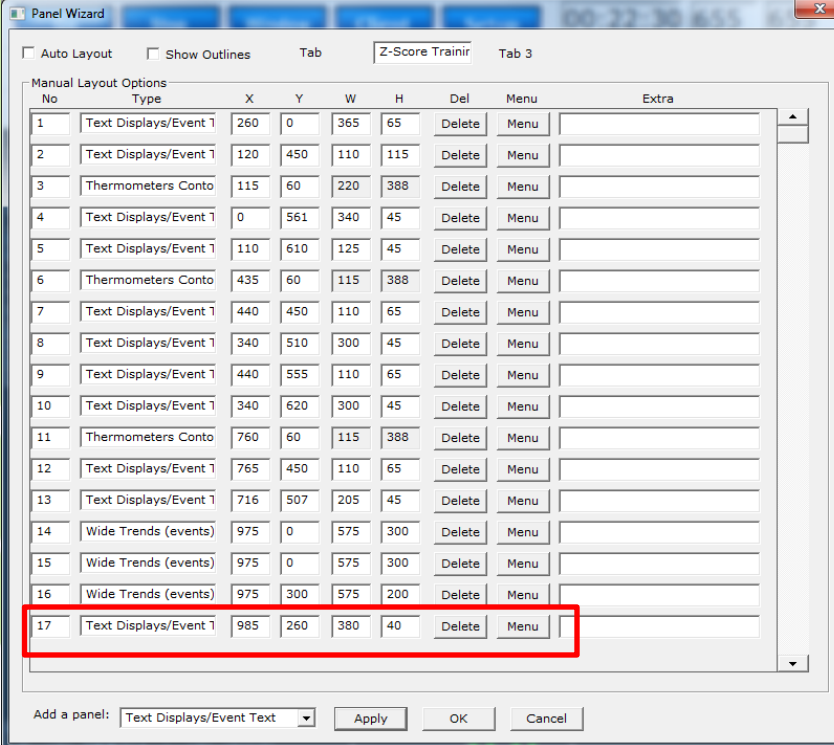


Enlarge the Panel Wizard by holding the left mouse button down while dragging the lower right corner down and to the right. In the Add a panel control select “Text Display Event Text”. This will be added to position 17.

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.

4chPZOK+PZMO

The Protocol is now ready for Modification



Panel Wizard

Auto Layout Show Outlines Tab Z-Score Trainir Tab 3

Manual Layout Options

No	Type	X	Y	W	H	Del	Menu	Extra
1	Text Displays/Event 1	260	0	365	65	Delete	Menu	
2	Text Displays/Event 1	120	450	110	115	Delete	Menu	
3	Thermometers Conto	115	60	220	388	Delete	Menu	
4	Text Displays/Event 1	0	561	340	45	Delete	Menu	
5	Text Displays/Event 1	110	610	125	45	Delete	Menu	
6	Thermometers Conto	435	60	115	388	Delete	Menu	
7	Text Displays/Event 1	440	450	110	65	Delete	Menu	
8	Text Displays/Event 1	340	510	300	45	Delete	Menu	
9	Text Displays/Event 1	440	555	110	65	Delete	Menu	
10	Text Displays/Event 1	340	620	300	45	Delete	Menu	
11	Thermometers Conto	760	60	115	388	Delete	Menu	
12	Text Displays/Event 1	765	450	110	65	Delete	Menu	
13	Text Displays/Event 1	716	507	205	45	Delete	Menu	
14	Wide Trends (events)	975	0	575	300	Delete	Menu	
15	Wide Trends (events)	975	0	575	300	Delete	Menu	
16	Wide Trends (events)	975	300	575	200	Delete	Menu	
17	Text Displays/Event 1	985	260	380	40	Delete	Menu	

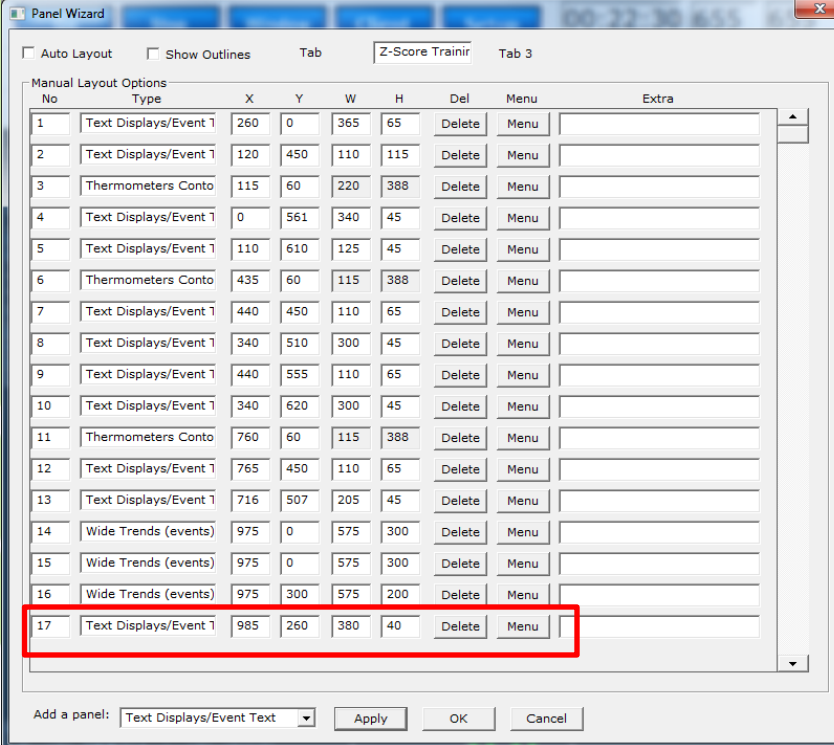
Add a panel: Text Displays/Event Text Apply OK Cancel

For the X component enter 985. Since the beginning of the Wide Trend Event Graph begins at 975 then at 985 a 10 pixel indent will be created before the lettering starts.

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.

4chPZOK+PZMO

The Protocol is now ready for Modification



Panel Wizard

Auto Layout ☐ Show Outlines ☐ Tab Z-Score Trainin Tab 3

Manual Layout Options

No	Type	X	Y	W	H	Del	Menu	Extra
1	Text Displays/Event 1	260	0	365	65	Delete	Menu	
2	Text Displays/Event 1	120	450	110	115	Delete	Menu	
3	Thermometers Conto	115	60	220	388	Delete	Menu	
4	Text Displays/Event 1	0	561	340	45	Delete	Menu	
5	Text Displays/Event 1	110	610	125	45	Delete	Menu	
6	Thermometers Conto	435	60	115	388	Delete	Menu	
7	Text Displays/Event 1	440	450	110	65	Delete	Menu	
8	Text Displays/Event 1	340	510	300	45	Delete	Menu	
9	Text Displays/Event 1	440	555	110	65	Delete	Menu	
10	Text Displays/Event 1	340	620	300	45	Delete	Menu	
11	Thermometers Conto	760	60	115	388	Delete	Menu	
12	Text Displays/Event 1	765	450	110	65	Delete	Menu	
13	Text Displays/Event 1	716	507	205	45	Delete	Menu	
14	Wide Trends (events)	975	0	575	300	Delete	Menu	
15	Wide Trends (events)	975	0	575	300	Delete	Menu	
16	Wide Trends (events)	975	300	575	200	Delete	Menu	
17	Text Displays/Event 1	985	260	380	40	Delete	Menu	

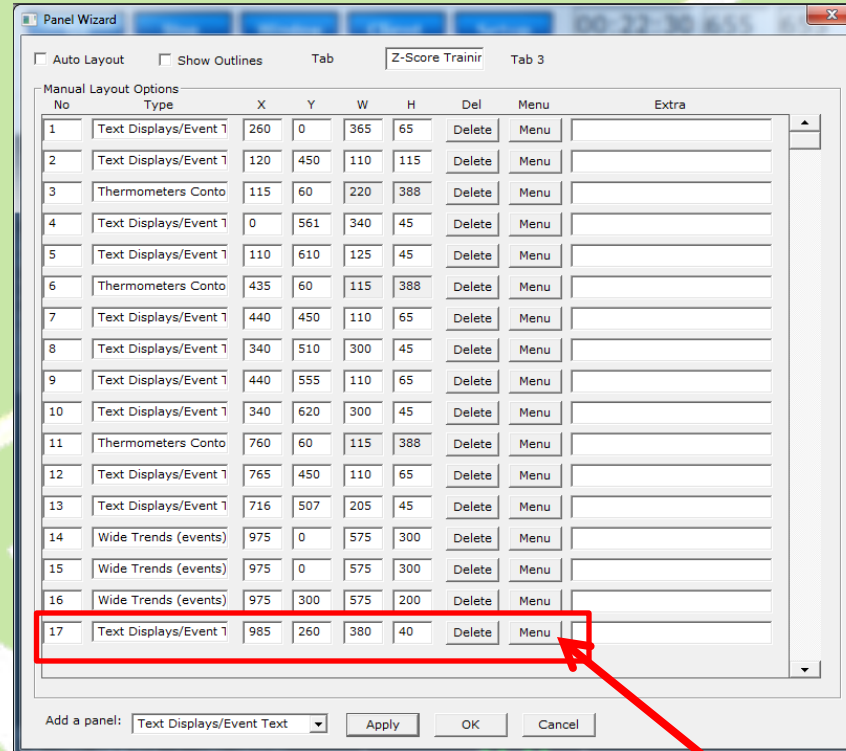
Add a panel: Text Displays/Event Text Apply OK Cancel

For the Y component enter 260. Since the entire Wide Trend Event Graph is 300 pixels wide, the label will be placed 40 pixels above the bottom of the table.

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.

4chPZOK+PZMO

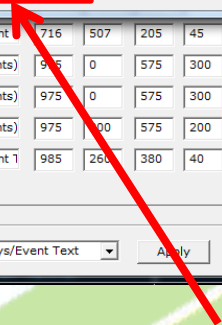
The Protocol is now ready for Modification



An arbitrary width of 380 pixels is selected hoping it is enough to contain all of the lettering. If it is not the correct width can be entered later. A height of 40 pixels is chosen. If added to the 260 Y coordinate this box should fit perfectly within the 300 pixel width of the Wide Trend Event Graph. Click "Menu"

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.

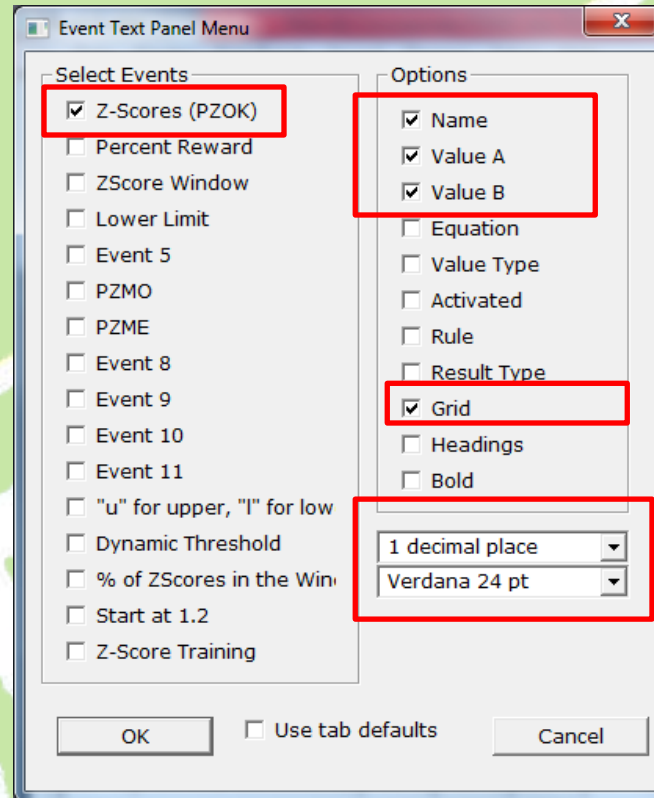
The Protocol is now ready for Modification



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.

4chPZOK+PZMO

The Protocol is now ready for Modification

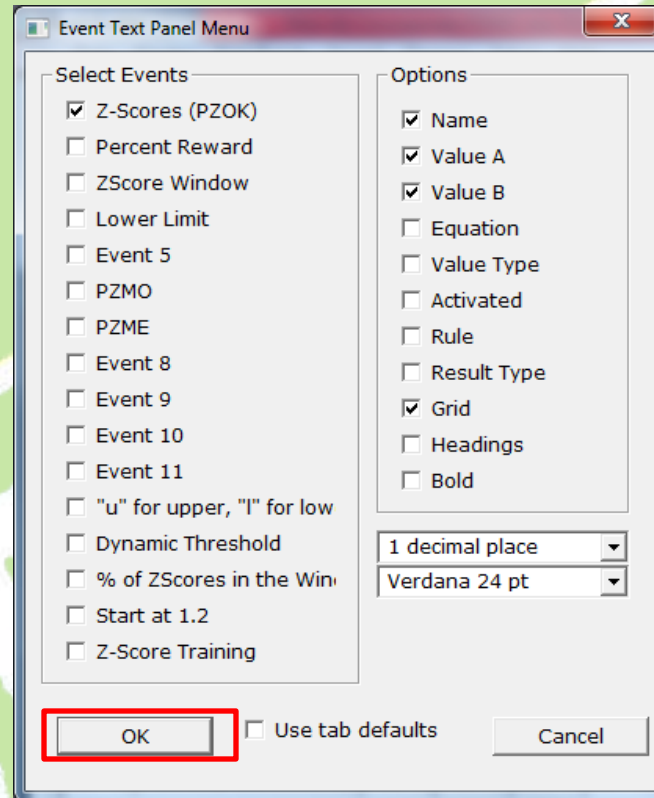


Leave “Z-Scores (PZOK)” which is event 1. Leave “Name”, “Value A” and “Value B” so these items will be displayed. Leave “Grid” so that a bounding rectangle will be placed around the text. Finally select 1 decimal place and the font Verdana 24 pt to size the text so that it fits in our grid.

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.

4chPZOK+PZMO

The Protocol is now ready for Modification

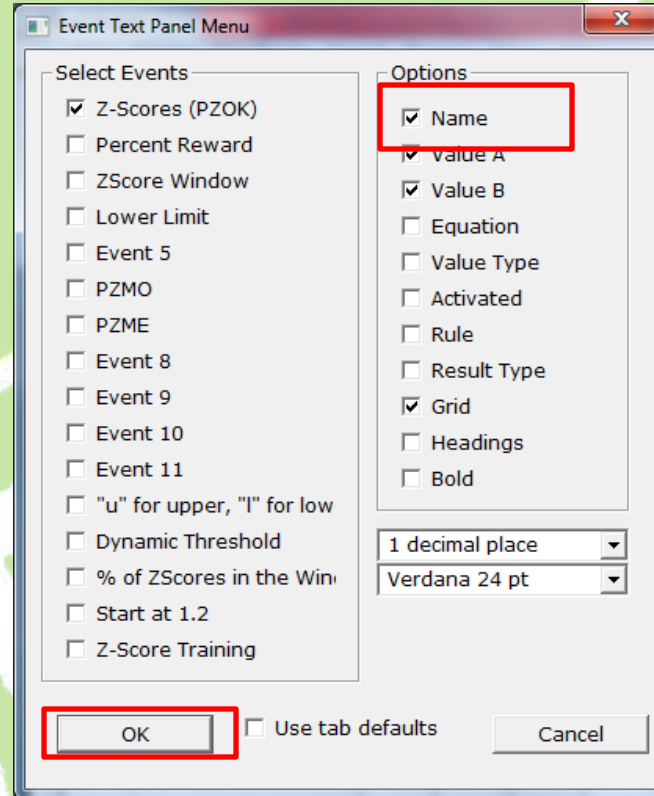


Click “OK” to activate the labels.

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.

4chPZOK+PZMO

The Protocol is now ready for Modification

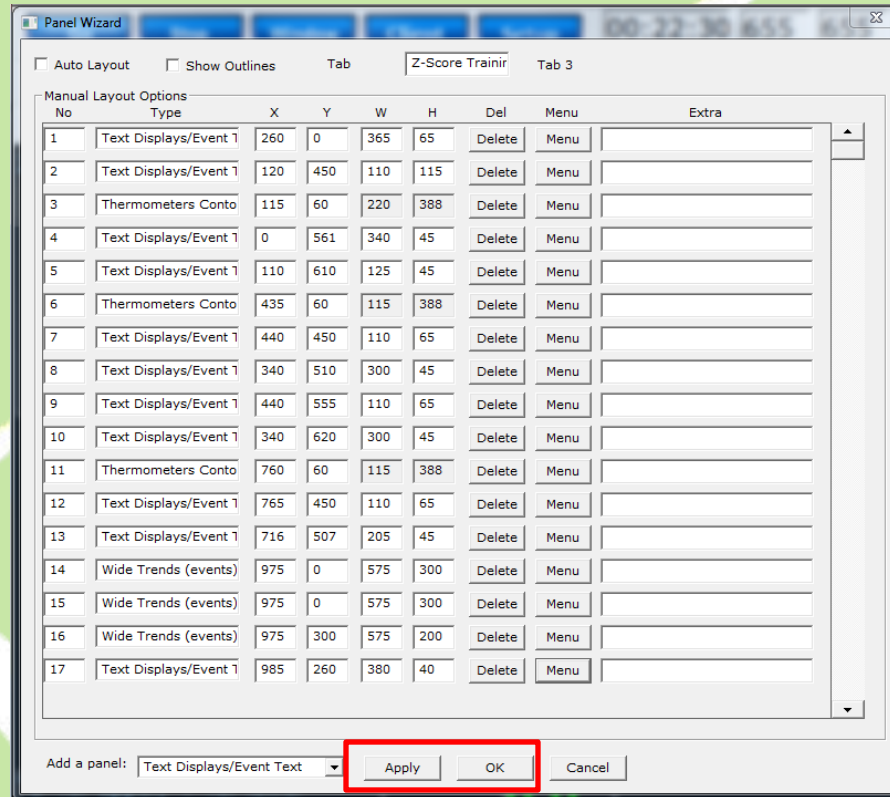


Reopen the Event Text Panel by clicking the menu key again and reactivate the Name setting. (At this writing there is an unresolved glitch where the Event Text Panel Menu on initial activation drops the Name field. It activates on the second go-round. Then click “OK” once again).

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.

4chPZOK+PZMO

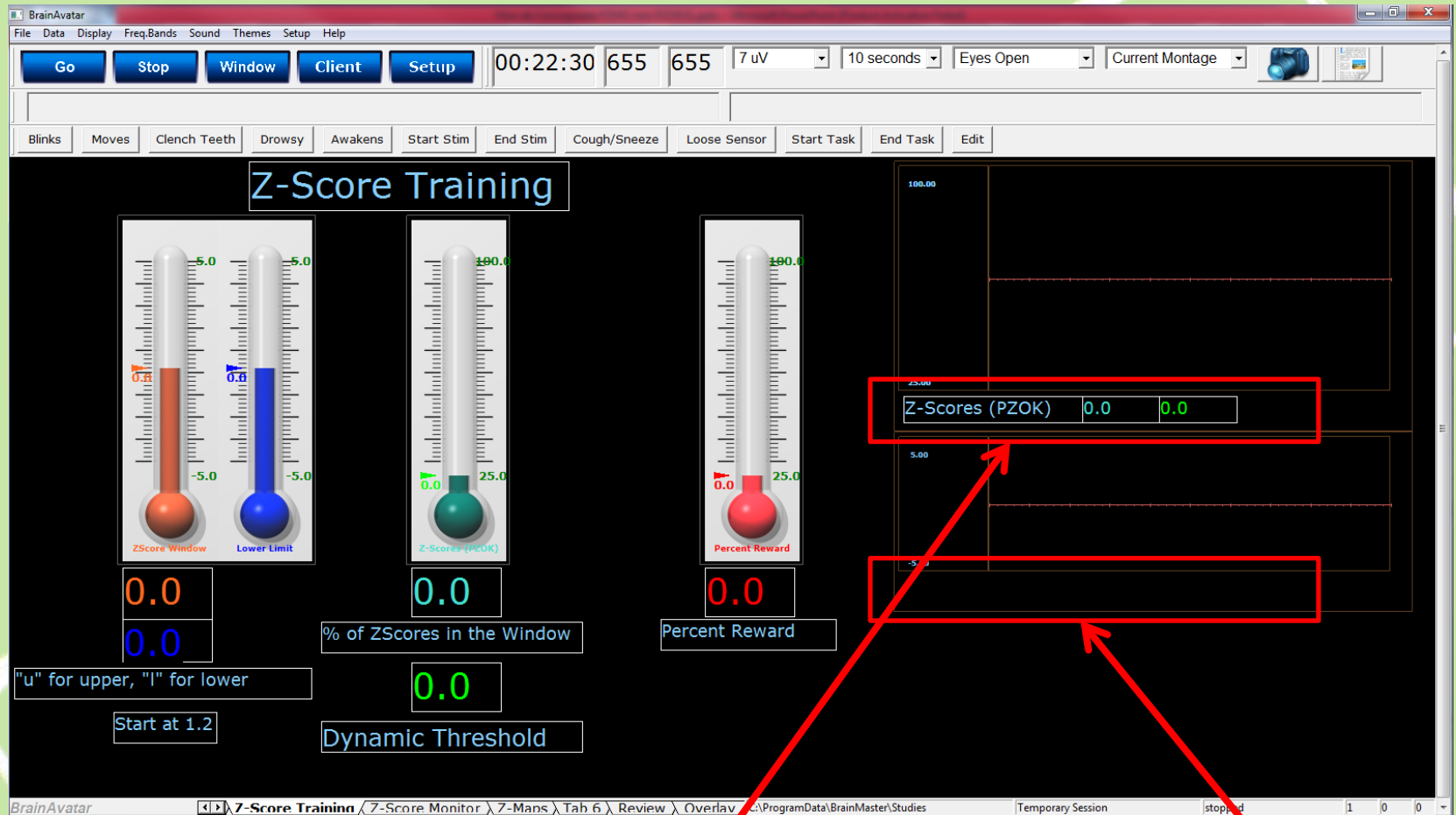
The Protocol is now ready for Modification



Finally, in the Panel Wizard first click “Apply” and then “OK” to activate the labels.

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.

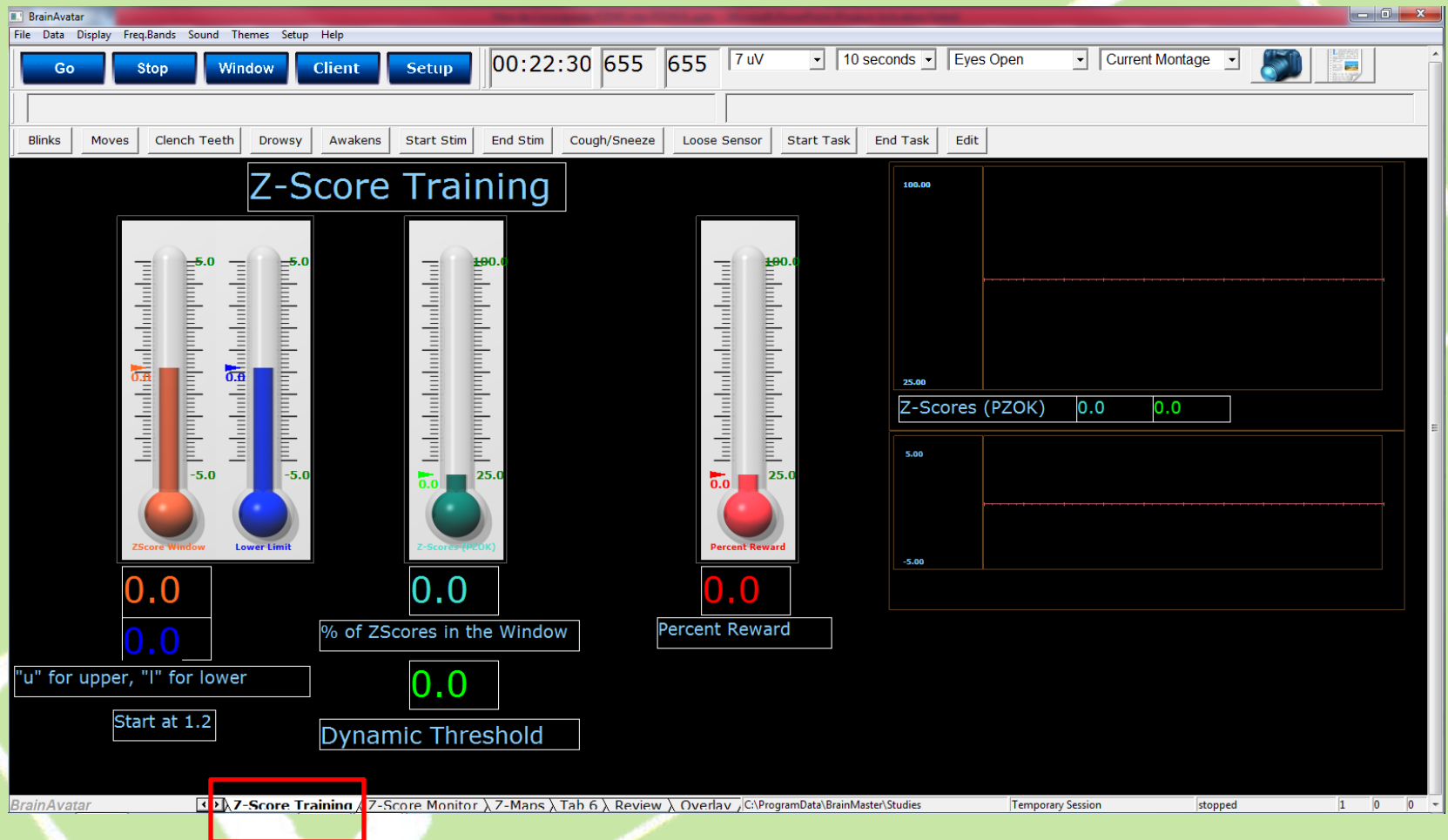
4chPZOK+PZMO



Viola! Our label appears just as we planned. Now, let's place a label for our PZMO graph by using the same procedure.

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.

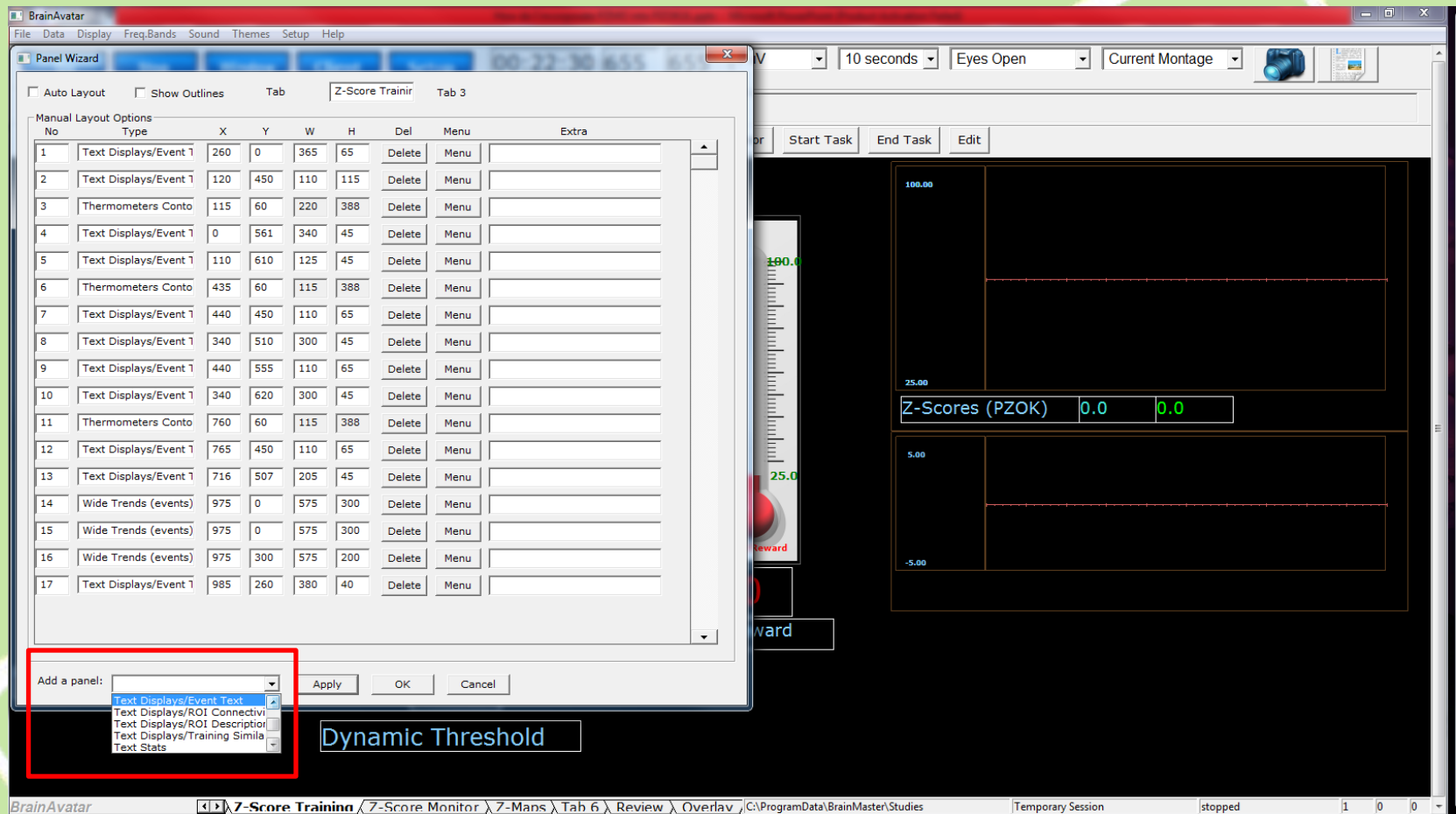
4chPZOK+PZMO



First we Right-Click the Z-Score training tab to call up the panel wizard.

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.

4chPZOK+PZMO



Widen out the Panel Wizard as we have done previously and click “Text Displays/Event Text” from the Add a panel control box.

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.

4chPZOK+PZMO

The Protocol is now ready for Modification

Panel Wizard

☐ Auto Layout ☐ Show Outlines Tab Z-Score Trainr Tab 3

Manual Layout Options

No	Type	X	Y	W	H	Del	Menu	Extra
1	Text Displays/Event 1	260	0	365	65	Delete	Menu	
2	Text Displays/Event 1	120	450	110	115	Delete	Menu	
3	Thermometers Conto	115	60	220	388	Delete	Menu	
4	Text Displays/Event 1	0	561	340	45	Delete	Menu	
5	Text Displays/Event 1	110	610	125	45	Delete	Menu	
6	Thermometers Conto	435	60	115	388	Delete	Menu	
7	Text Displays/Event 1	440	450	110	65	Delete	Menu	
8	Text Displays/Event 1	340	510	300	45	Delete	Menu	
9	Text Displays/Event 1	440	555	110	65	Delete	Menu	
10	Text Displays/Event 1	340	620	300	45	Delete	Menu	
11	Thermometers Conto	760	60	115	388	Delete	Menu	
12	Text Displays/Event 1	765	450	110	65	Delete	Menu	
13	Text Displays/Event 1	716	507	205	45	Delete	Menu	
14	Wide Trends (events)	975	0	575	300	Delete	Menu	
15	Wide Trends (events)	975	0	575	300	Delete	Menu	
16	Wide Trends (events)	975	300	575	200	Delete	Menu	
17	Text Displays/Event 1	985	260	380	40	Delete	Menu	
18	Text Displays/Event 1	985	460	380	40	Delete	Menu	

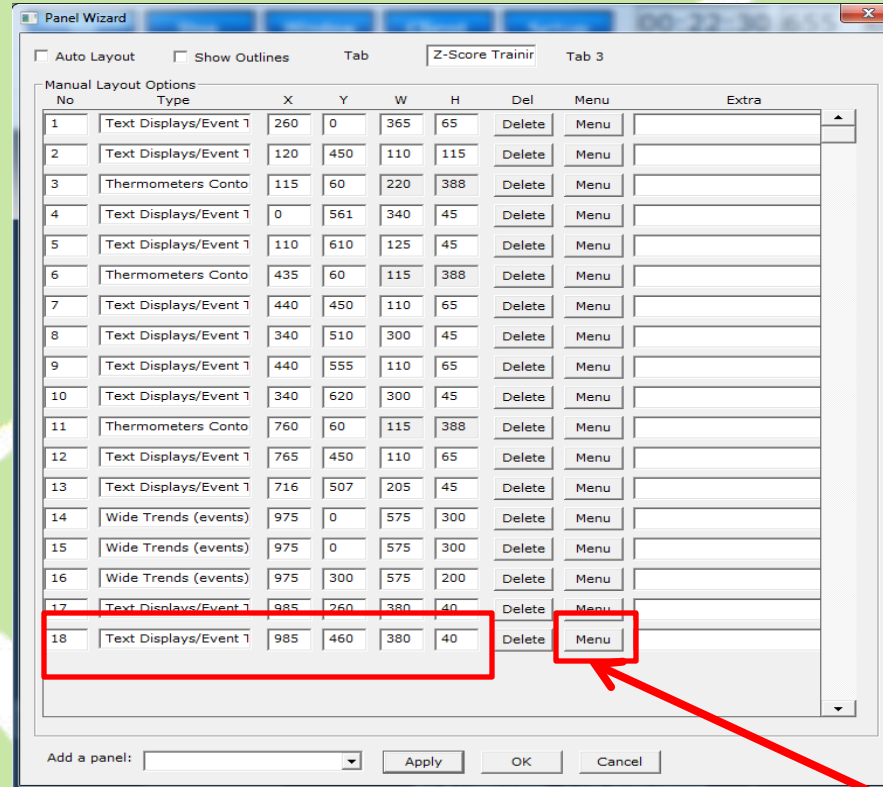
Add a panel:

The new Text Displays/Event Text has populated line 18. Following the logic from before enter 985 for placement on the X axis. This gives a 10 pixel indent. Enter 460 for the Y coordinate. The logic is the height of the PZOK graph is 300, the height of the PZMO graph is 200 for a total of 500 pixels. By placing the top of the label at 460 it reserves a spot 40 pixels above the bottom of the graph.

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.

4chPZOK+PZMO

The Protocol is now ready for Modification

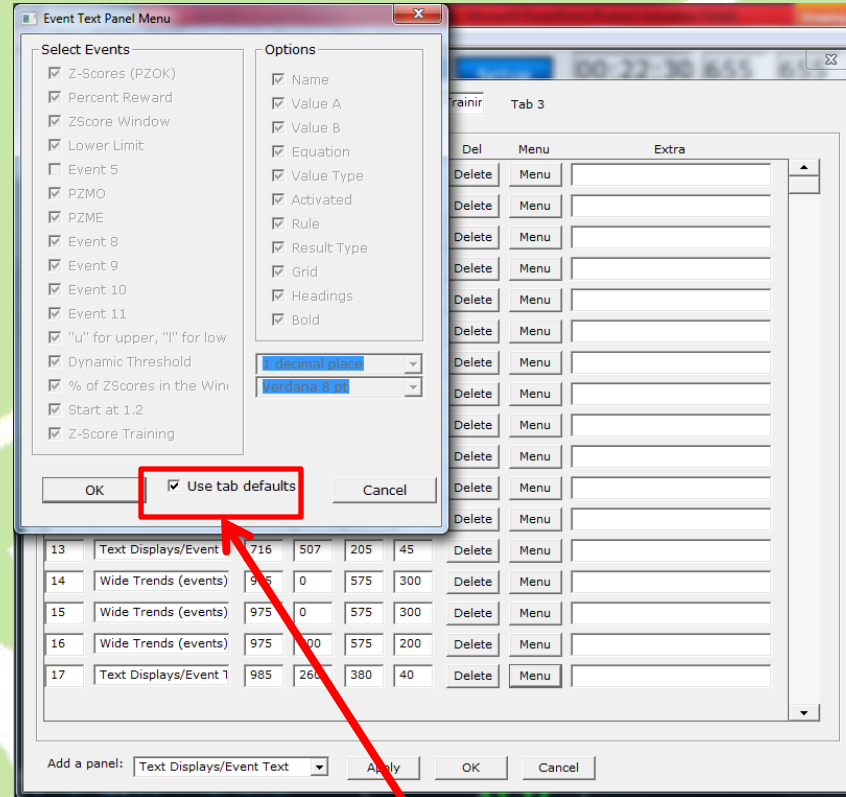


Set the width of the Label at the same size as the previous label, 380. Set the height of the label at the same size as the previous label, 40. Next we have to select what is displayed in the Label. Click "Menu".

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.

4chPZOK+PZMO

The Protocol is now ready for Modification

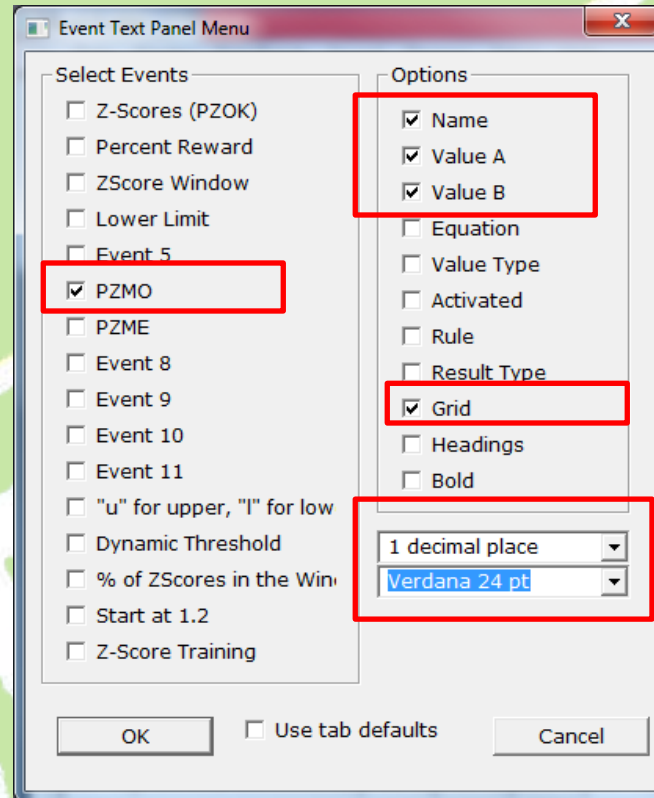


As before, we must click off the “Use tab defaults” checkbox so that we may access custom options.

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.

4chPZOK+PZMO

The Protocol is now ready for Modification

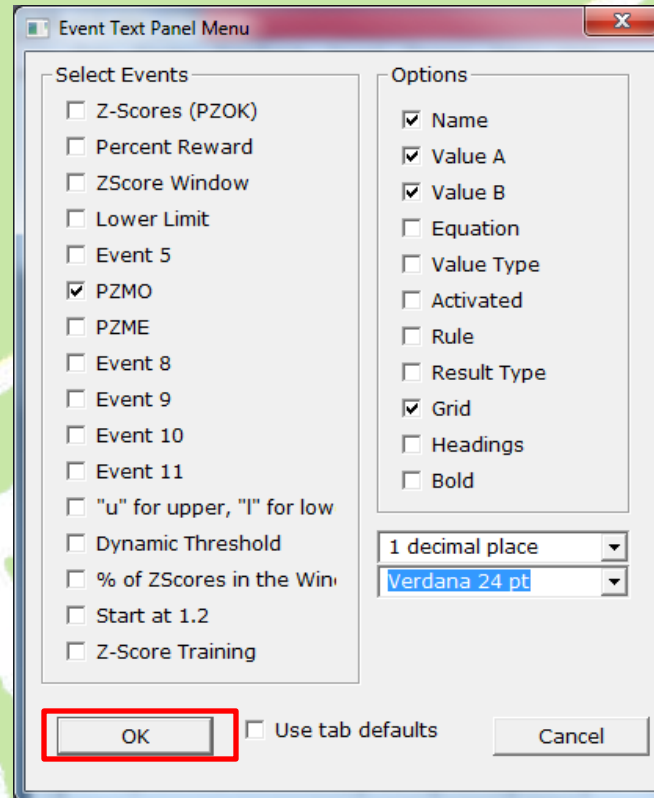


Leave “PZMO” which is event 6. Leave “Name”, “Value A” and “Value B” so these items will be displayed. Leave “Grid” so that a bounding rectangle will be placed around the text. Finally click 1 decimal place and the font Verdana 24 pt to size the text so that it fits in our grid.

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.

4chPZOK+PZMO

The Protocol is now ready for Modification

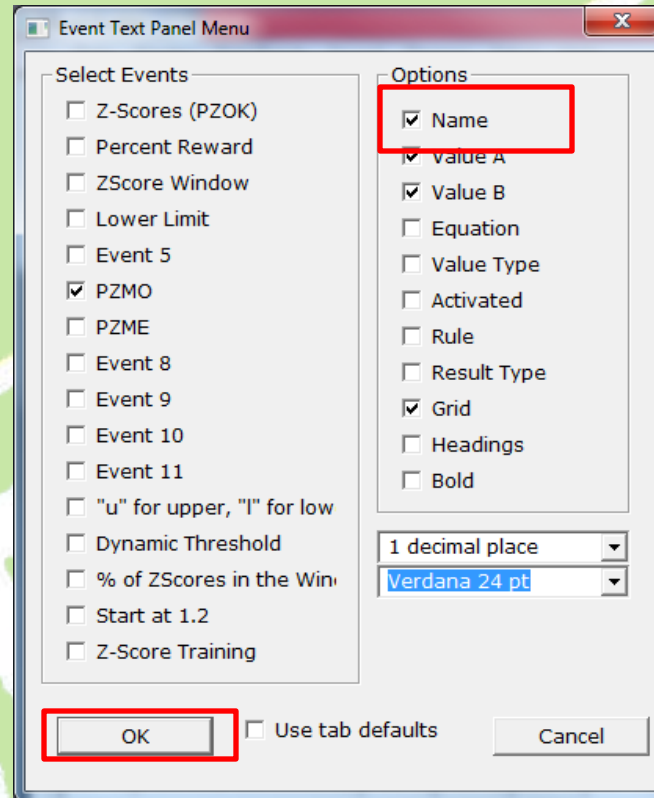


Click “OK” to activate the labels.

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.

4chPZOK+PZMO

The Protocol is now ready for Modification

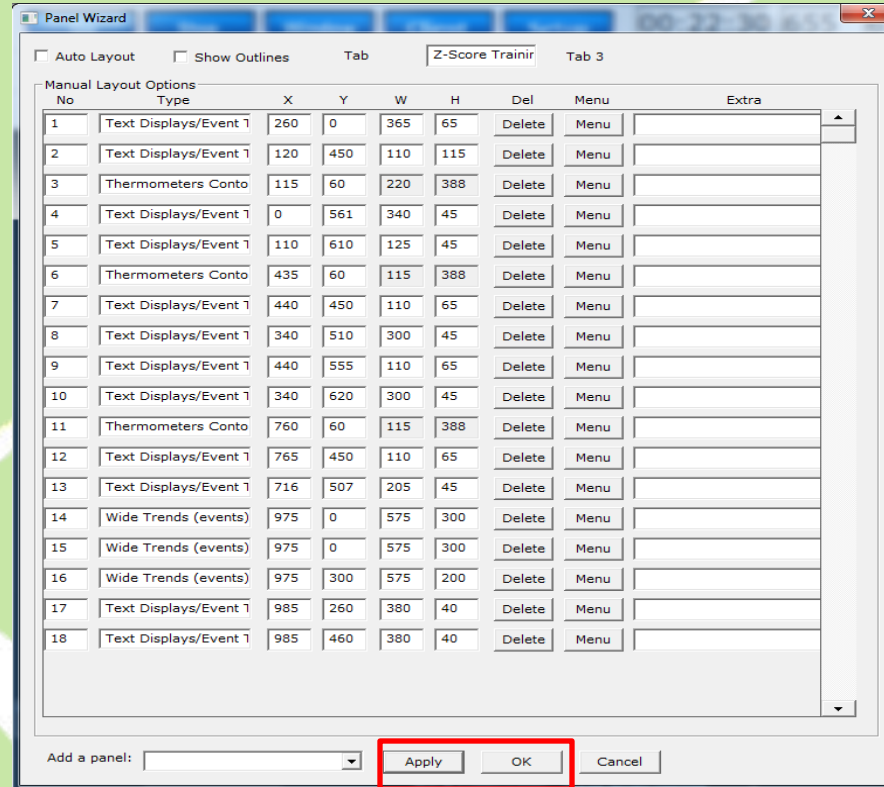


Reopen the Event Text Panel by clicking the menu key again and reactivate the “Name” setting. (At this writing there is an unresolved glitch where the Event Text Panel Menu on initial activation drops the Name field. It activates on the second go-round. Then click OK once again.)

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.

4chPZOK+PZMO

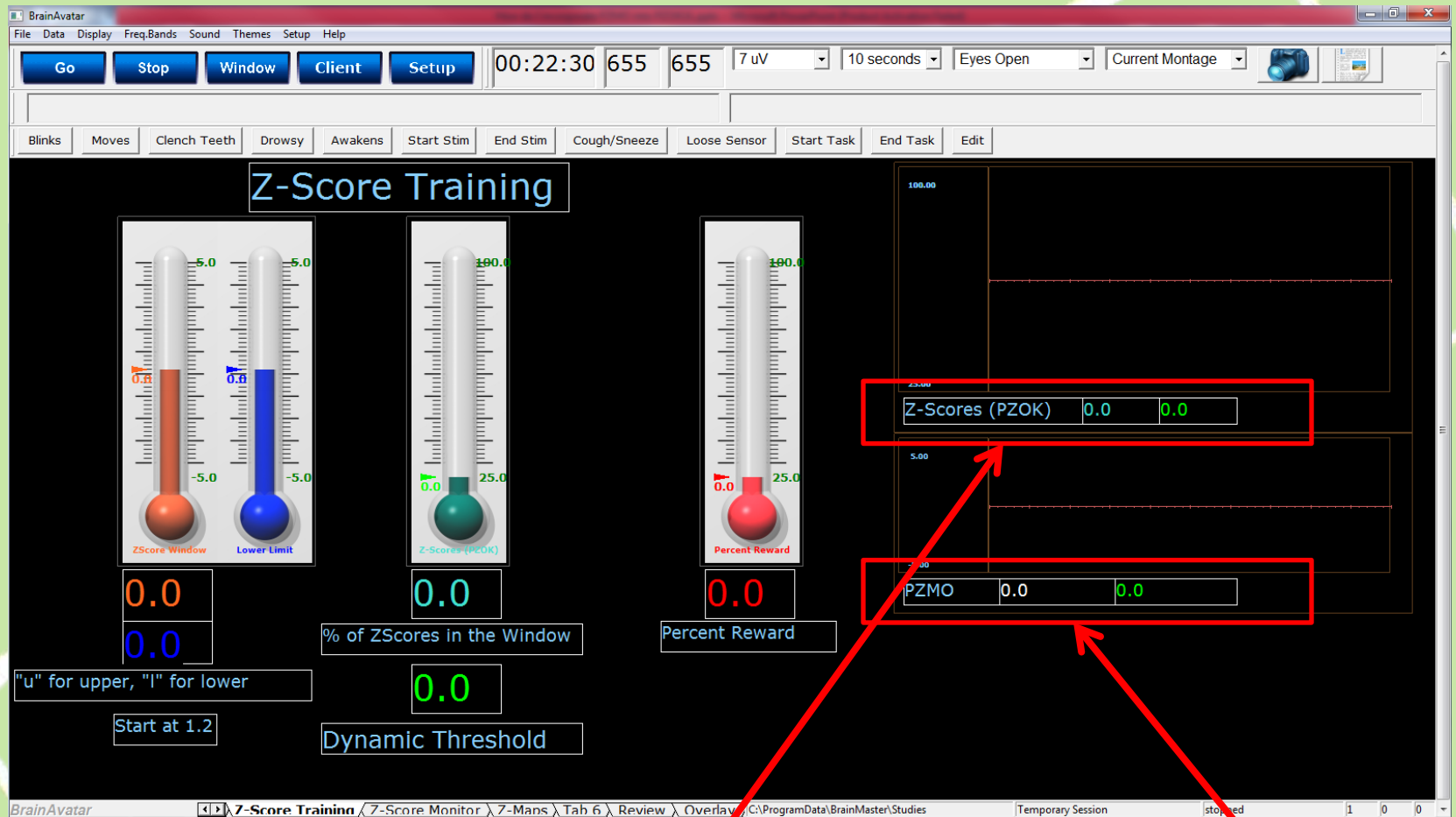
The Protocol is now ready for Modification



Finally, in the Panel Wizard first click “Apply” then “OK” to activate the labels.

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.

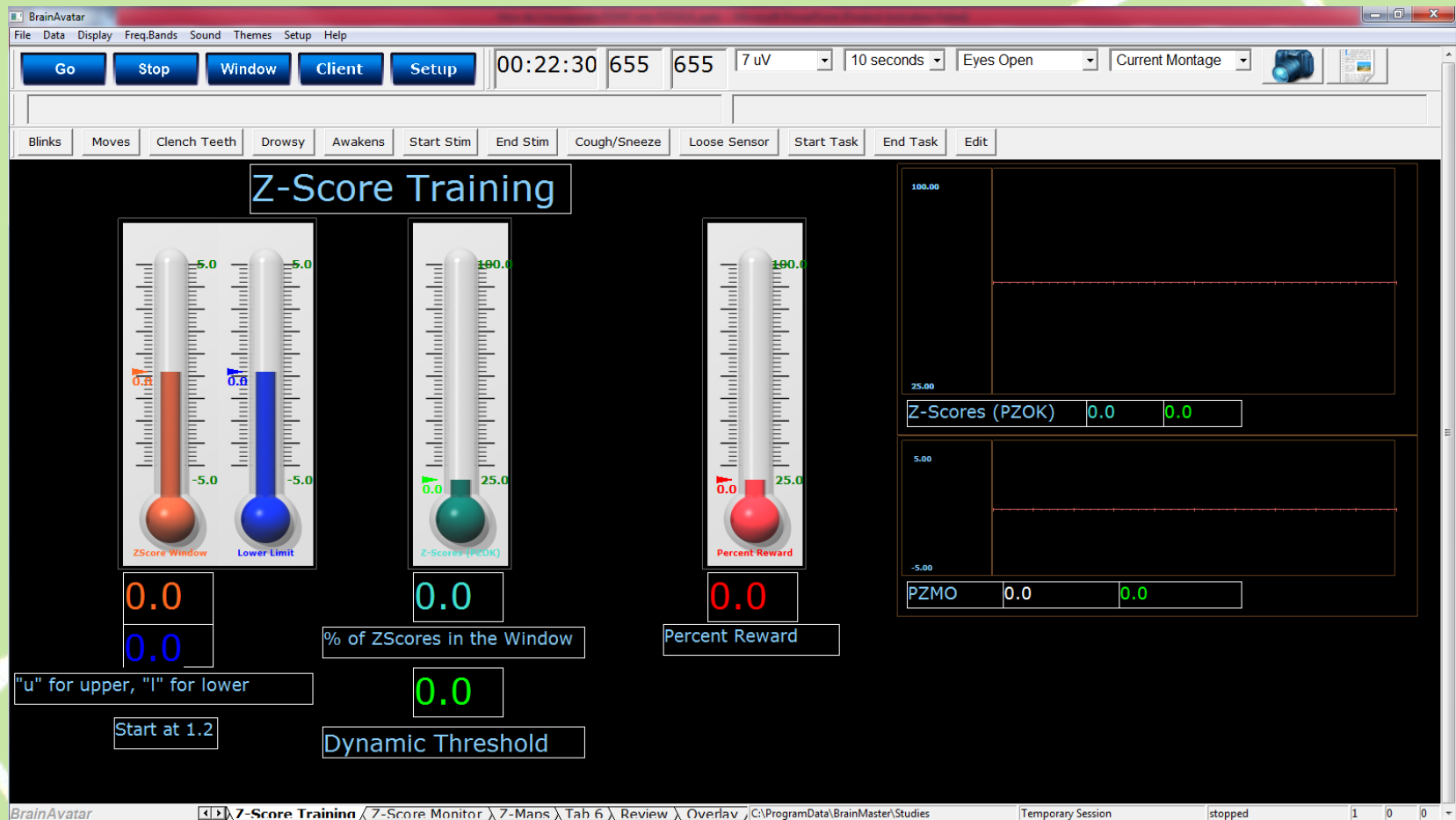
4chPZOK+PZMO



Viola! Our labels appear just as we planned.

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.

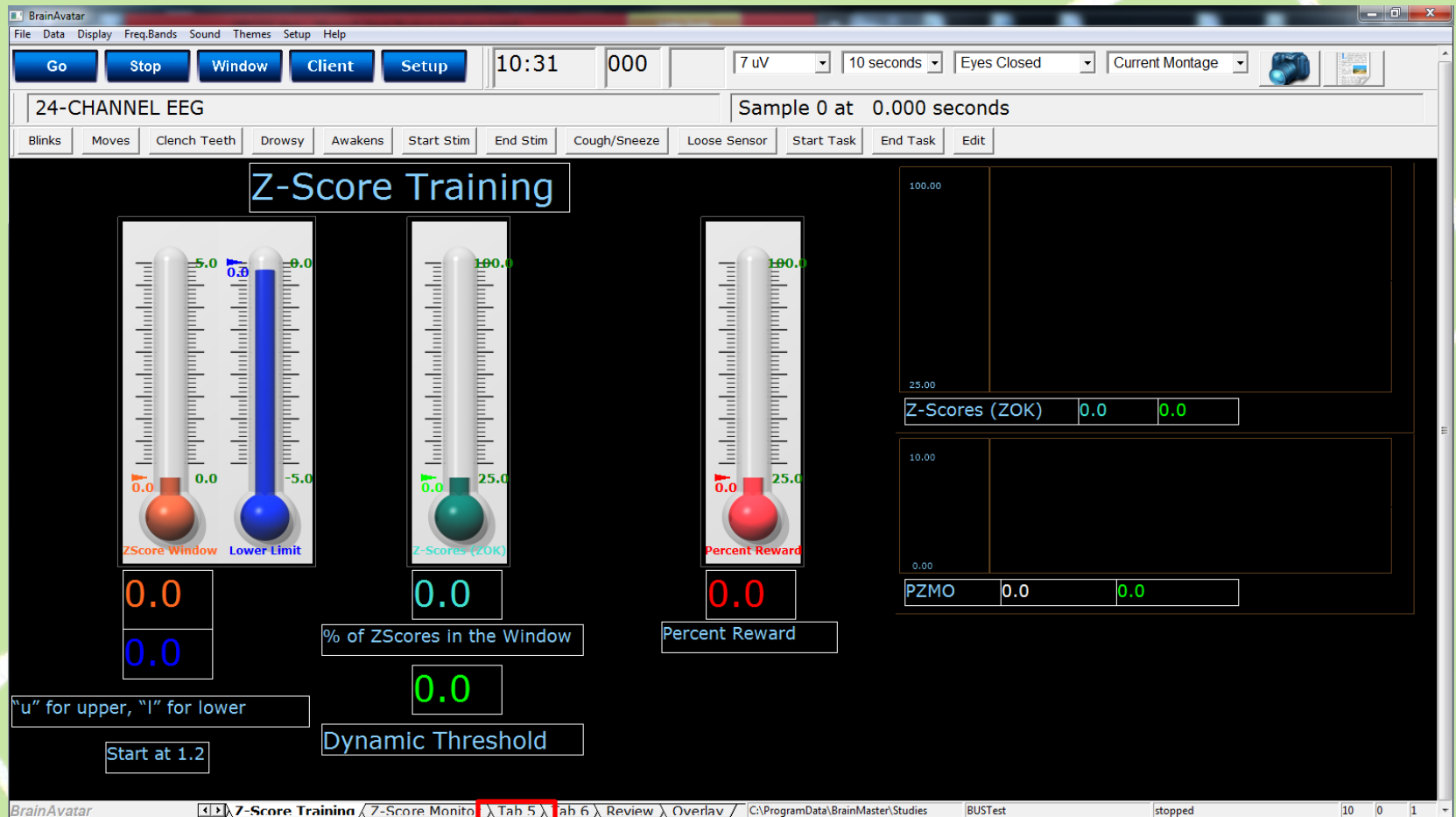
4chPZOK+PZMO



To help round out the process, Let's place a Z-Bars Plot in Tab 5 so We can graphically observe how trained Z-Scores are moving towards normalization.

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.

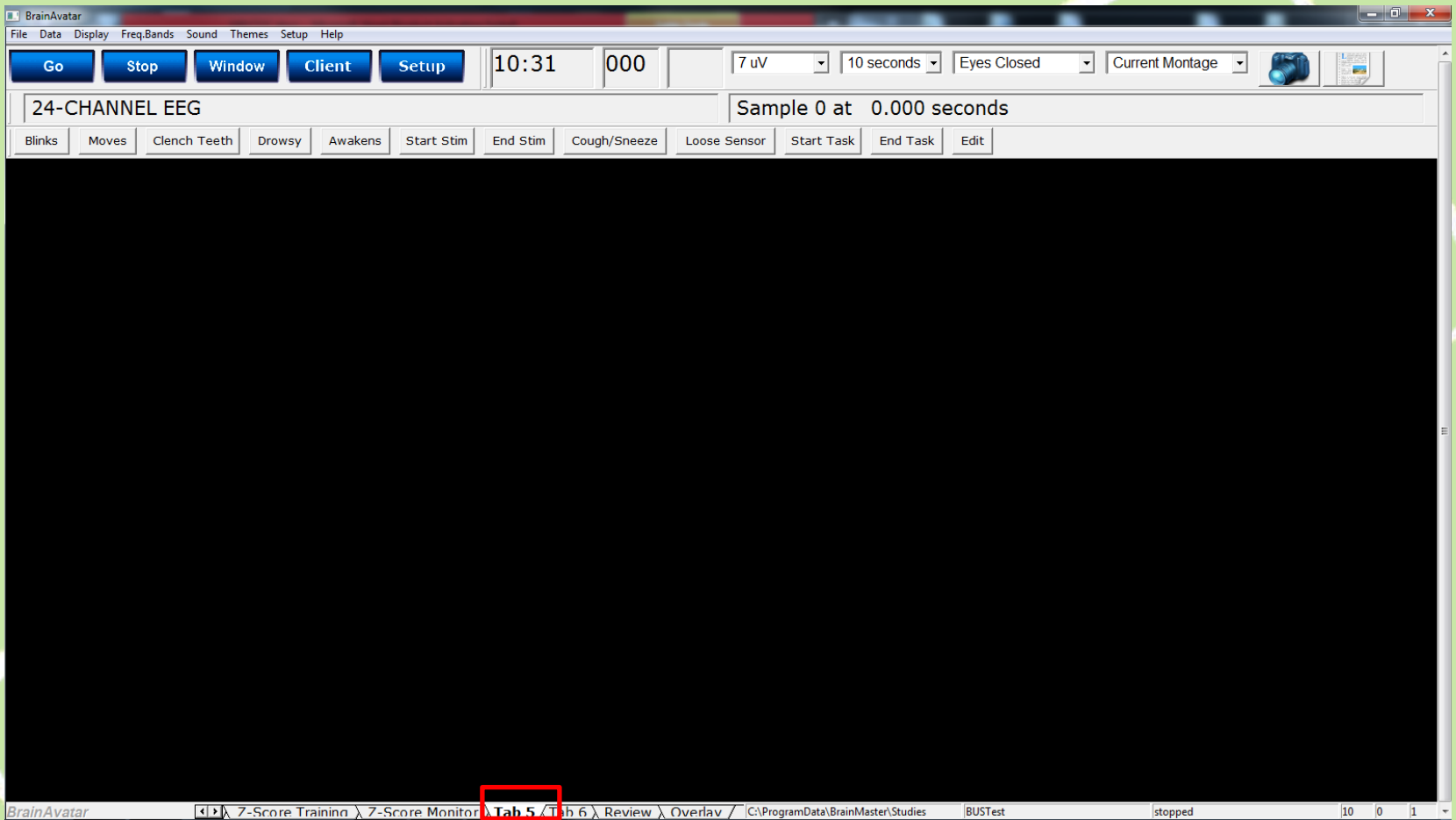
4chPZOK+PZMO



Click "Tab 5".

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.

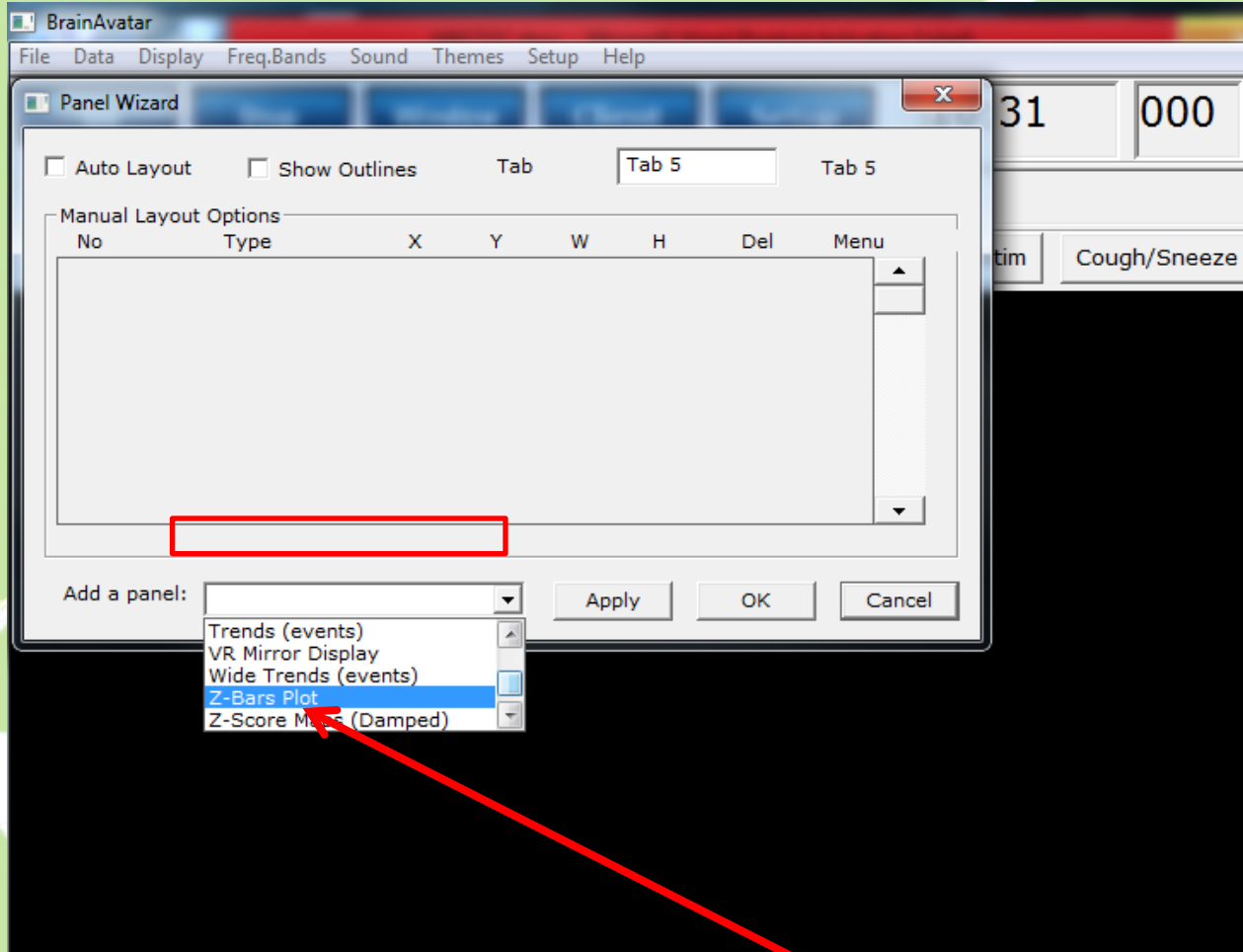
4chPZOK+PZMO



Right-Click Tab 5 to call up the Panel Wizard.

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.

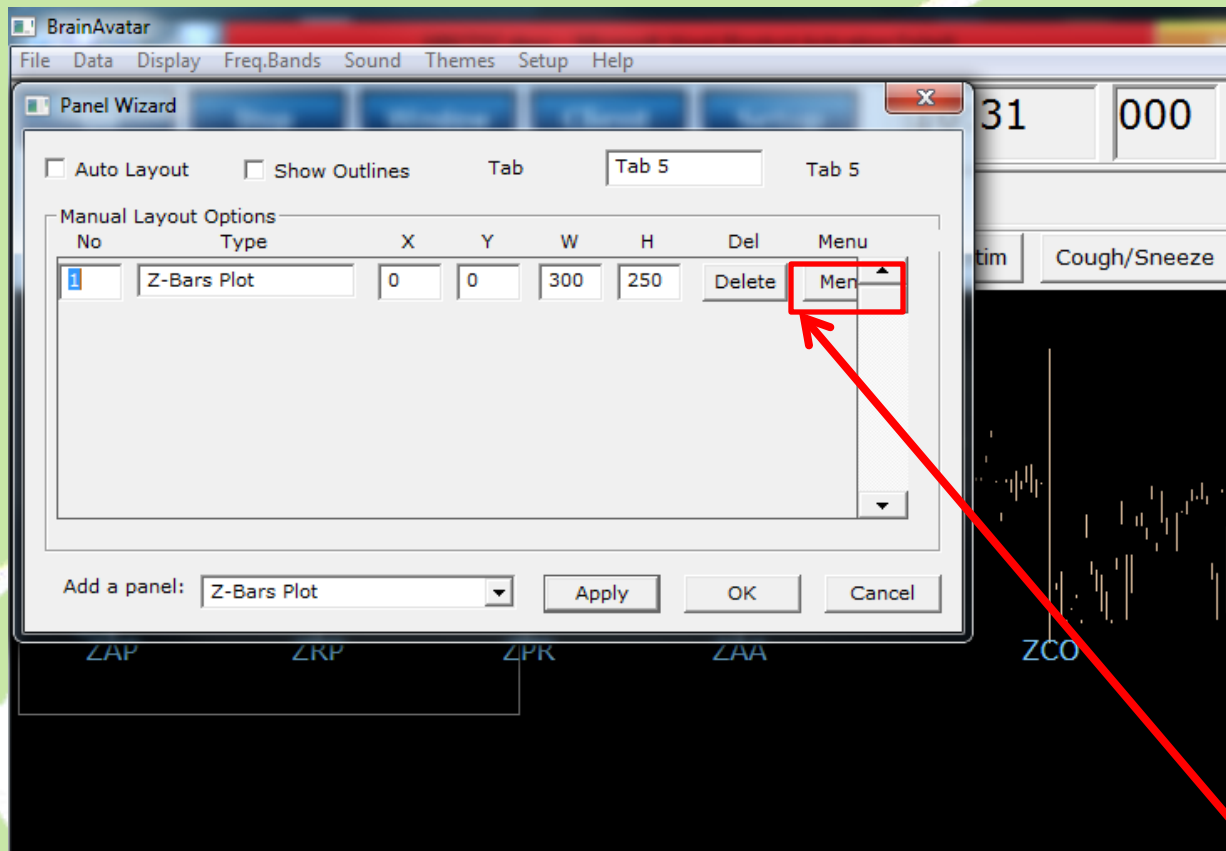
4chPZOK+PZMO



From the “Add a panel” control dropdown click “Z-Bars Plot”.

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.

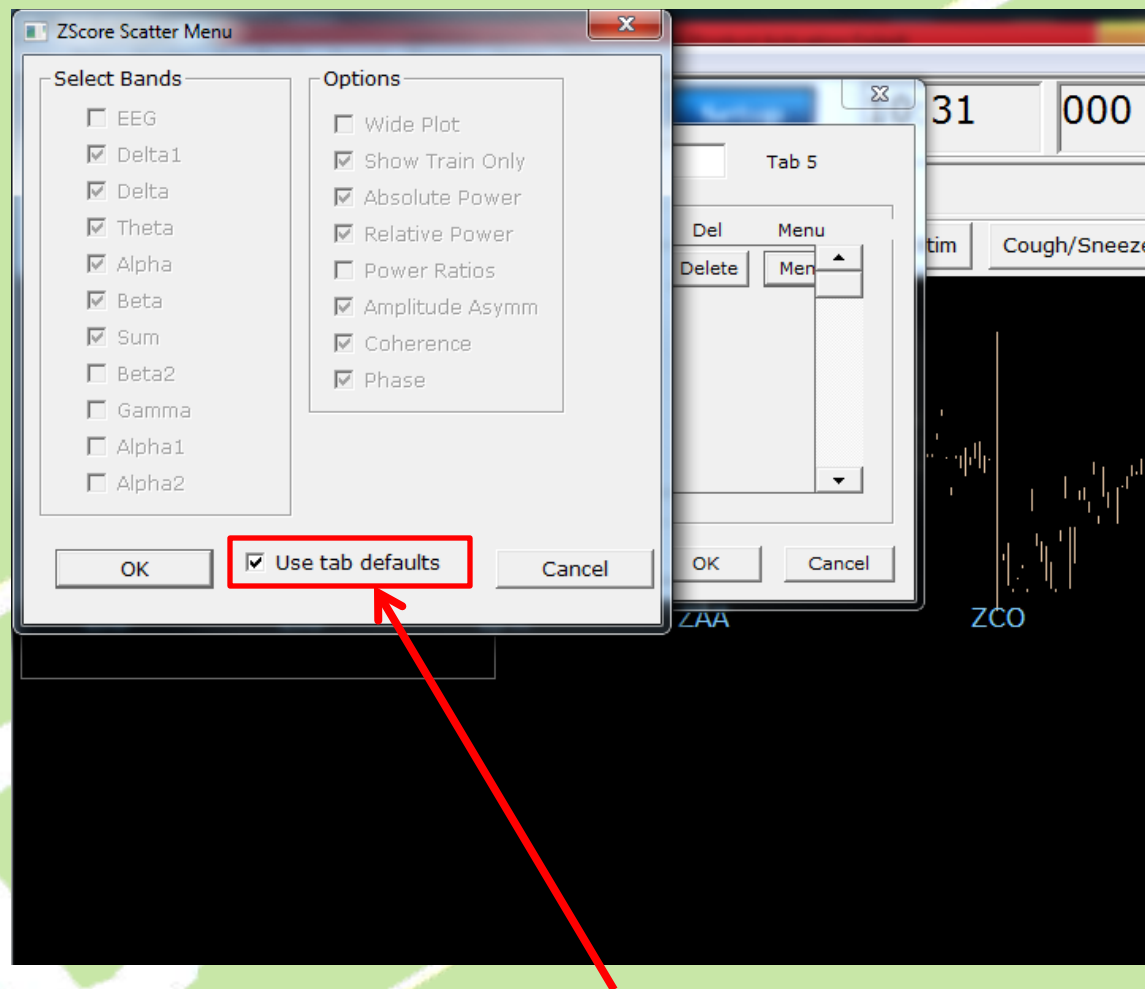
4chPZOK+PZMO



Next, click the Z-Bars Plot “Menu” so we may select what in the Z-Bars Plot displays.

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.

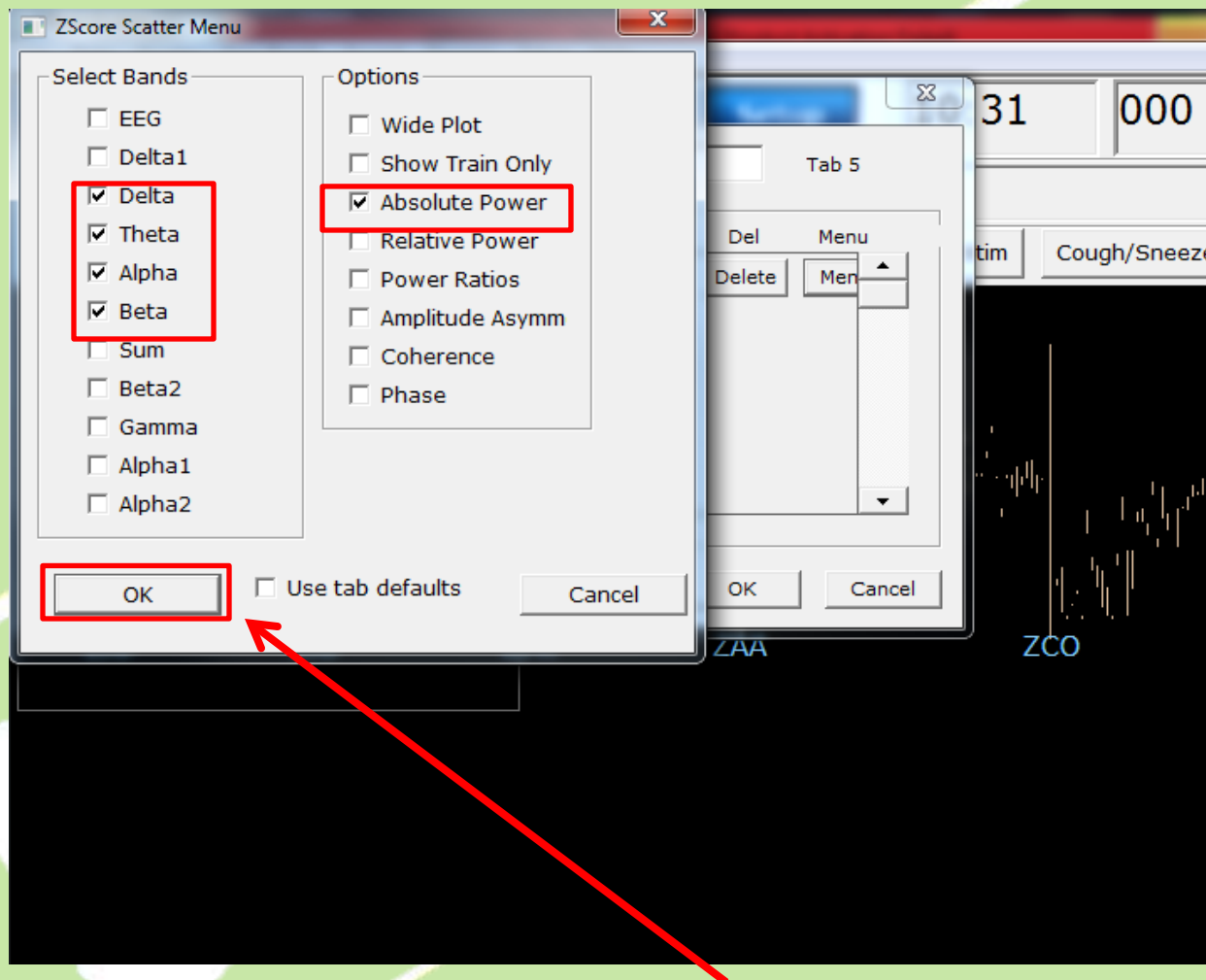
4chPZOK+PZMO



Again, unclick the “Use tab defaults” checkbox so we may make custom choices.

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.

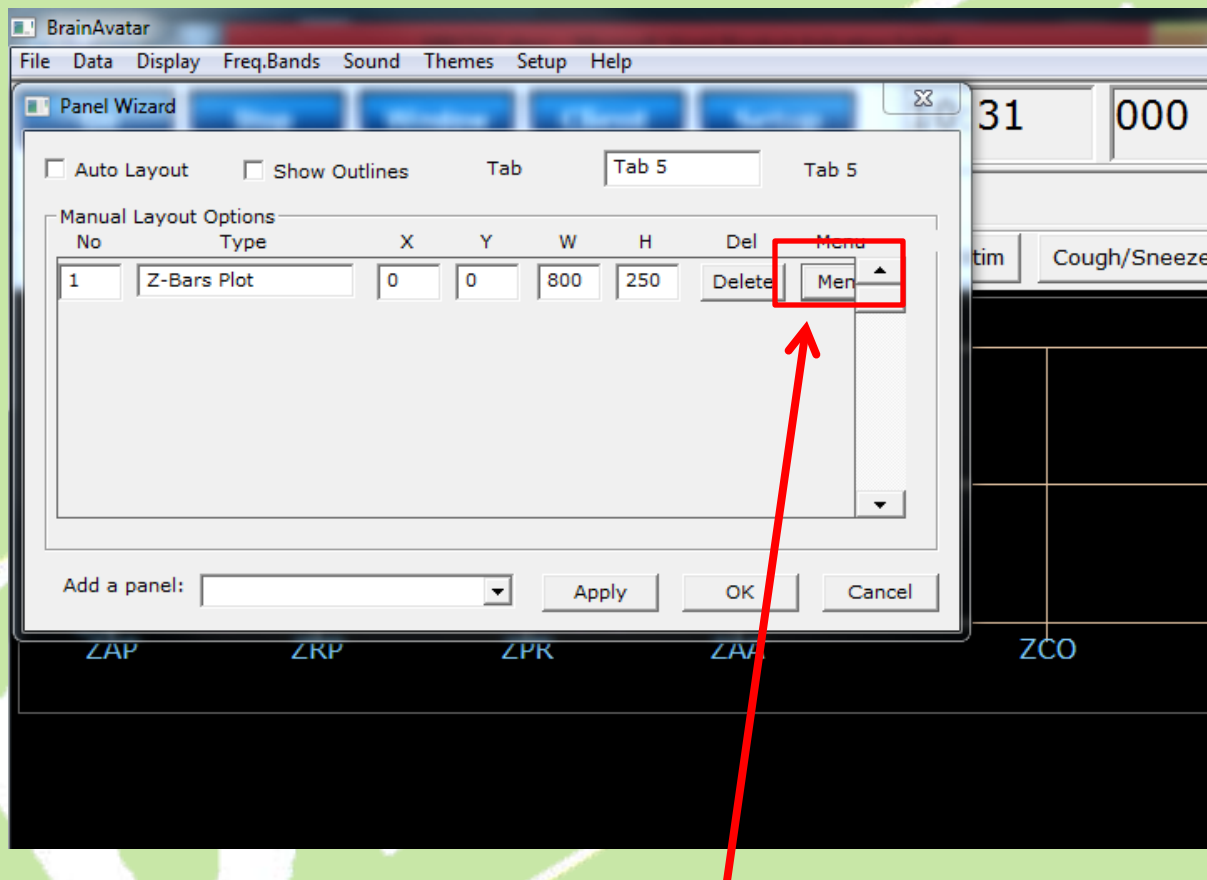
4chPZOK+PZMO



Make the choices as depicted and then click “OK” to activate the map.

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.

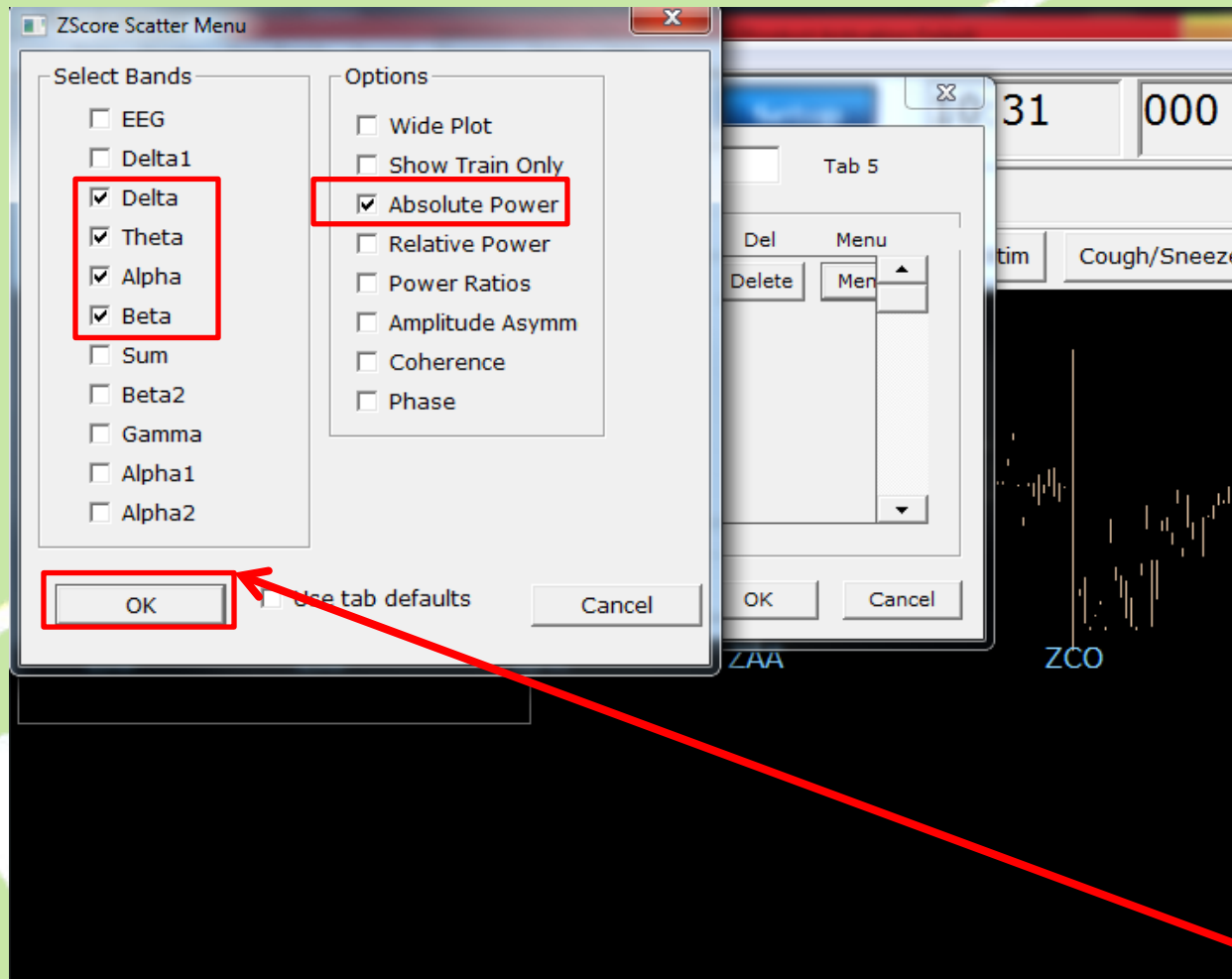
4chPZOK+PZMO



Let's set the width to 800 pixels. Let's reconfirm our menu choices by clicking "Menu" once again.

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.

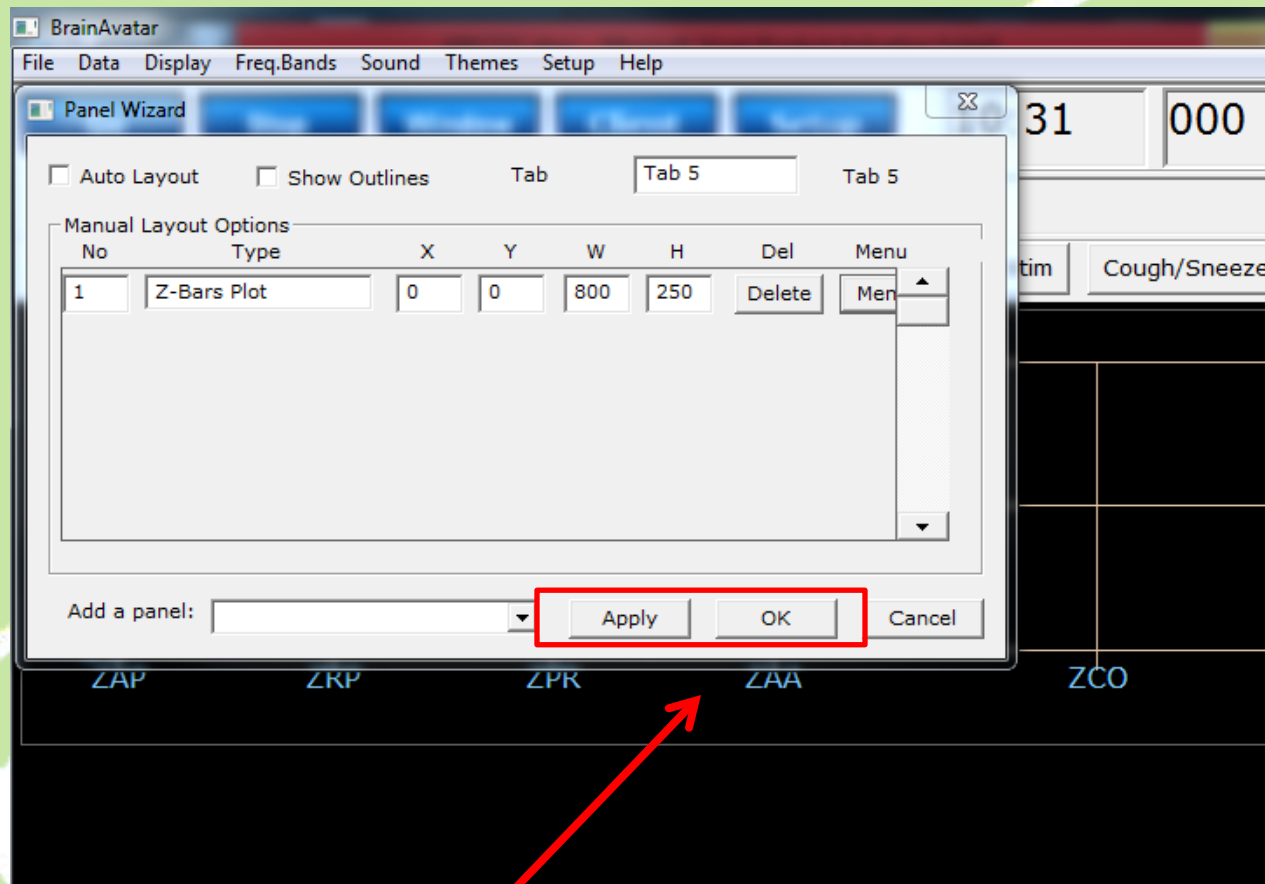
4chPZOK+PZMO



Again, make the choices as depicted and then click “OK” to activate the map.

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.

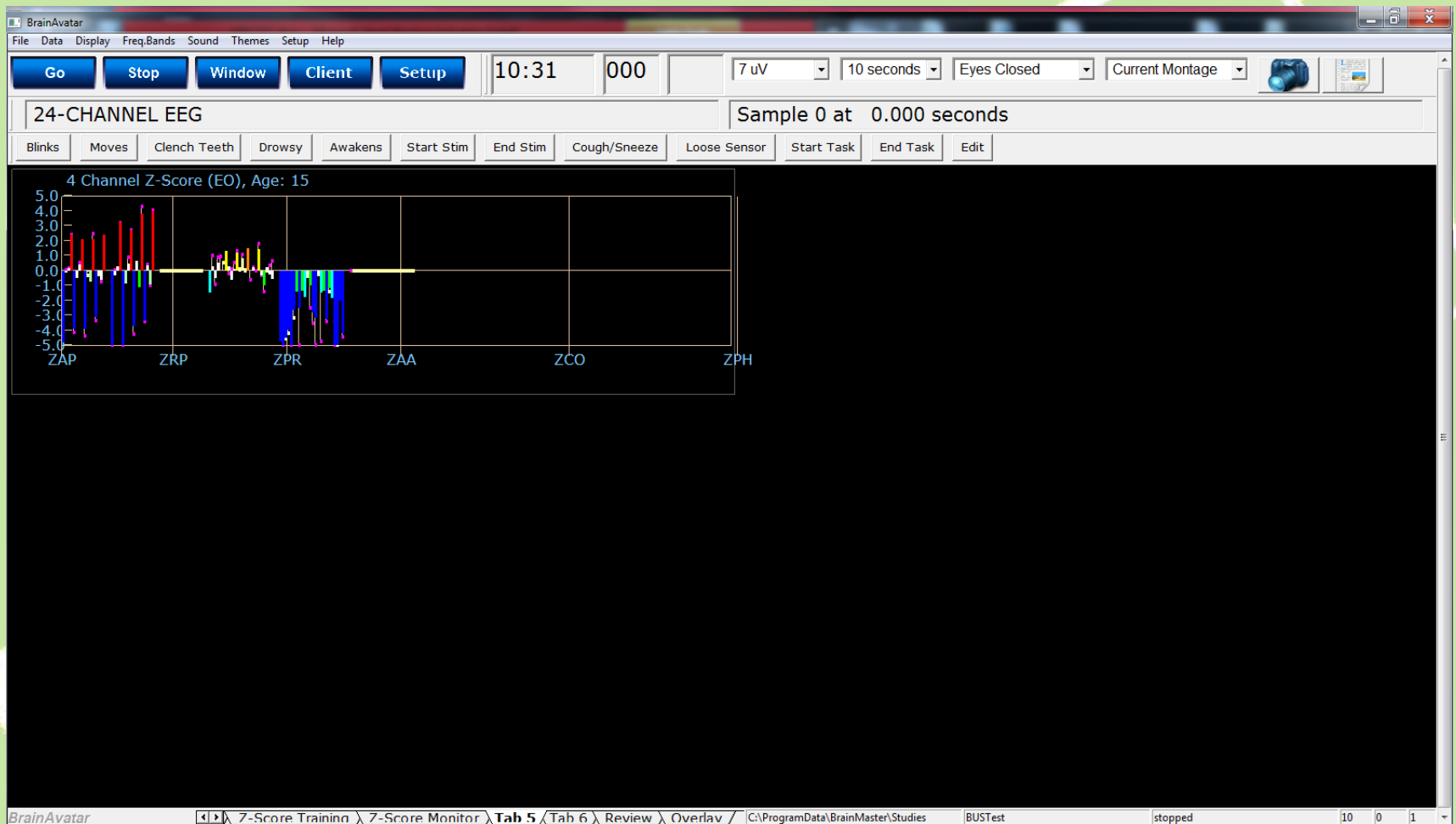
4chPZOK+PZMO



Again, click “Apply” then “OK” to activate the maps.

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.

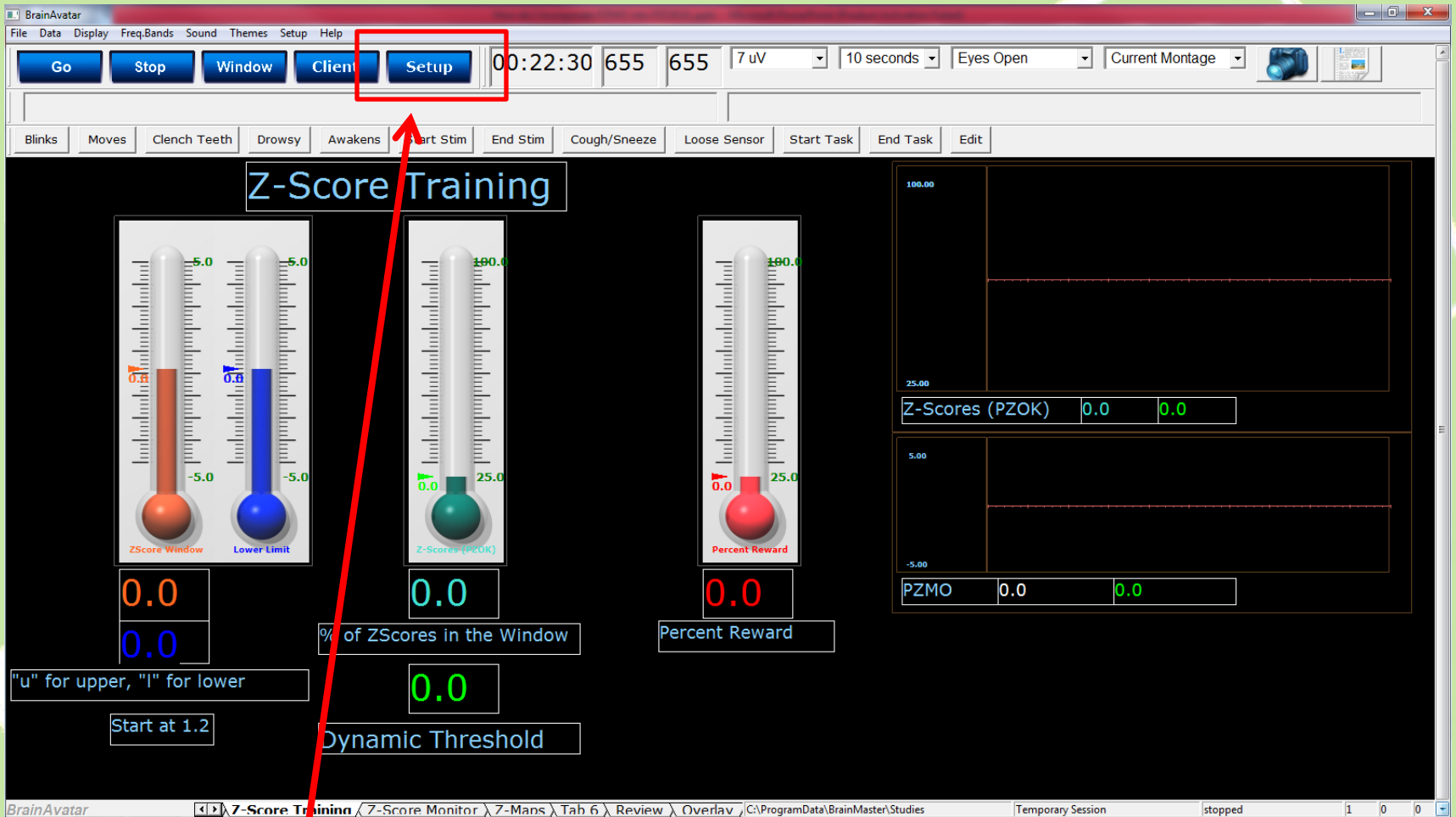
4chPZOK+PZMO



Your Tab 5 should look similar to above. Now let's run a simulation to get a feel for how PZOK with PZMO works. Switch to the Z-Score Training Tab.

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.

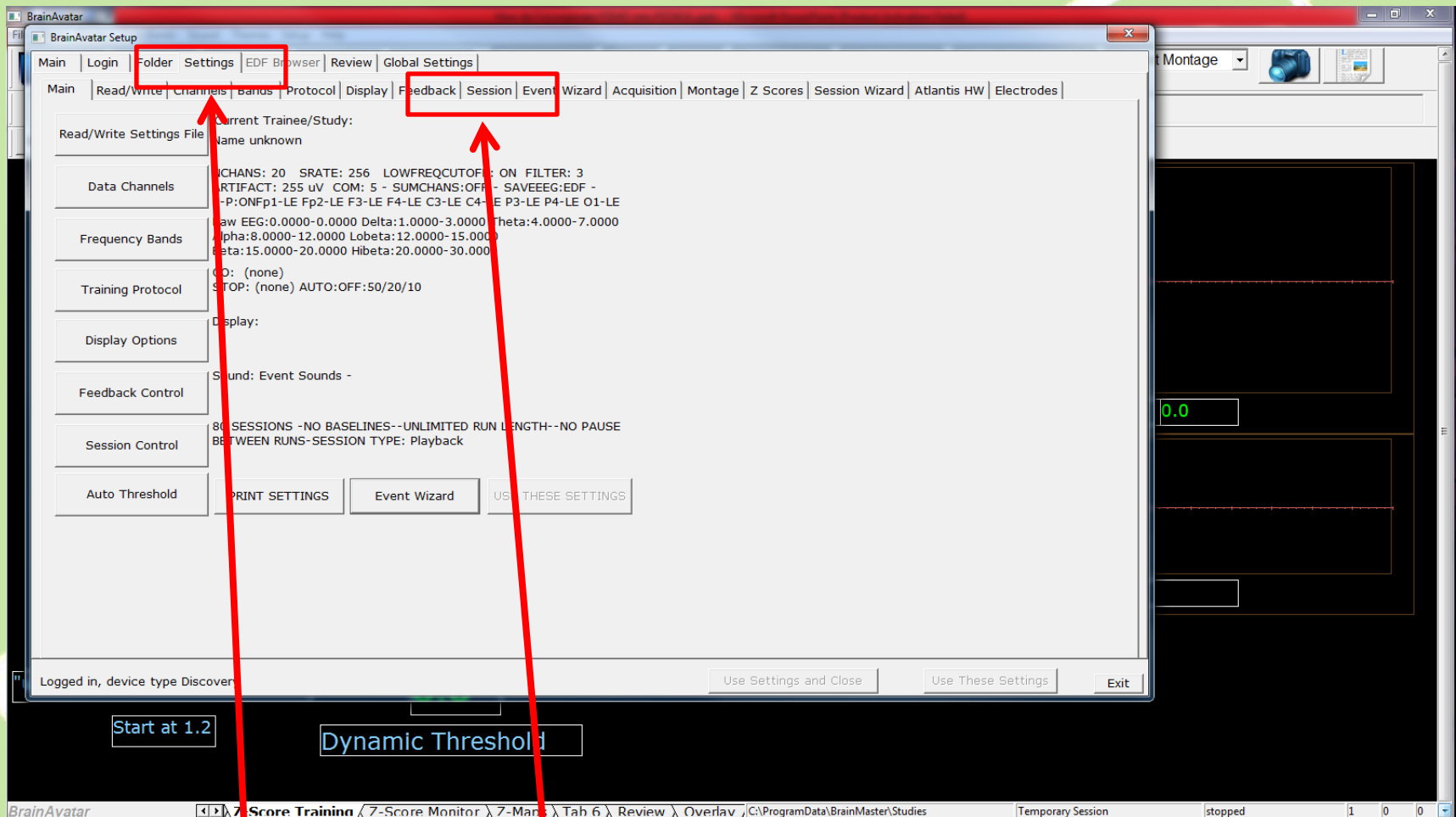
4chPZOK+PZMO



Click “Setup”.

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.

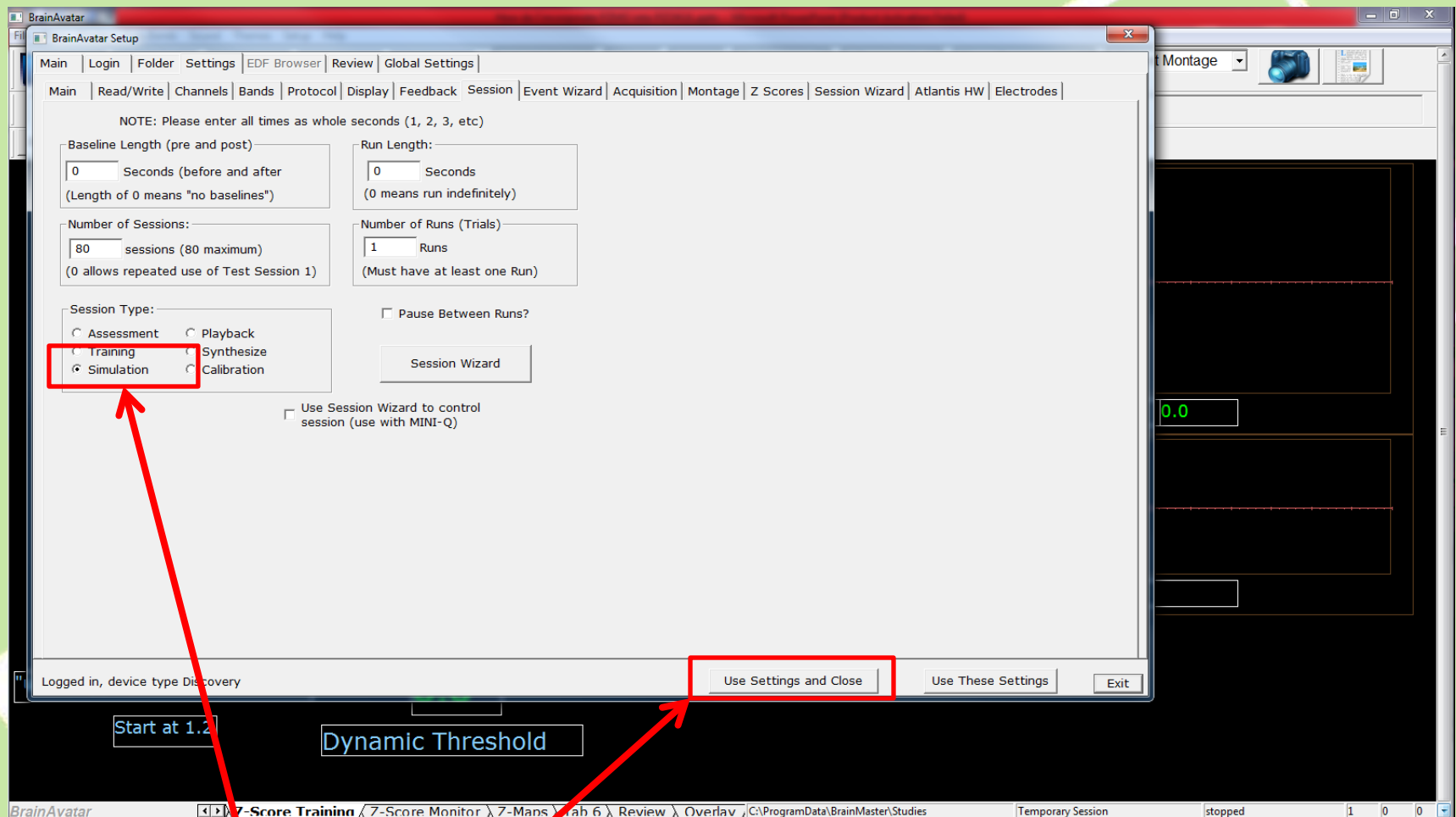
4chPZOK+PZMO



Click “Settings” and then “Session”.

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.

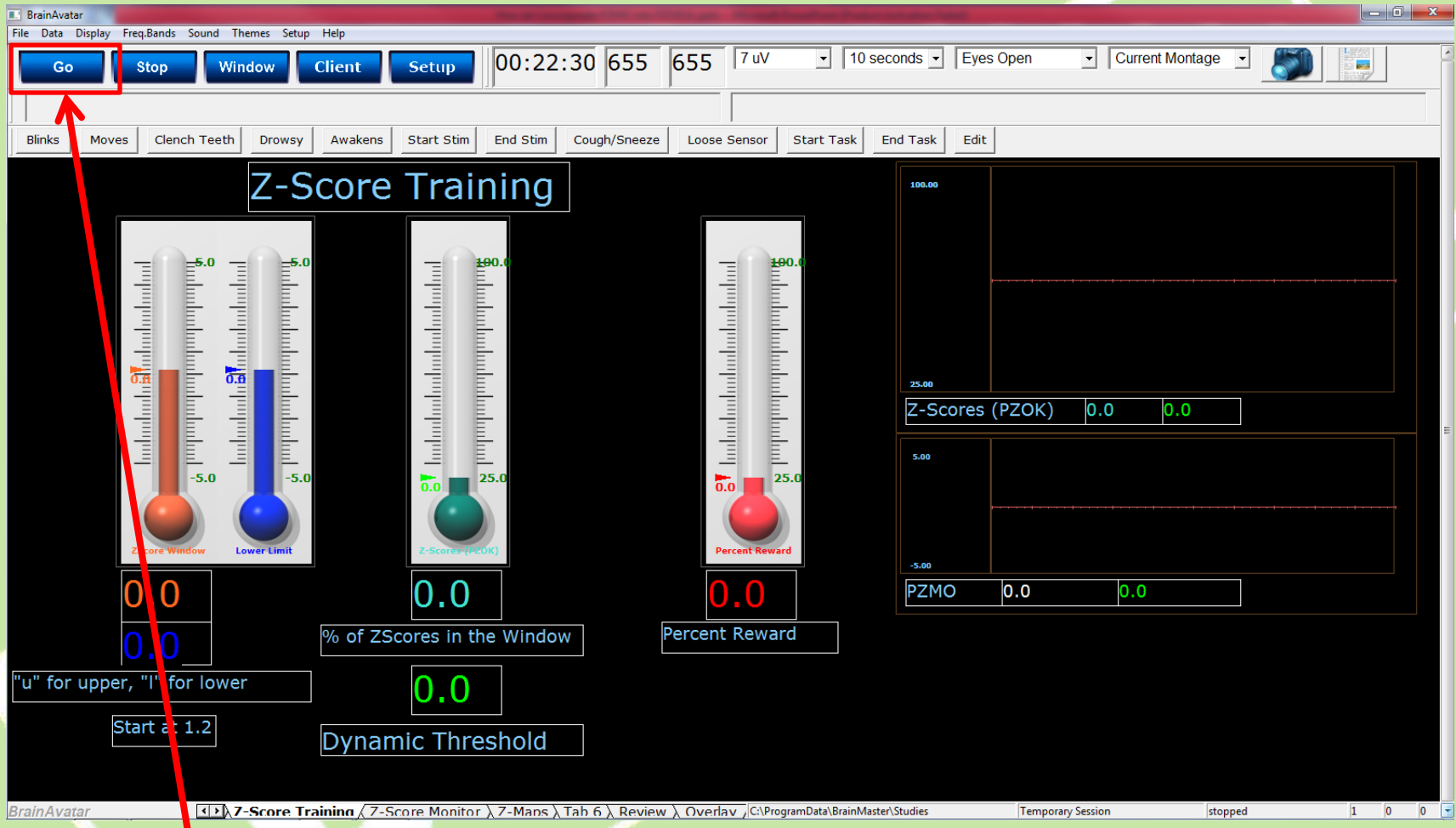
4chPZOK+PZMO



Click "Simulation" and then "Use Settings and Close".

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.

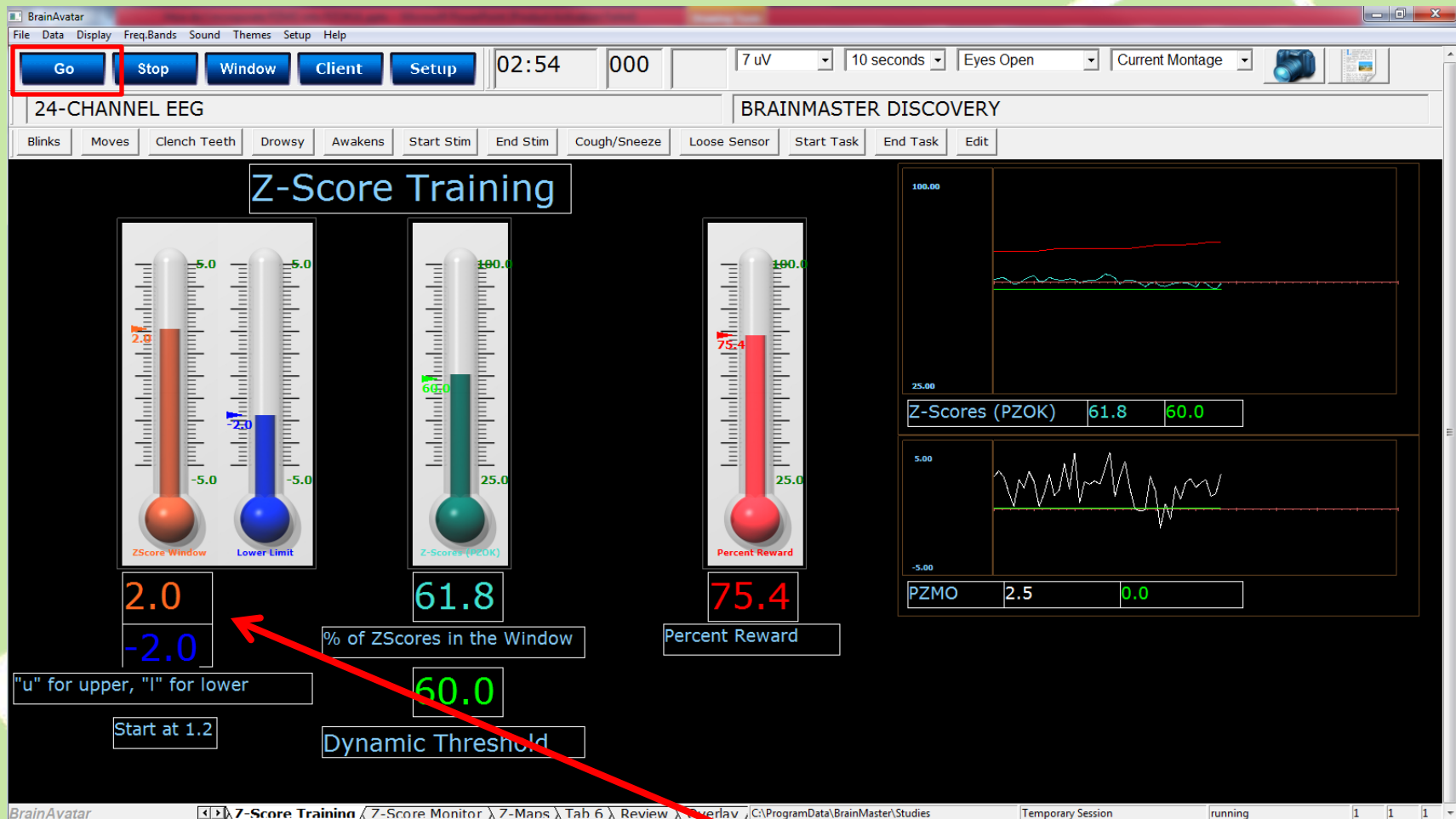
4chPZOK+PZMO



Click "Go" to run the simulation.

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.

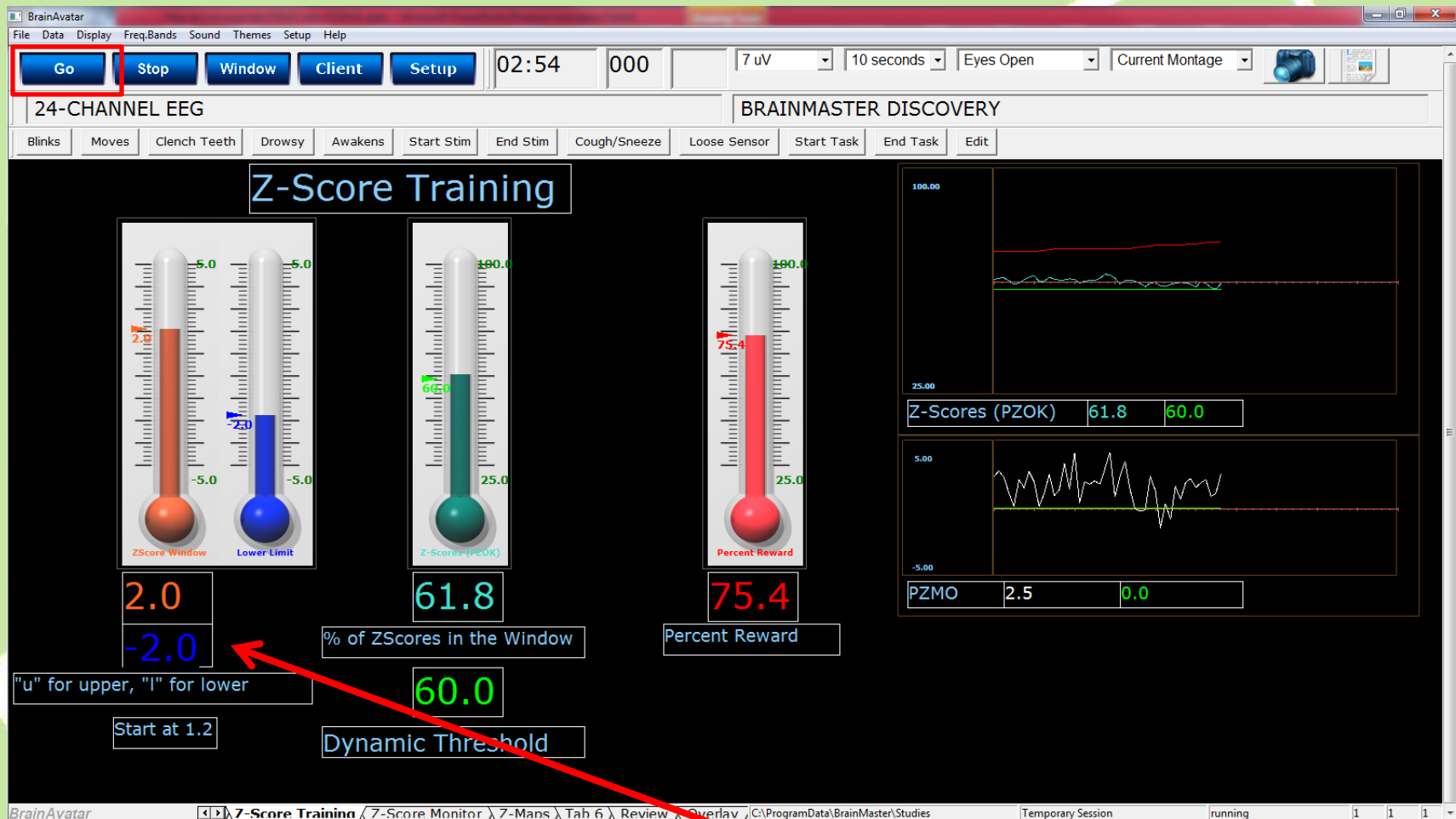
4chPZOK+PZMO



Once the simulation runs for a few seconds we can make some adjustments in order to investigate results. First increase the upper limit of the PZOK threshold to 2.0 by tapping the “u” key until you reach the desired upper limit.

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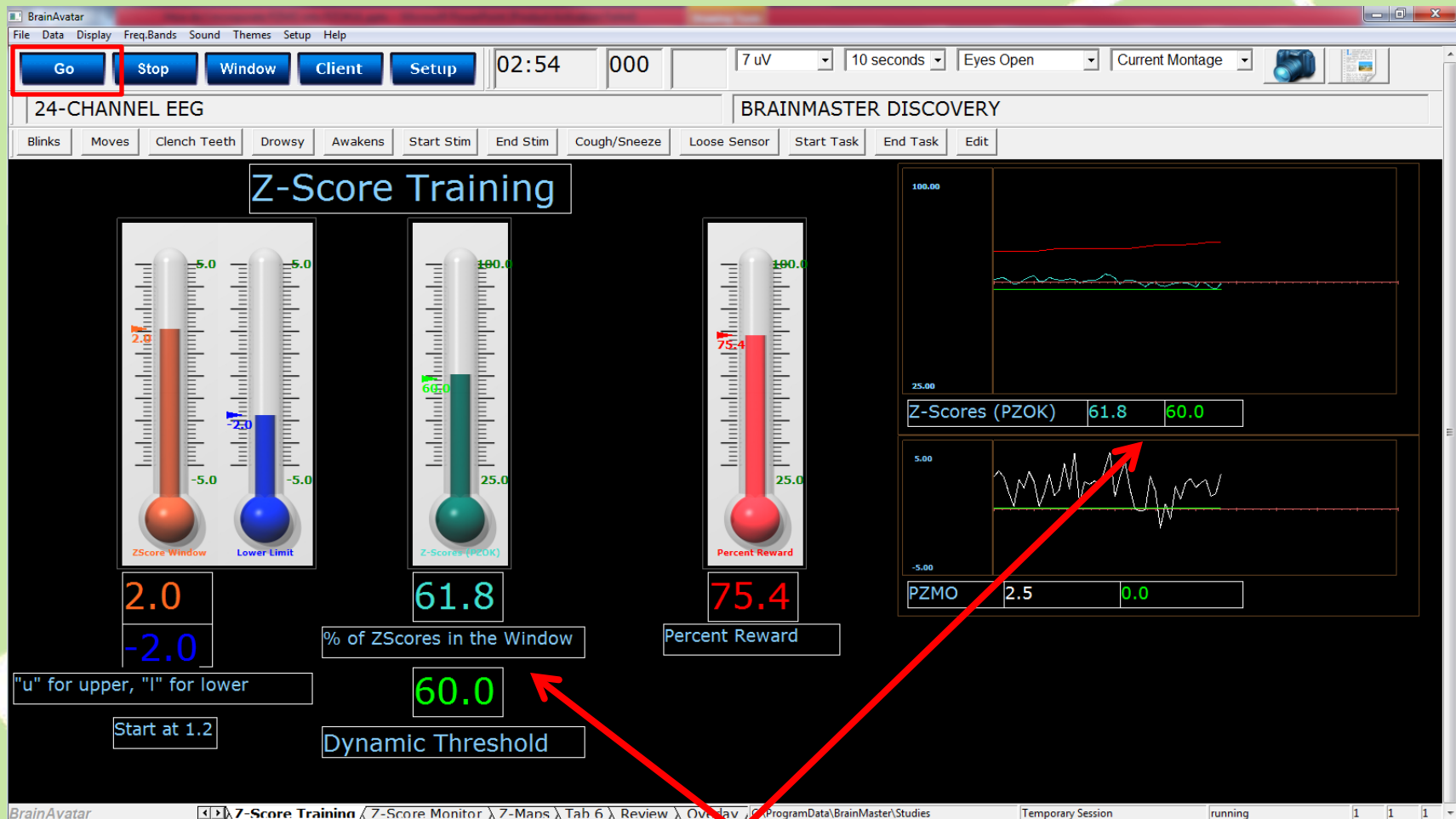
4chPZOK+PZMO



Next, decrease the lower limit of the PZOK threshold to -2.0 by tapping the “shift -l” key until you reach the desired lower limit.

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.

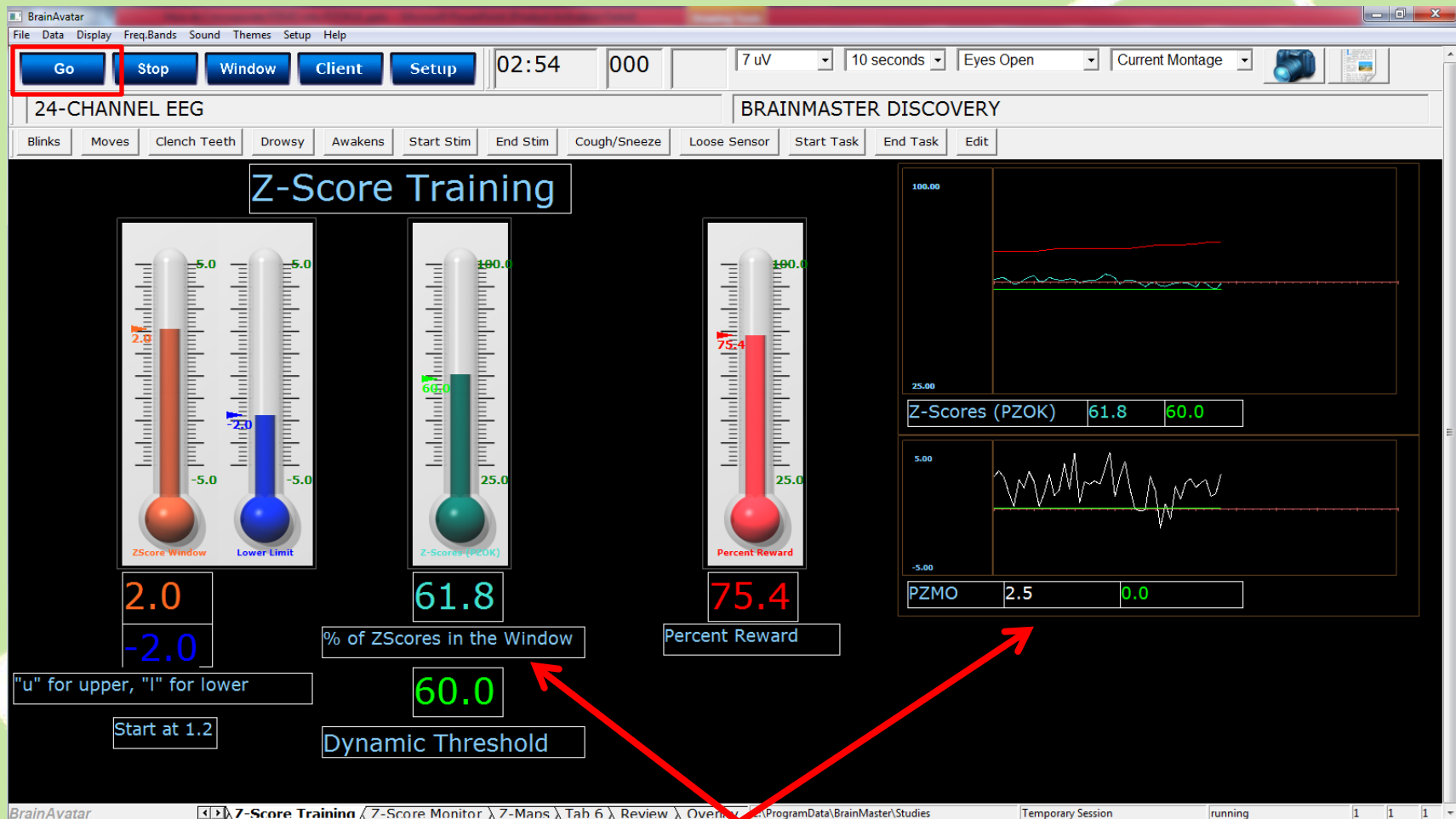
4chPZOK+PZMO



In our example the Percent of Z-Scores which are ok is 61.8%. With the Manual Threshold set at 60.00 the Percent reward is 75.4%. Notice we see these values in two places.

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.

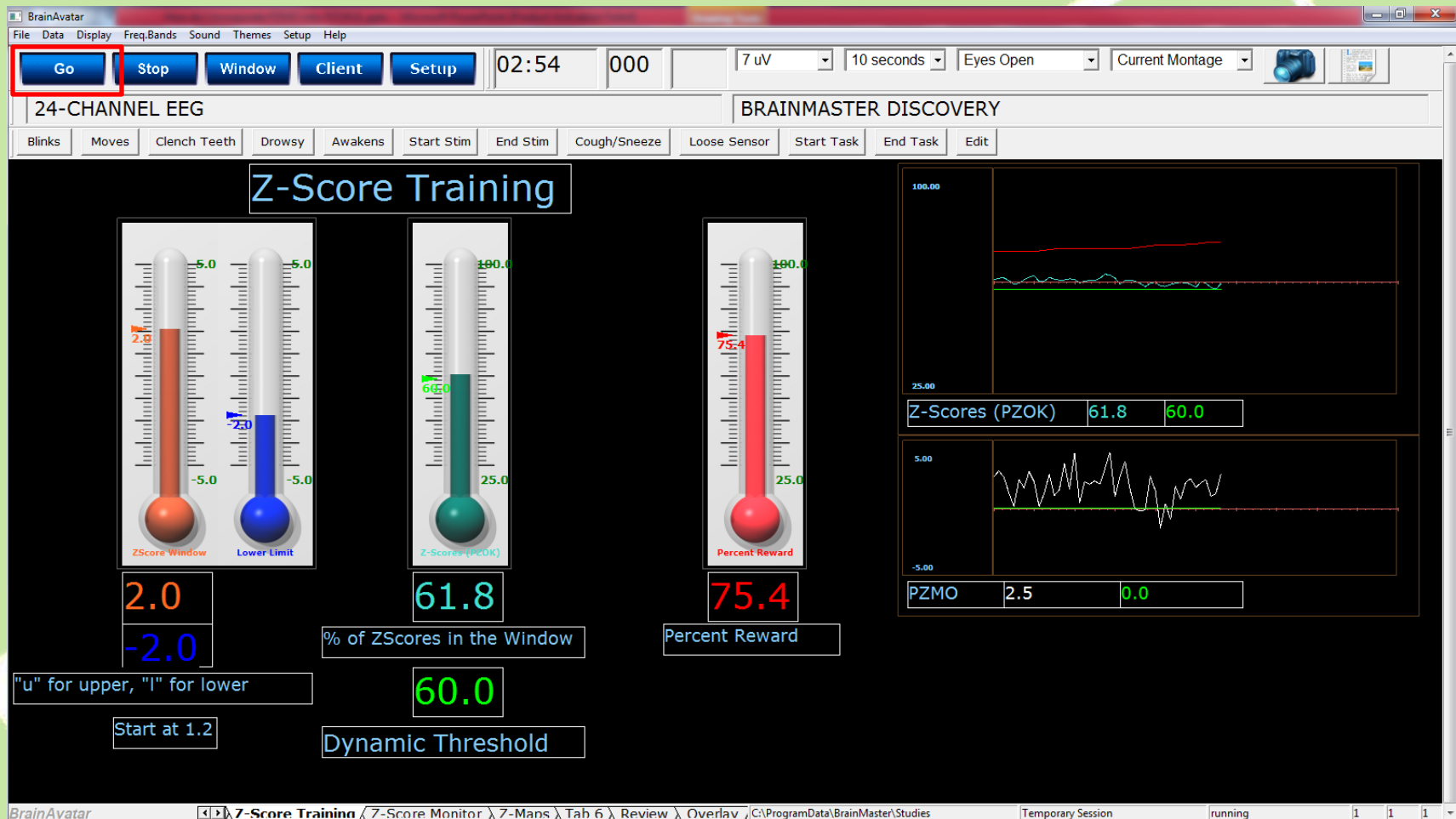
19chPZOK+PZMO



The current PZMO is 2.5 with a reward threshold at 0.0. Even though this is a simulation this means that as PZMO increases all Z-Scores which are outside of ± 2.0 SD's are moving closer to 0. Notice, we only get beeps when PZMO drops below the "0" line (goes negative) and then moves back up through the 0 threshold.

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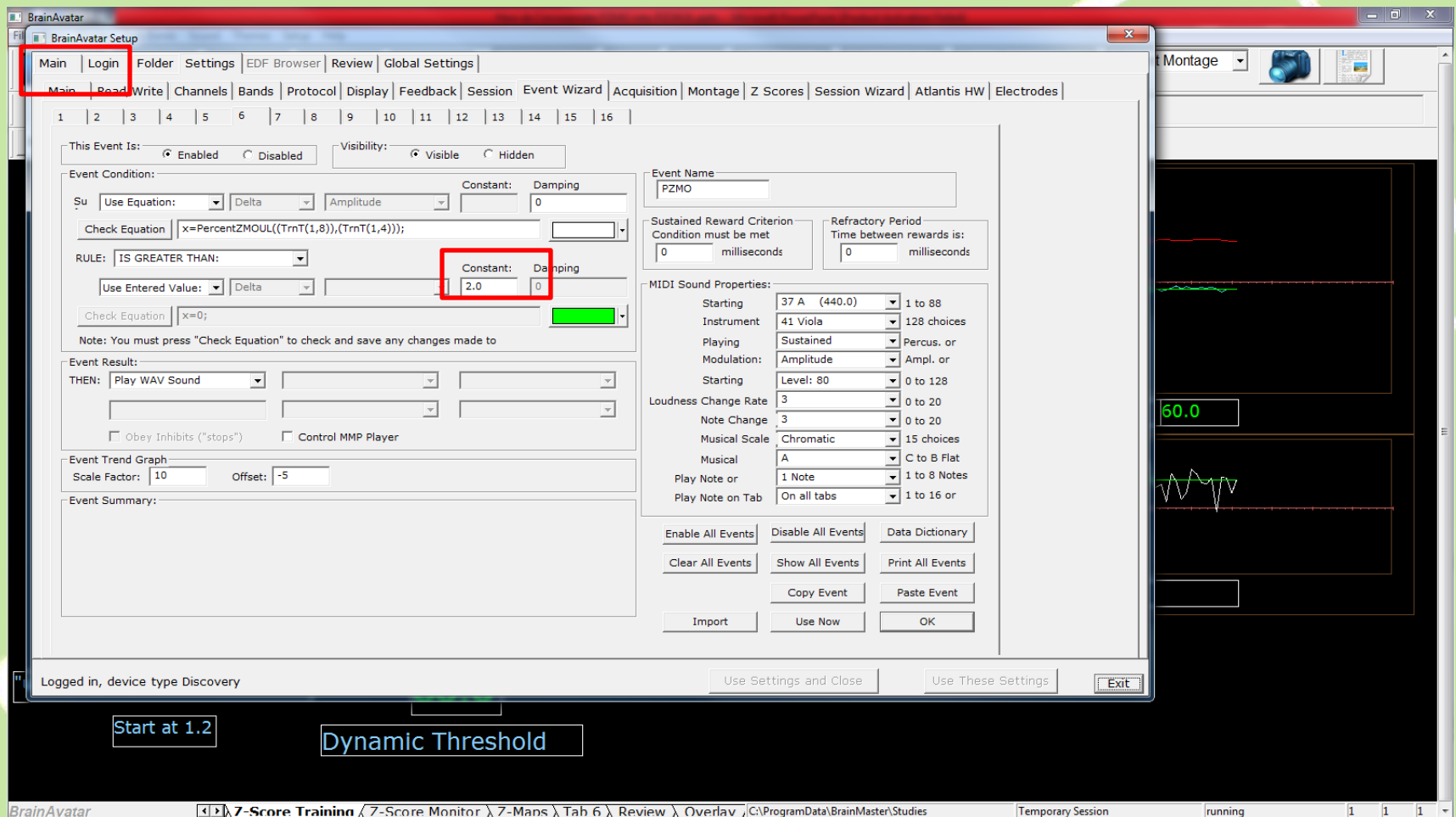
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If we want to create a reward when 2% of the Z-Scores outside the window move closer to the window we must go into the Event Wizard and make a change. To call up the event wizard touch "Ctrl-E" on the keyboard to activate the shortcut.

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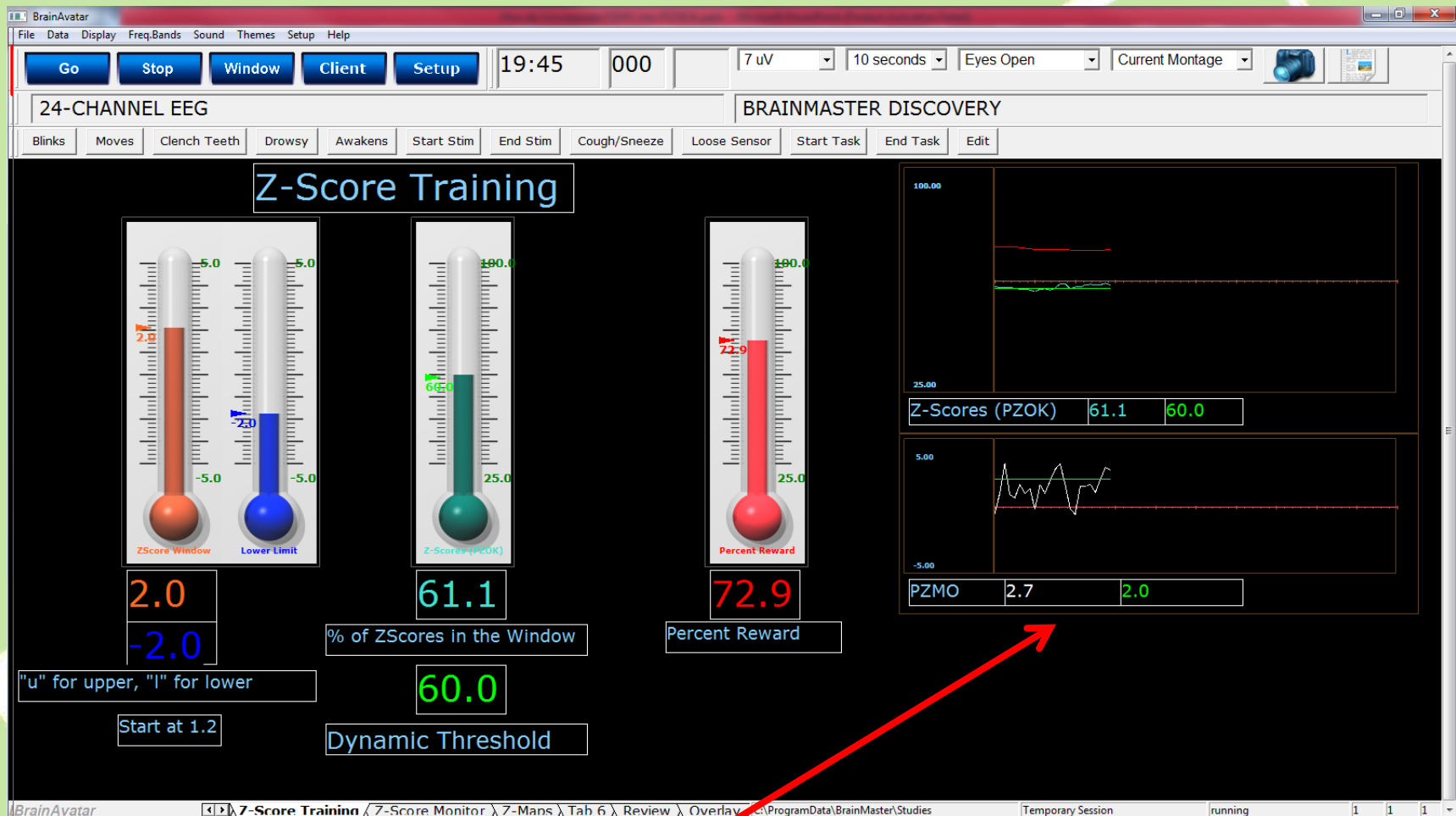
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The PZMO equation is in Event 6. Go to Event 6 and change the "Rule Constant" from 0 to 2. Then click "Use Settings and Close" to save and activate the change.

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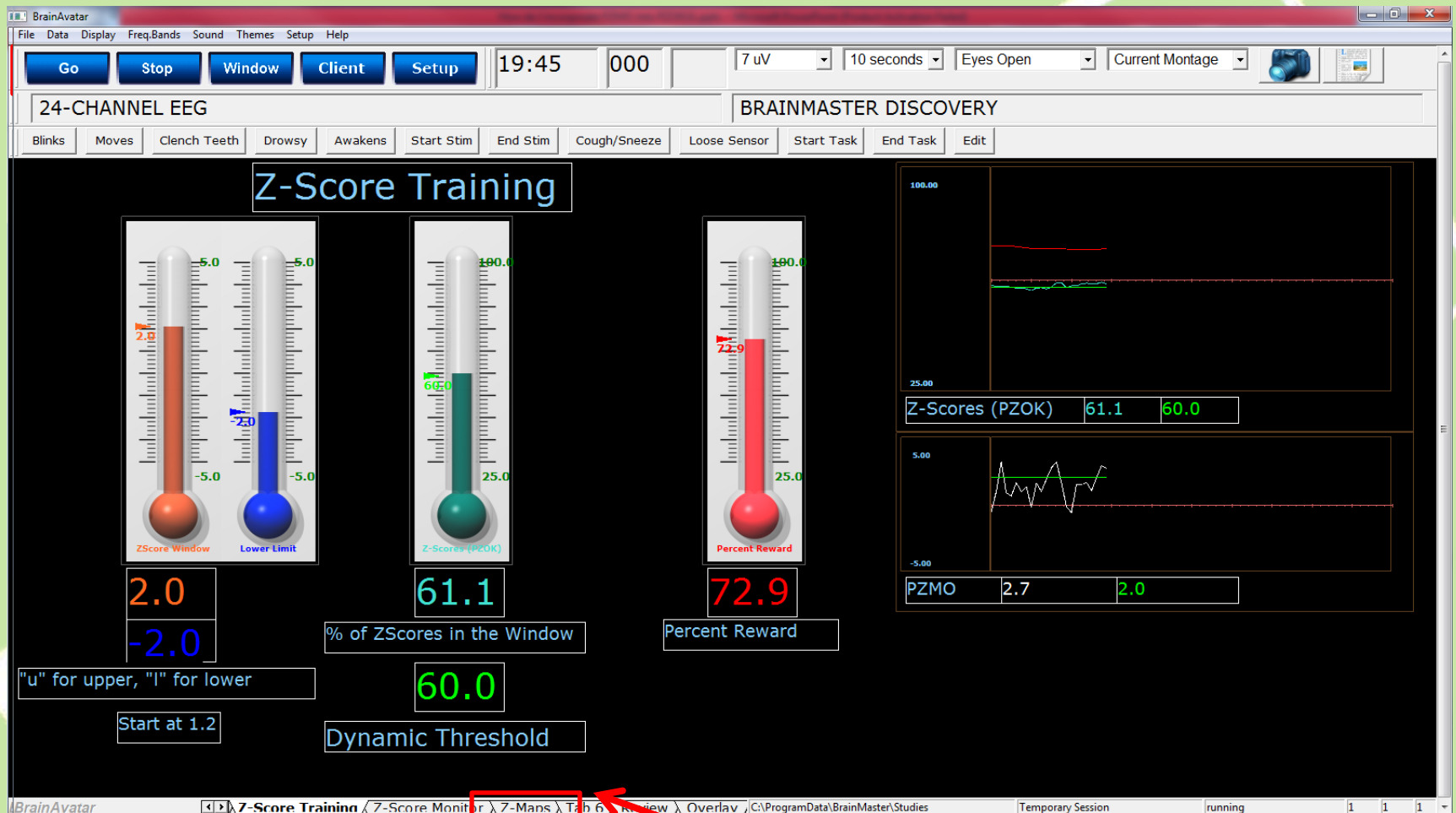
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Notice with the threshold raised to 2.0 there are many more beeps as the PZMO metric does not have to drop further in order to strike the threshold of 2 on the way up. Notice we can see the actual numbers in the Label we created.

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Let's take a look at Tab 5. Switch to Tab 5.

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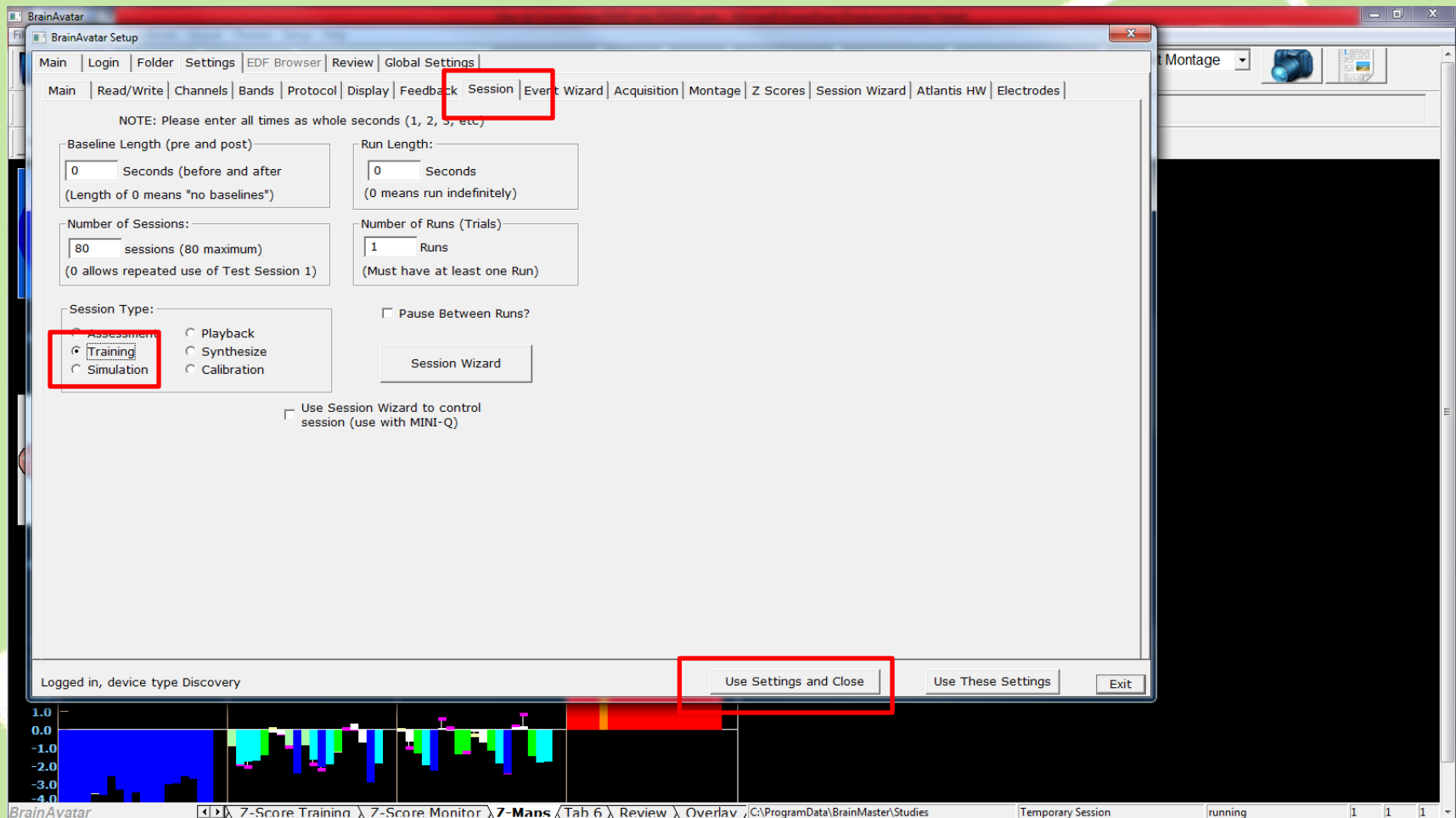
4chPZOK+PZMO



At this point we may want to save this setting file. But first, we must reset our session from “Simulation” to “Training. You may use the “Ctrl-E” shortcut to access the Settings Window. Click “Ctrl-E” on your keyboard.

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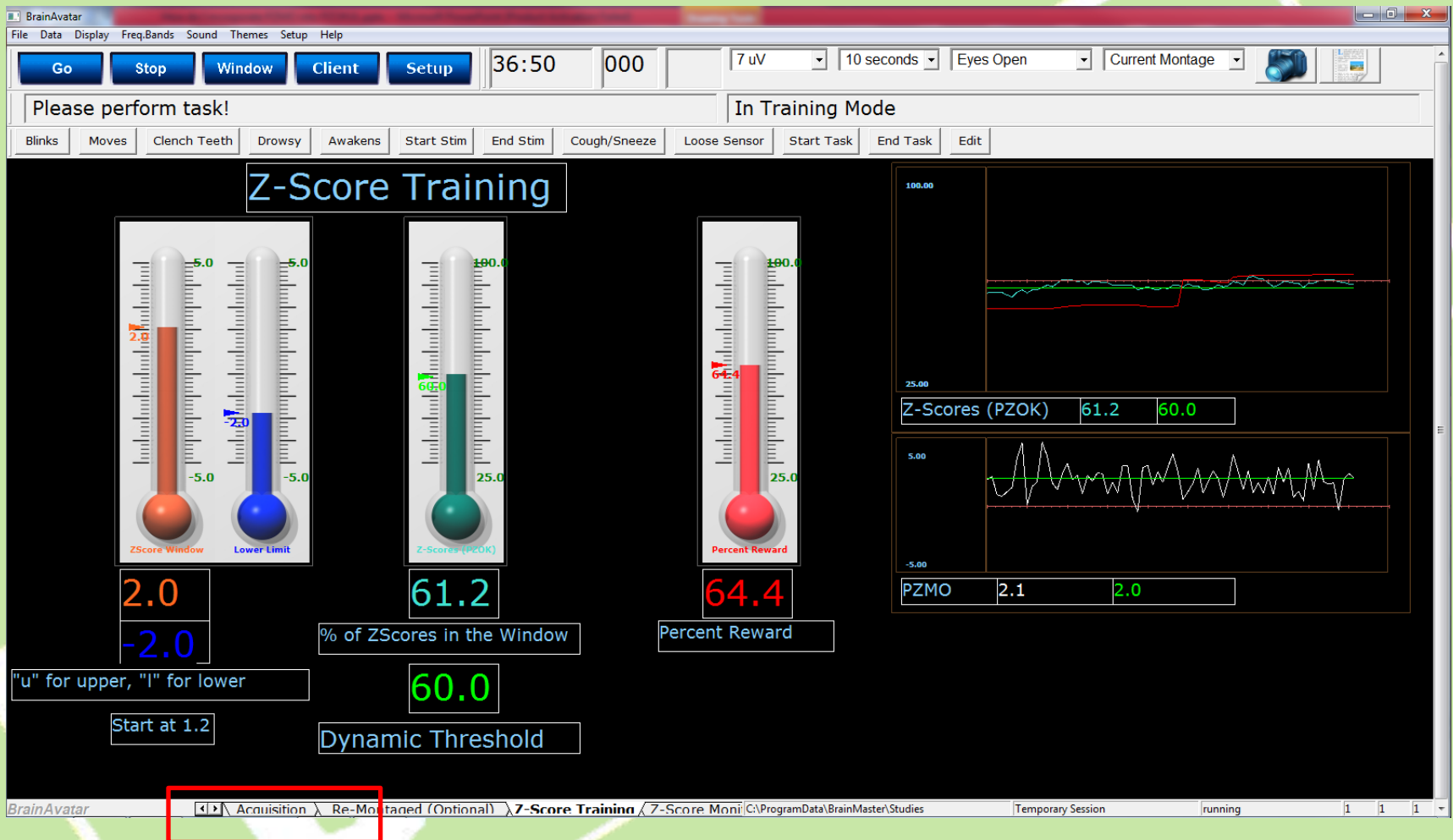
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Click “Session” and change “Simulation” to “Training” prior to saving the setting file. Click “Use Settings and Close” to save and activate the changes.

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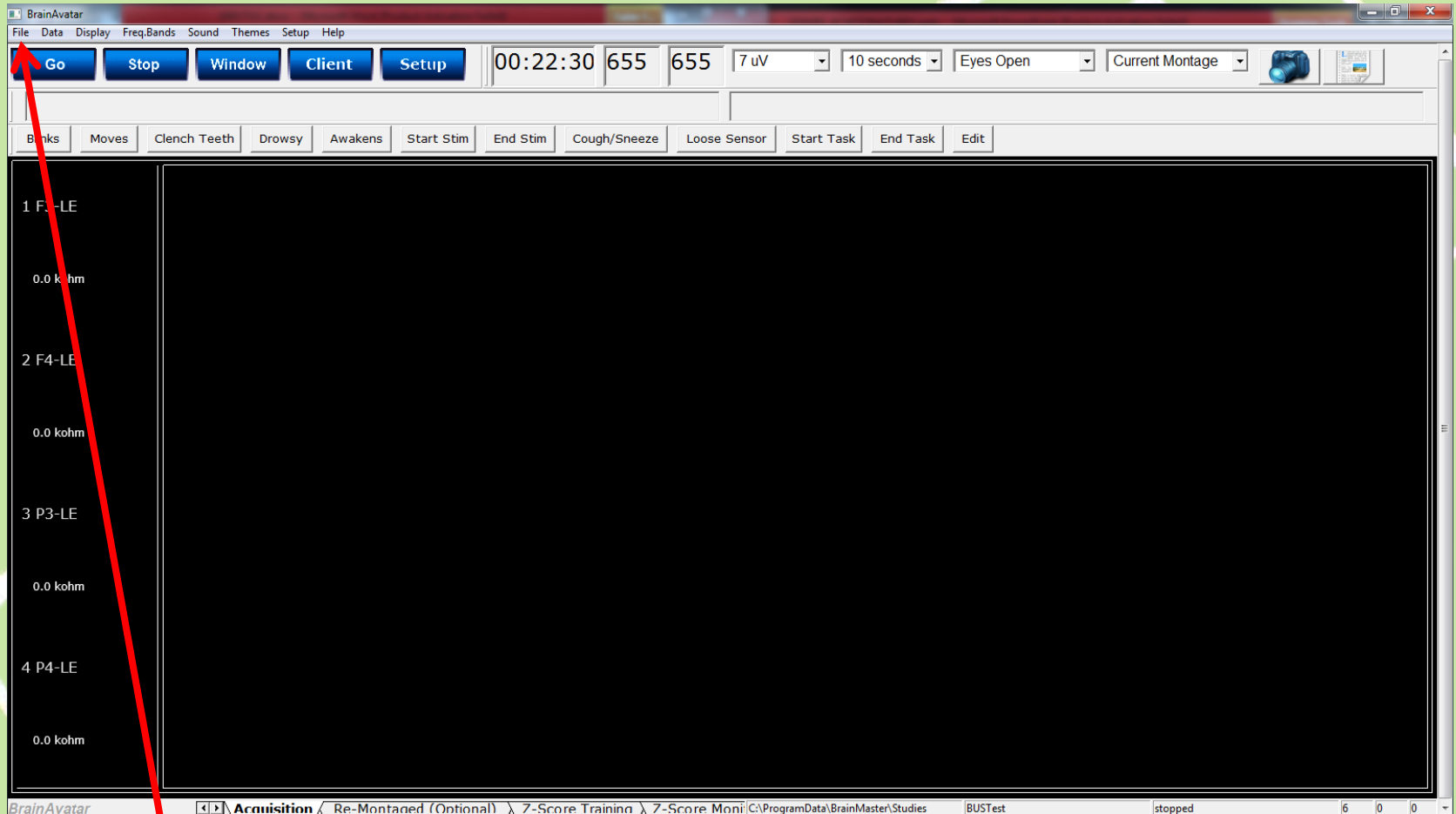


Switch back to the Acquisition Tab.

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4chPZOK+PZMO

Next we must save our changes



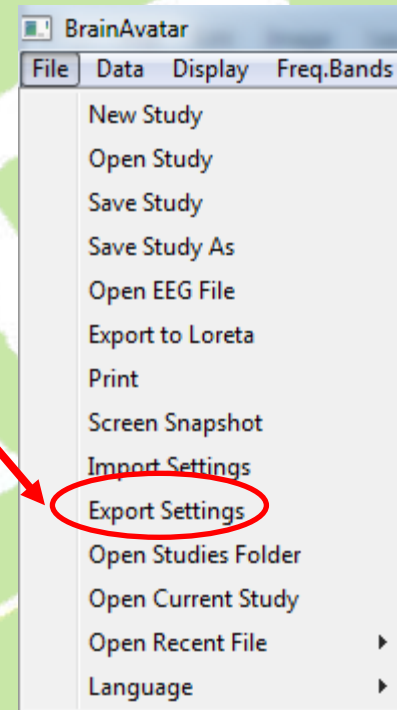
Click “File”.

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Level 3

Next click “Export Settings”.

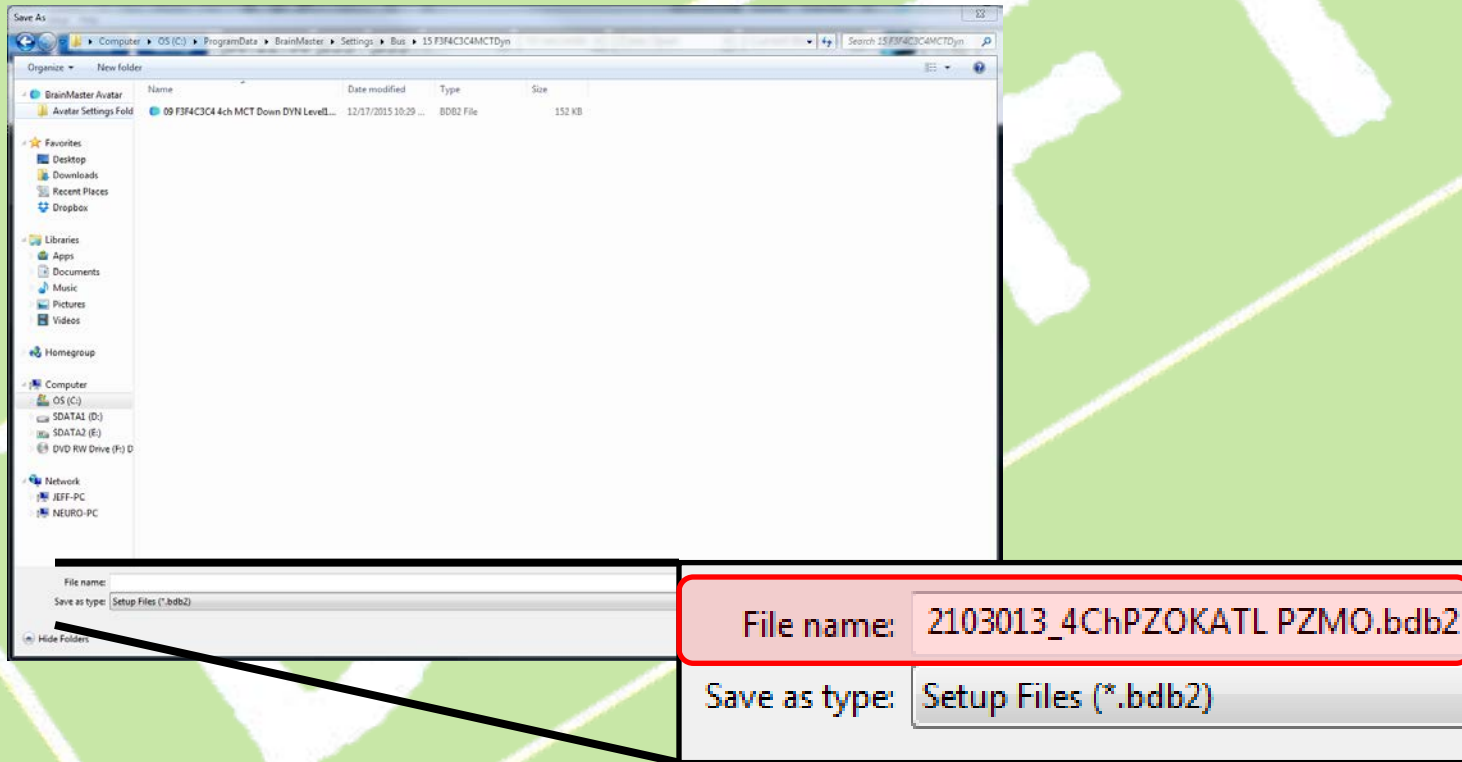


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Level 3

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

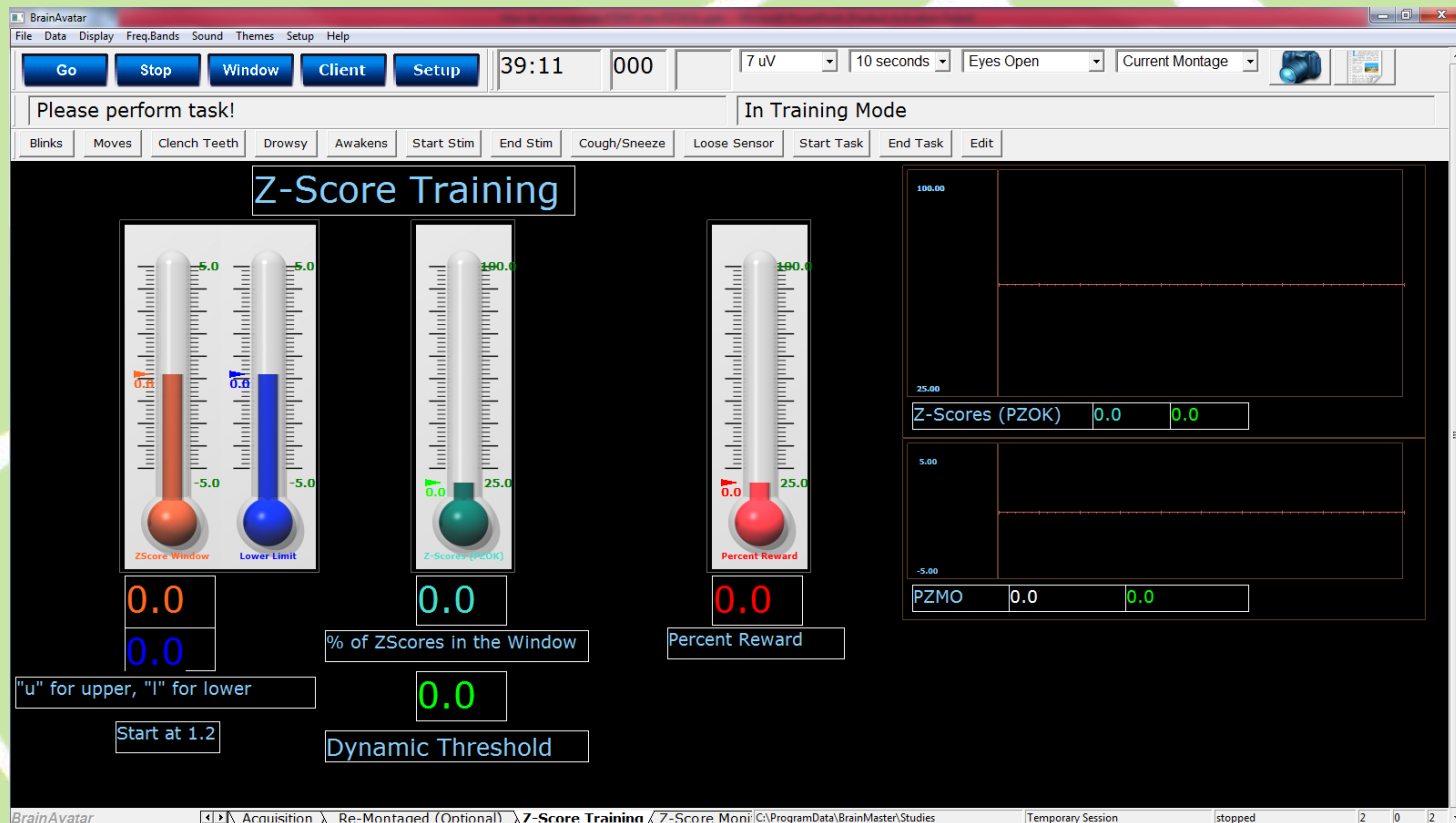


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Level 3

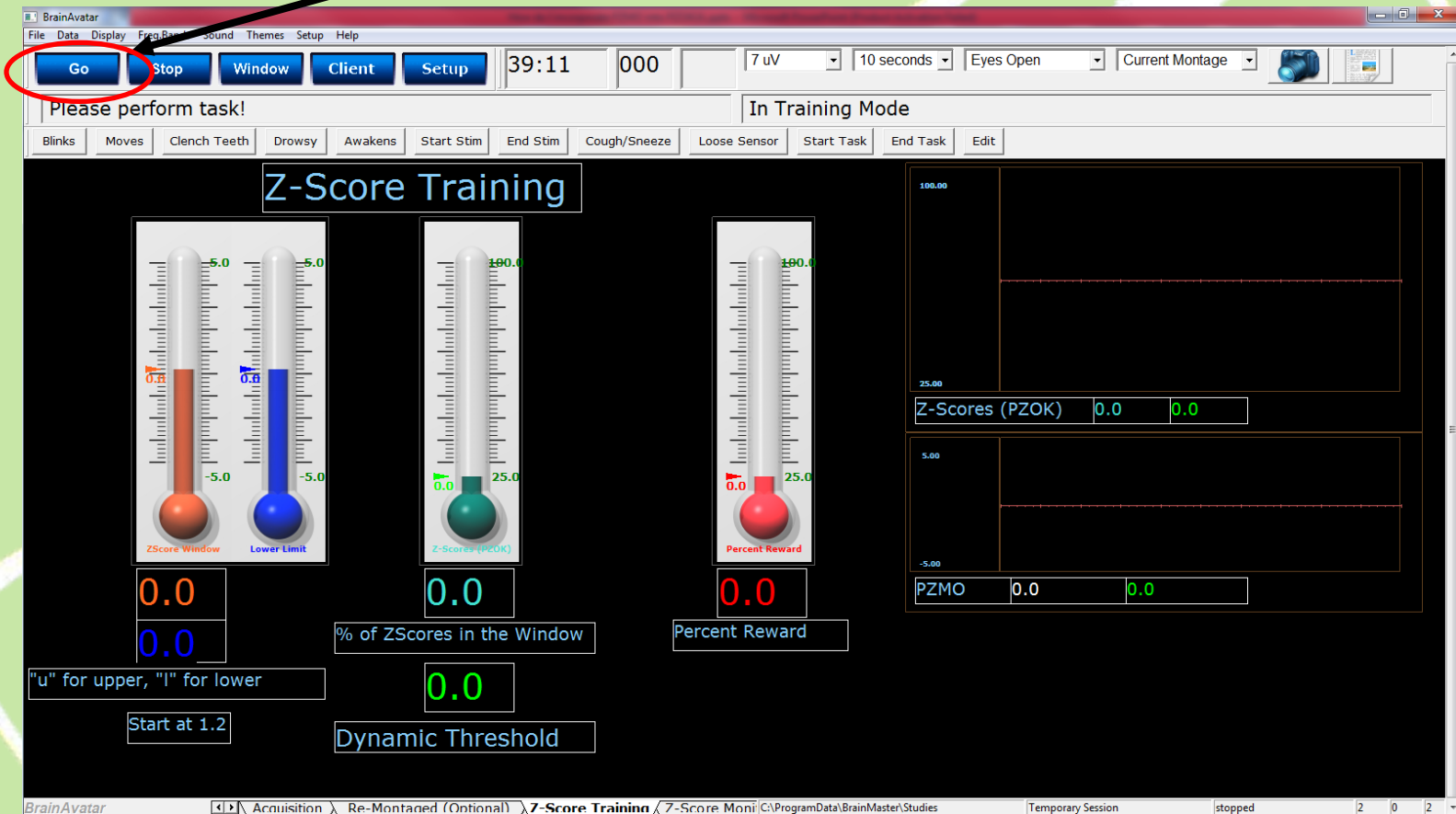
The Protocol Is now ready to run with PZMO included.



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To run the protocol click the "Go" Button



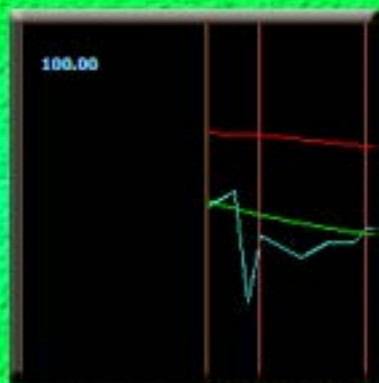
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Power Point Manual

Get On The
BUS



BrainMaster
Universe
Simplified



“4ch PZOK
Atlantis
BDX”
Level 3