

Power Point Manual

Get On The
BUS



BrainMaster
Universe
Simplified



“focus”
level 3

Focus

Level 3

- How can I modify the Focus Settings to use the event wizard for greater control and flexibility of the protocol?
- How can I use the Panel Wizard to modify training screen appearance?

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.

Focus

Level 3

- In the Level 1 and Level 2 Focus Protocol training was conducted through the “built in” Brainmaster digital filters.
- Let’s change the control of the protocol over to the Event Wizard for greater control and flexibility.

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Focus

Level 3

Lets Begin

- Make Sure the Atlantis Amplifier is plugged in.

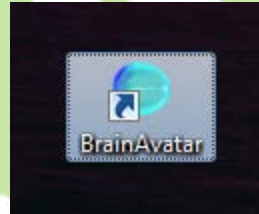


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Focus

Level 3

- Open BrainAvatar by double-clicking the BrainAvatar Icon

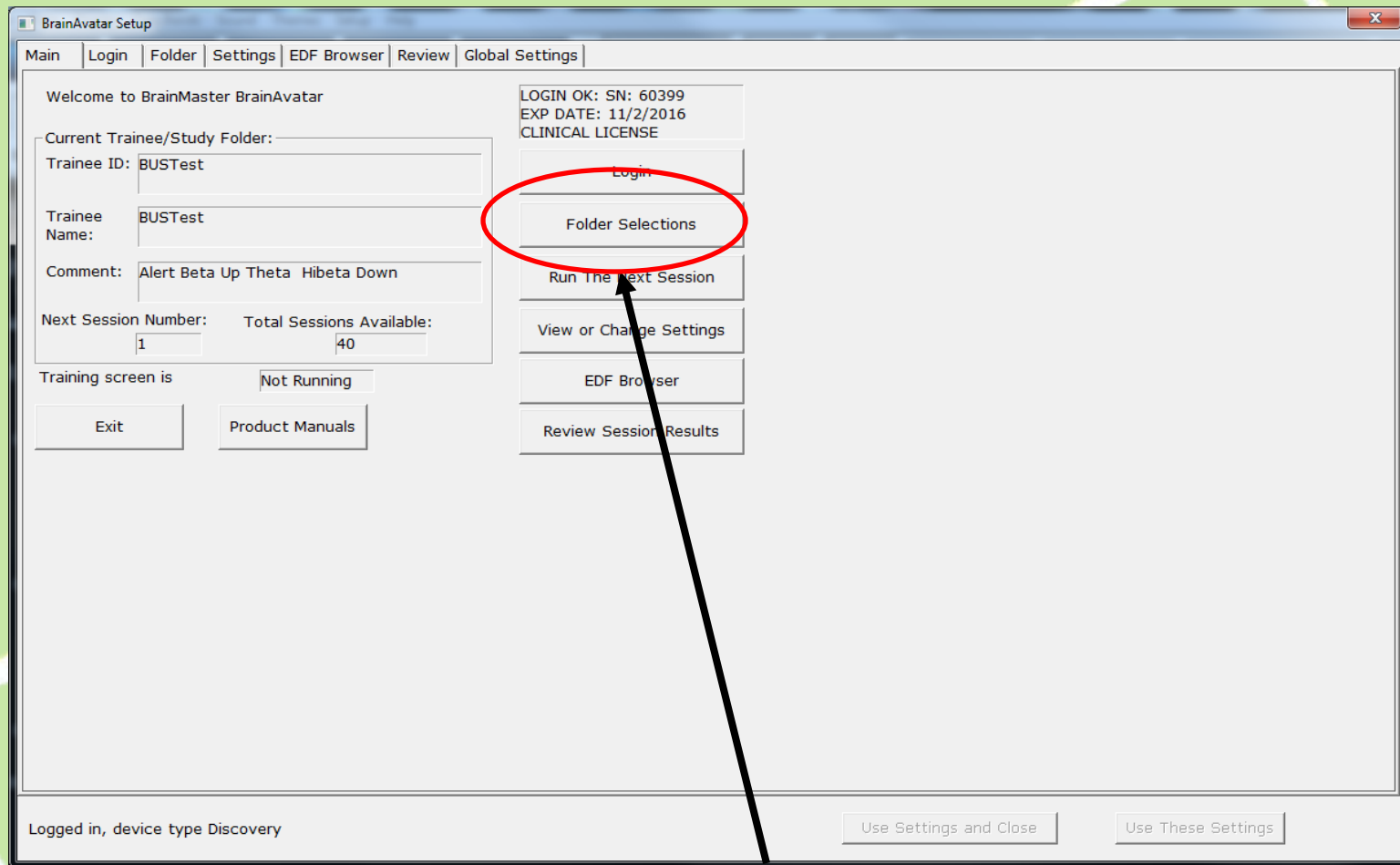


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- The Select Folder Screen will appear.
- By now you should know how to either create a new client folder or recall an existing client folder.
- For the purposes of this exercise let's open and utilize the "BUSTest" Folder which may already be resident 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

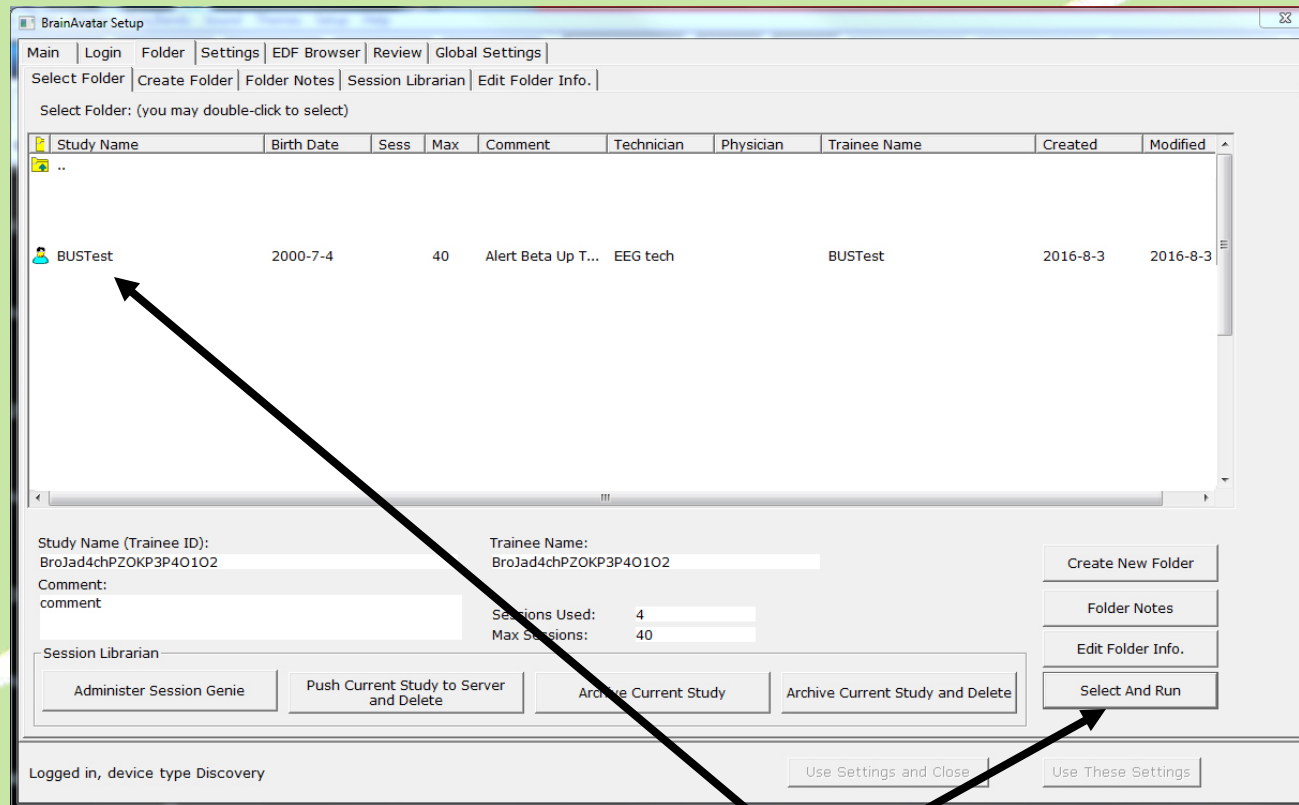
Create New Folder | Folder Notes | Edit Folder Info. | Select And Run

Logged in, device type Discovery

Use Settings and Close | Use These Settings

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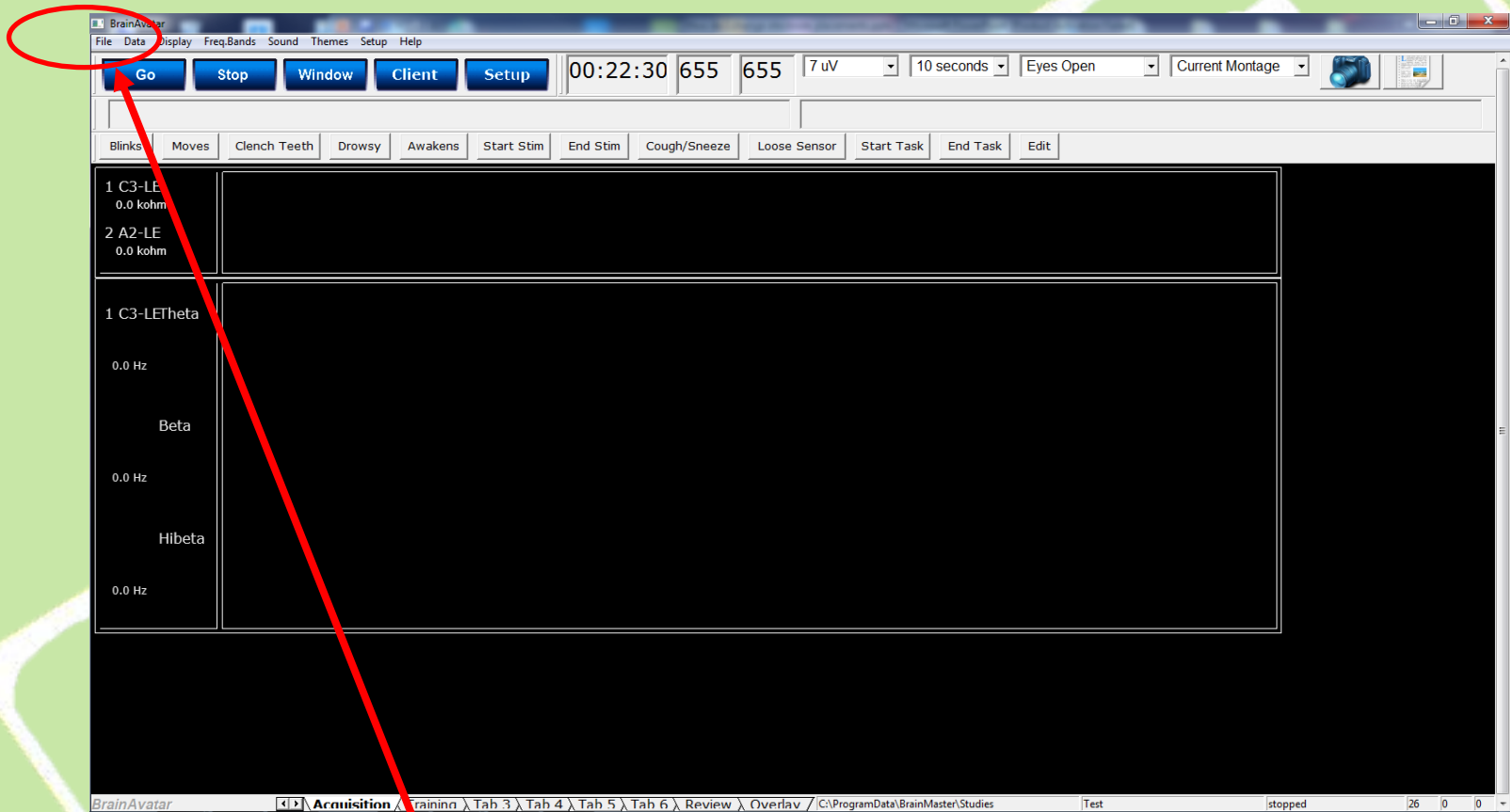
- The Select Folder Screen will appear.



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

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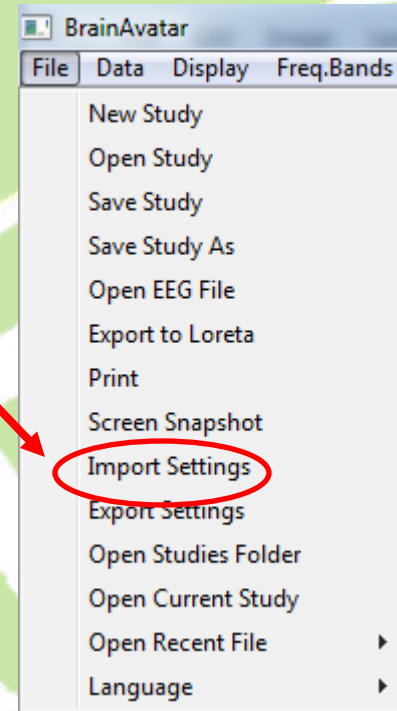
- The BrainAvatar Acquisition Screen is illuminated. Let's load the original Focus Level 1 Setting File.




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

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- Next click “Import Settings”.



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

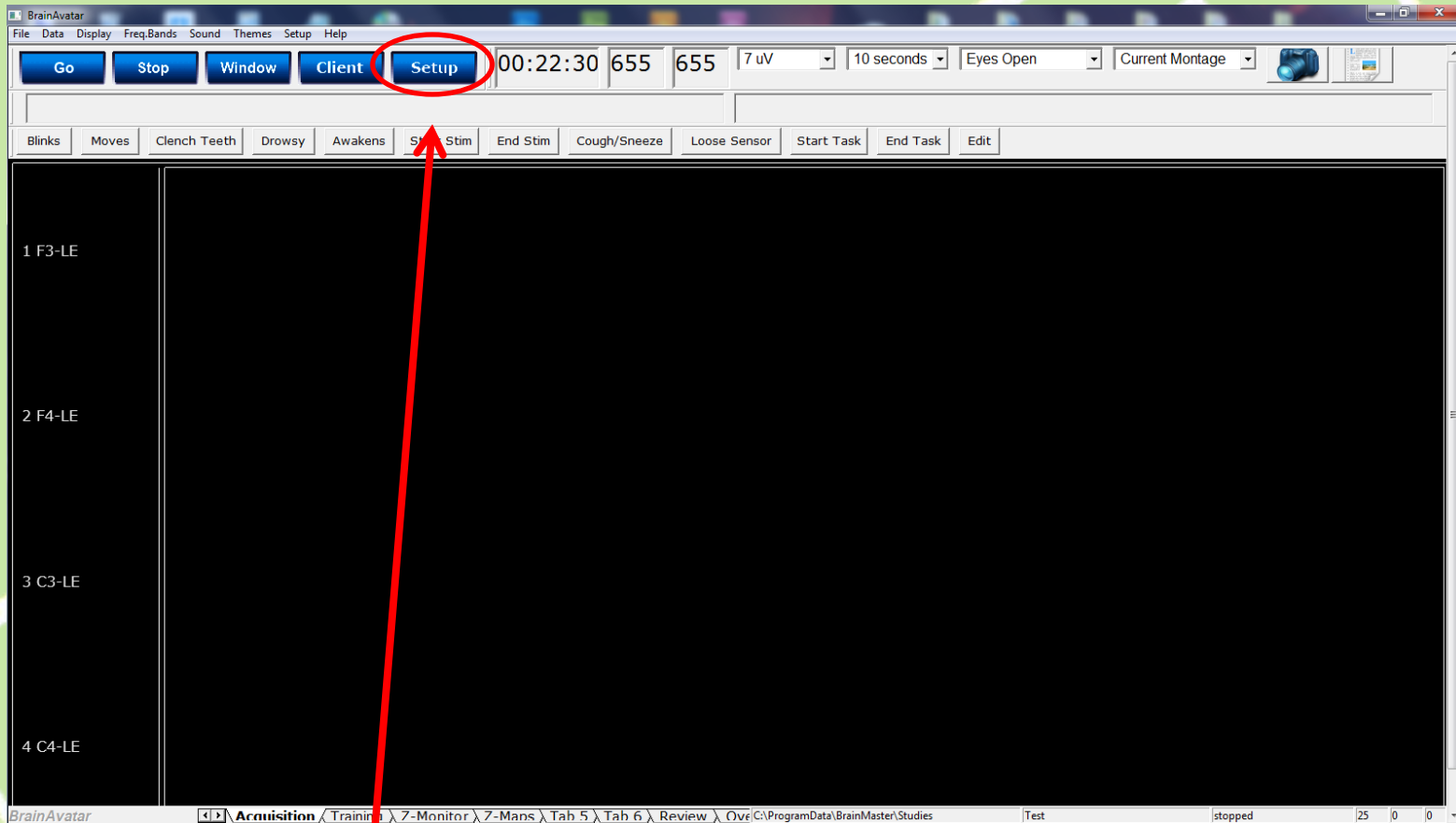
Name	Date modified	Type	Size
 0401001Focus.bdb2	11/17/2015 12:56 ...	BDB2 File	142 KB

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

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Focus

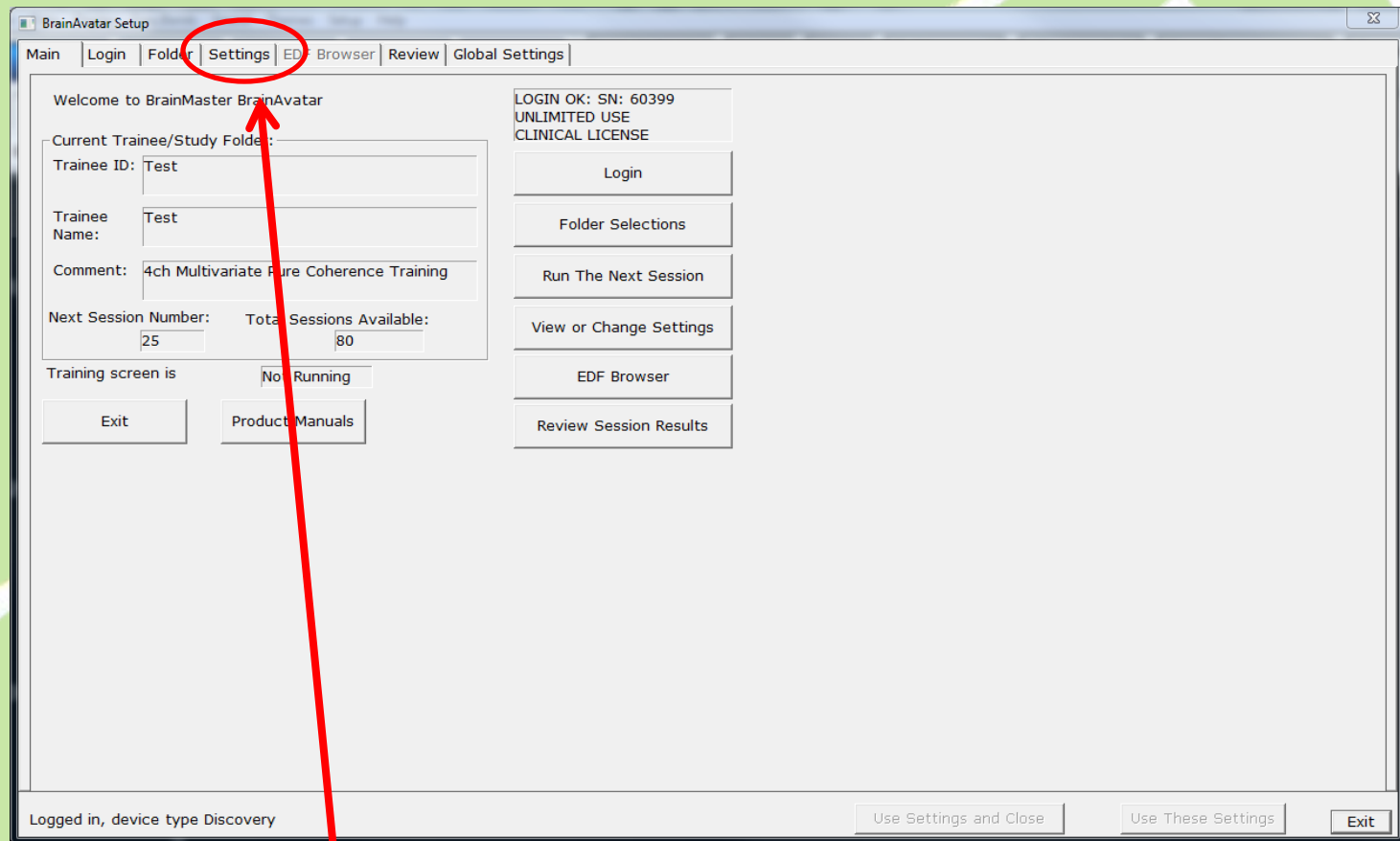
The Protocol is now ready for Modification



- Click “Setup”.

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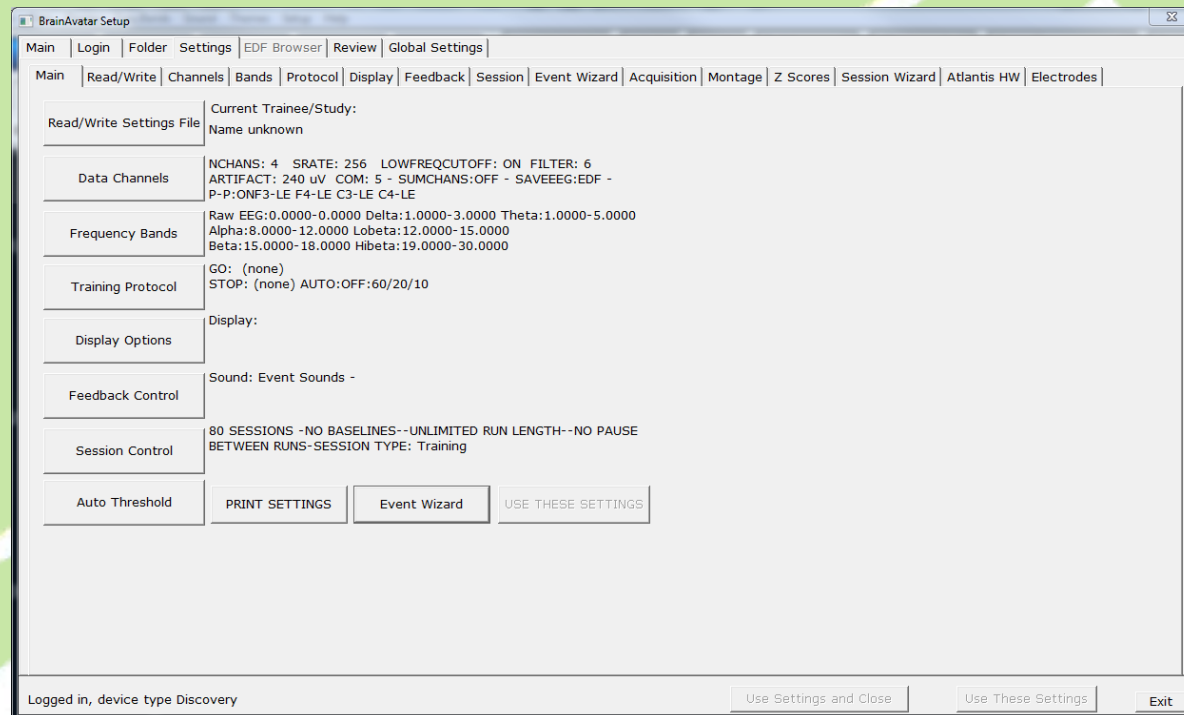
Focus



- Click “Settings”.

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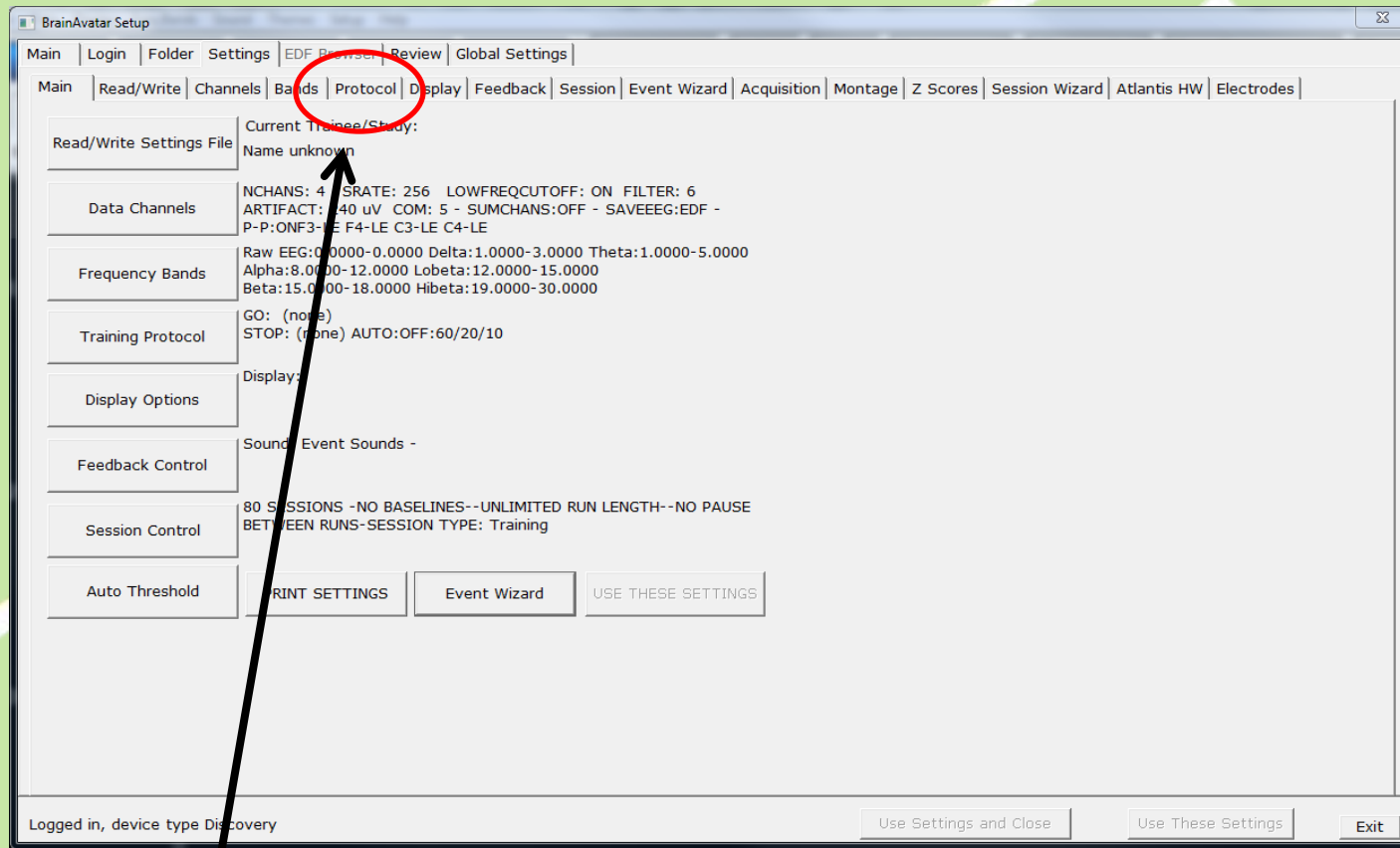
Focus



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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Focus



Click “Protocol”.

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Focus

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 | Se

C4-LE

Band	Go	Stop	Ignore	Value	Band	Go	Stop	Ignore	Value
Delta	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	0.0	Theta	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	0.0
Alpha	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	0.0	Lobeta	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	0.0
Beta	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	0.0	Hibeta	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	0.0
Gamma	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	0.0	User	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	0.0

Note: All thresholds are in microvolts

Autoset "Go's" for: percent time over threshold

Autoset "Stops" for: percent time over threshold

Autoset HiBeta (stop) for: percent time over threshold

Autothresholding is:

☒ ON ☐ OFF

Threshold Updating:

☐ Manual (Press "y" on keyboard to update)

☐ Autoupdate once, after pre-baseline

☒ Autoupdate repeat: after pre-baseline + after each run

☐ Autoupdate continuous: every second

Note: "y" key can be used to manually update at any time

Autothreshold Epoch

Autothresholding uses epoch length of seconds to compute autothreshold values (use value = 1 to 60, default = 60)

Global Sustained Reward Criterion (all channels)

Training Conditions must be met for: milliseconds to achieve a reward point and sound (use value = 0 - 10000, default=500)

Global Refractory Period (all channels)

After a reward, system will wait for: milliseconds before another reward is possible (use value = 0 - 10000, default=0)

"Original" Sweet Spot Feedback Settings - Markers

☐ ON ☒ OFF ☐ Mark EEG with reward

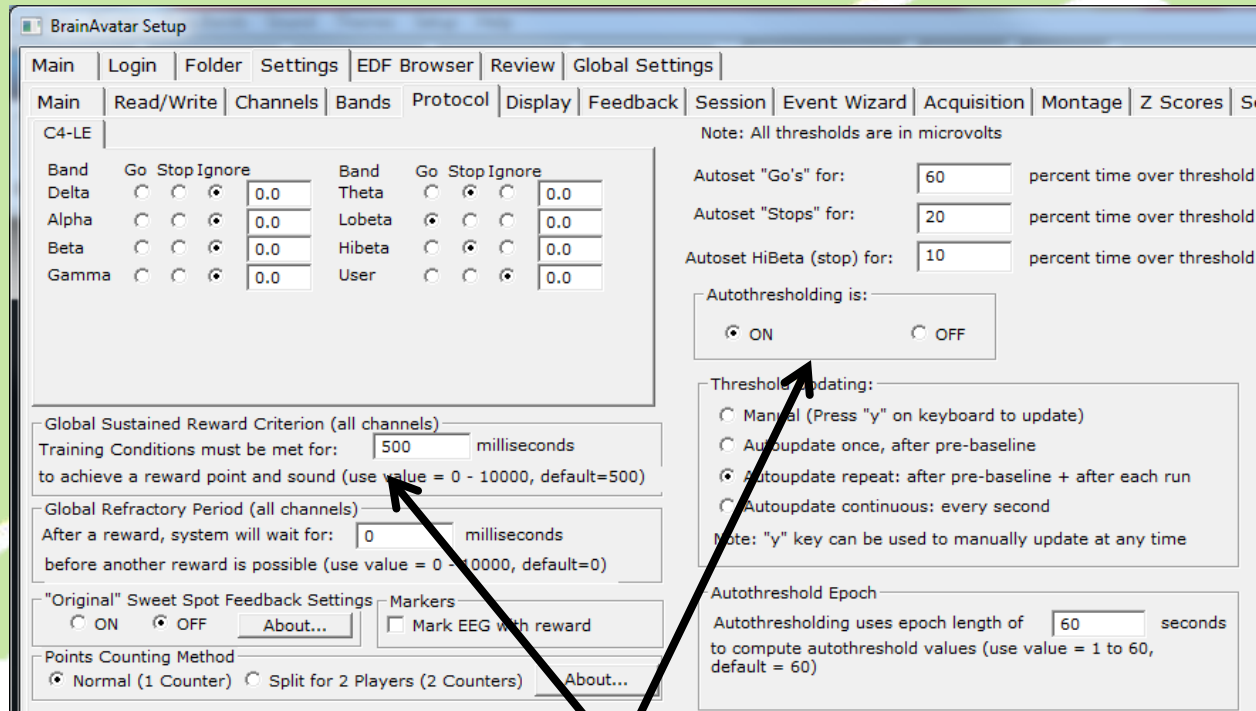
Points Counting Method

☒ Normal (1 Counter) ☐ Split for 2 Players (2 Counters)

This is the Protocol Screen. In the first 2 levels, selections made in this screen controlled the protocol. Check marks in the “Go” Columns created reward bands and check marks in the “Stop” columns created inhibit bands.

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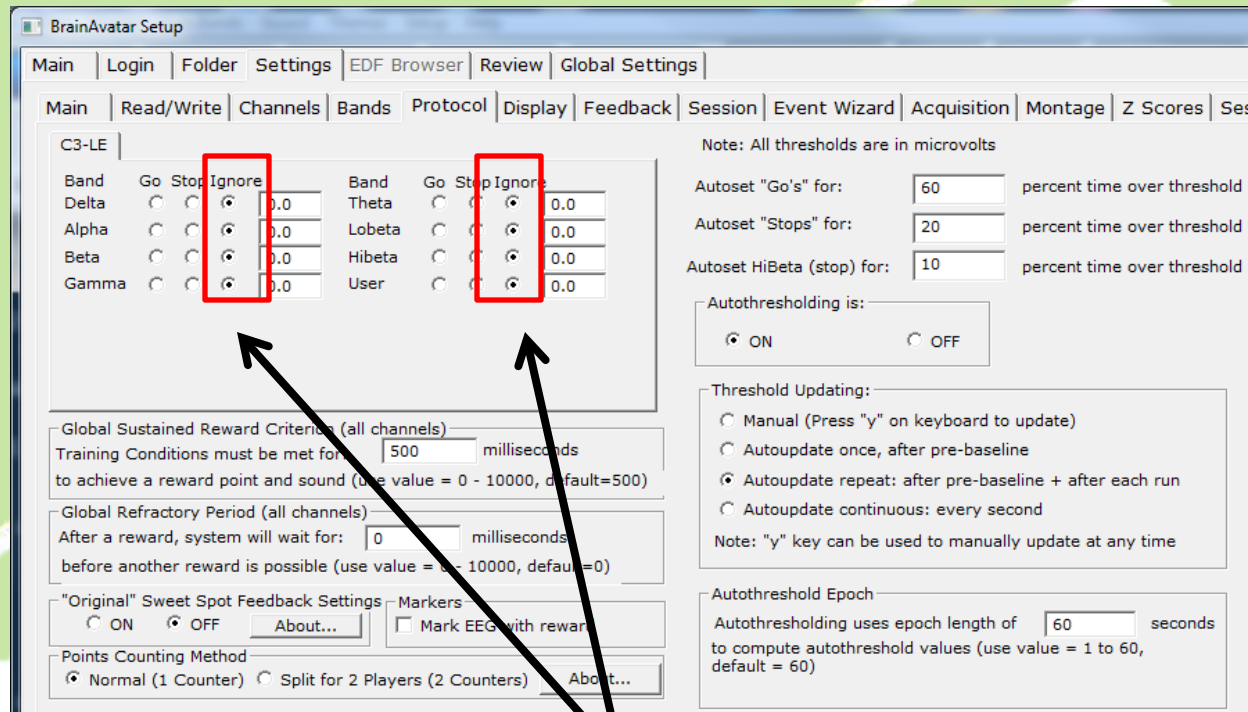
Focus



Other options such as automatic vs. manual thresholding, use of global sustained reward criterion and global refractory period, point accumulation methods and autothresholding epochs are selected here.

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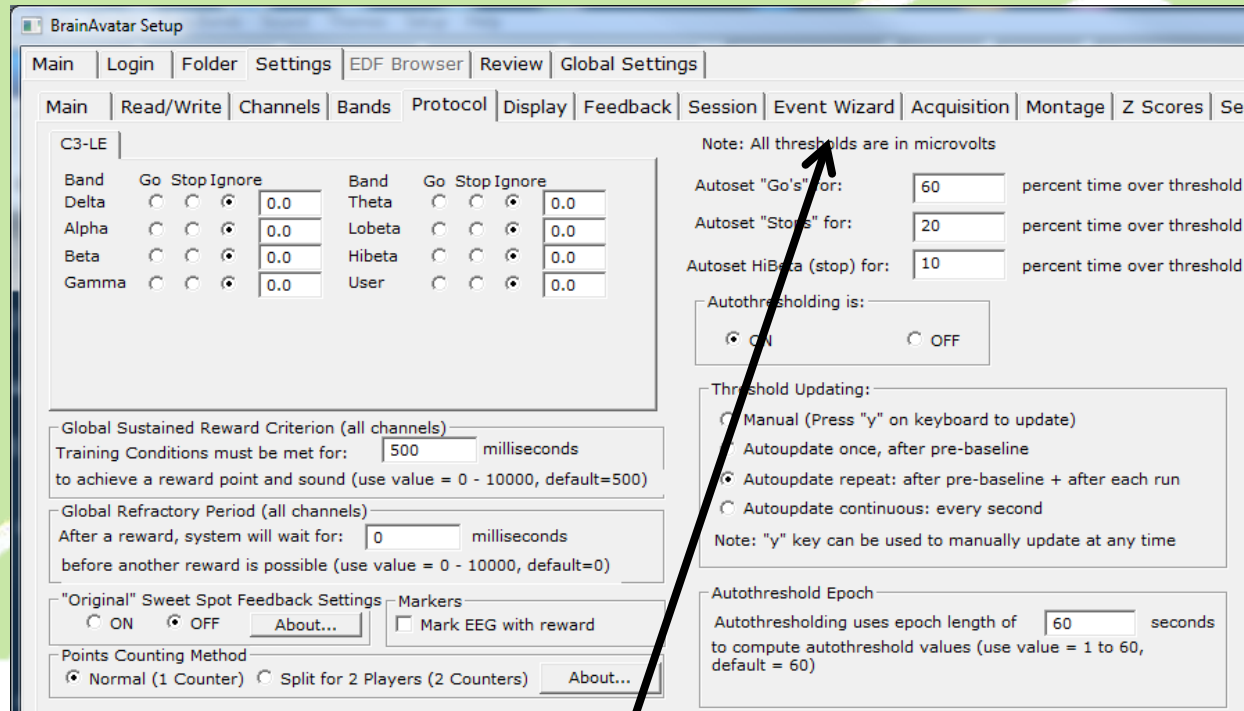
Focus



When we give control of the protocol over to the “Event Wizard” we disable all of the options in the protocol screen because the “Event Wizard” will take over full control.

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Focus



To navigate to the Event Wizard click the Event Wizard Tab or use the short cut "Ctrl – e" to access it.

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Focus

The screenshot shows the 'BrainAvatar Setup' window with the 'Event Wizard' tab selected. The window has a menu bar with 'Main', 'Login', 'Folder', 'Settings', 'EDF Browser', 'Review', and 'Global Settings'. Below the menu bar is a sub-menu bar with 'Main', 'Read/Write', 'Channels', 'Bands', 'Protocol', 'Display', 'Feedback', 'Session', 'Event Wizard', 'Acquisition', 'Montage', 'Z Scores', 'Session Wizard', 'Atlantis HW', and 'Electrodes'. A row of numbers 1 through 16 is visible below the sub-menu bar.

The 'Event Wizard' tab contains several sections:

- This Event Is:** Radio buttons for 'Enabled' (selected) and 'Disabled'. Radio buttons for 'Visibility: Visible' (selected) and 'Hidden'.
- Event Condition:** A section with 'Su' (Sustained) and 'Delta' dropdowns. It includes a 'Check Equation' field with 'x=THETA/TTHR;' and a 'Damping' field with '5'. Below this is a 'RULE:' section with 'IS LESS THAN:' and a 'Constant:' field with '1.0'.
- Event Result:** A section with 'THEN:' and 'Do Nothing' dropdowns. It includes checkboxes for 'Obey Inhibits ("stops")' and 'Control MMP Player'.
- Event Trend Graph:** A section with 'Scale Factor:' (2) and 'Offset:' (0).
- Event Summary:** A text area for notes.
- MIDI Sound Properties:** A section with various dropdowns for 'Starting', 'Instrument', 'Playing', 'Modulation', 'Level', 'Loudness Change Rate', 'Note Change', 'Musical Scale', 'Musical', 'Play Note or', and 'Play Note on Tab'.

At the bottom of the window, there are buttons for 'Enable All Events', 'Disable All Events', 'Data Dictionary', 'Clear All Events', 'Show All Events', 'Print All Events', 'Copy Event', 'Paste Event', 'Import', 'Use Now', 'OK', 'Exit', 'Use Settings and Close', and 'Use These Settings'.

You may ask, “Why have an Event Wizard?” The answer to that question is one of evolution.

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Focus

- During the early days of neurofeedback, most protocols were single channel using up to three bands to train. The typical bands might be to inhibit theta, reward beta and to inhibit hibeta.
- This required a maximum of only 5 events.
 - Event 1: Theta Inhibit
 - Event 2: LoBeta Reward
 - Event 3: HiBeta Inhibit
 - Event 4: A formula to tally points and;
 - Event 5: A mechanism to operate feedback options such as games, videos, music and the like
- Control of these 5 events were managed internally through the patented Brainmaster Technologies Digital Filtering;
- This is handled through a protocol screen which appears much like the one present in today's BrainAvatar System and demonstrated in Levels 1 and 2.

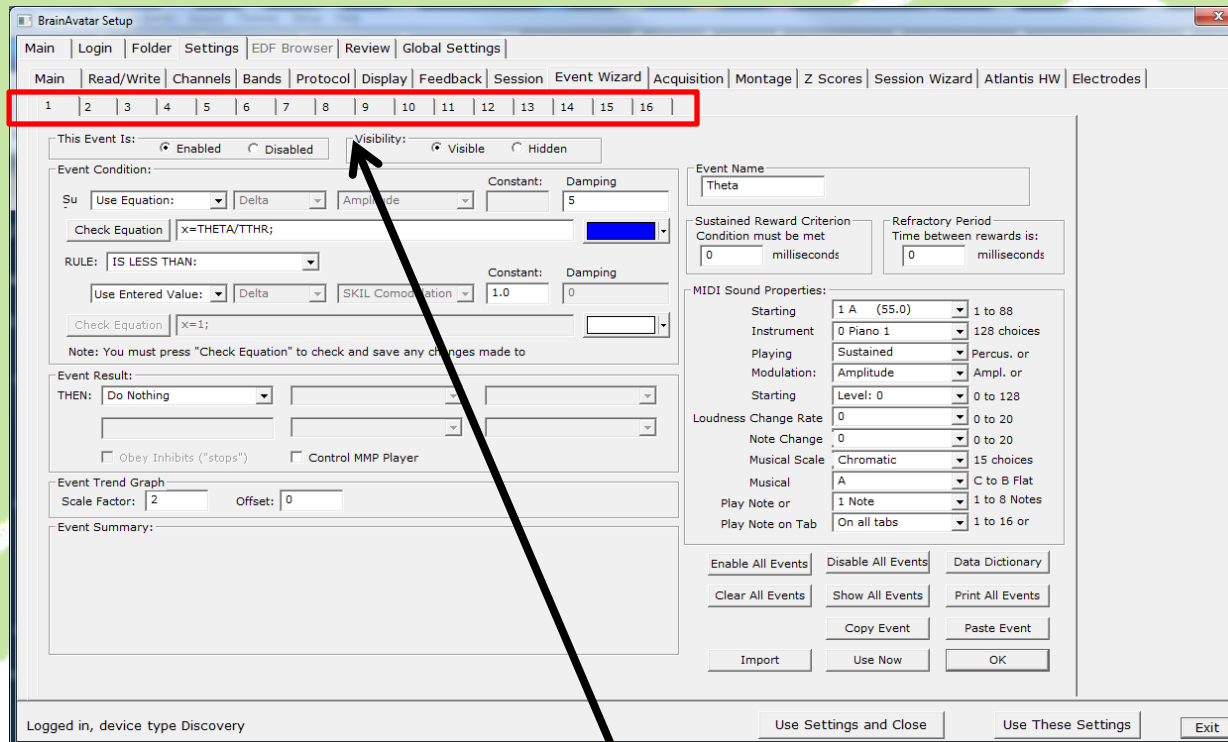
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Focus

- As neurofeedback evolved into two and four channel amplitude, coherence and phase training, Brainmaster Technologies was able to handle this progression through evolving the digital filtering.
- However, with the next evolution, into Z-Score training, along with more sophisticated functionality requirements it was found that 5 events were not enough.
- Rather than abandoning the original digital filtering and redesigning the entire neurofeedback platform, Brainmaster Technologies decided to maintain the excellent functionality of the original digital filtering and build on top of it the “Event Wizard”. By doing this, 16 additional events are added along with many needed options so technicians may design protocols to meet today’s neurofeedback standards.
- Also, a unique language of formulas was designed to create an ease of use in operating the Event Wizard. These algorithms are catalogued in the Data Dictionary which is accessible through the Event Wizard Screen.

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Focus



So let's take a quick tour of the Event Wizard Screen.

- At the top you will find 16 tabs, one for each event. You may click the tab associated with the event you want to modify. Default information is the same for all tabs.

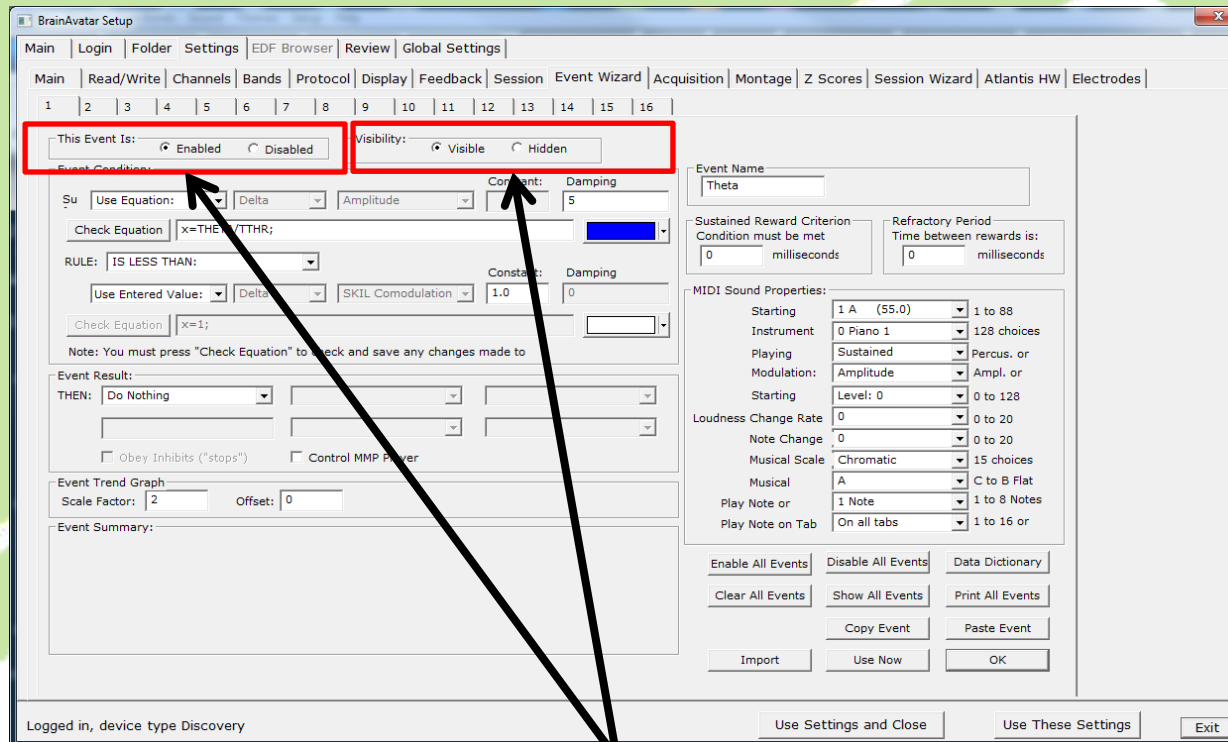
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Focus

- As a matter of convention, when performing traditional neurofeedback (as opposed to Zscore Training), it is a good practice to reserve the first 5 events of the Event Wizard to be analogous to the 5 events of the digital filter. In other words;
 - Event 1: Slow Frequency Inhibit
 - Event 2: Alpha, SMR or Beta Reward
 - Event 3: HiBeta Inhibit
 - Event 4: A formula to tally points and;
 - Event 5: A mechanism to operate feedback options such as games, videos, music and the like
- Since Focus is a traditional protocol, this shall be demonstrated in this module.

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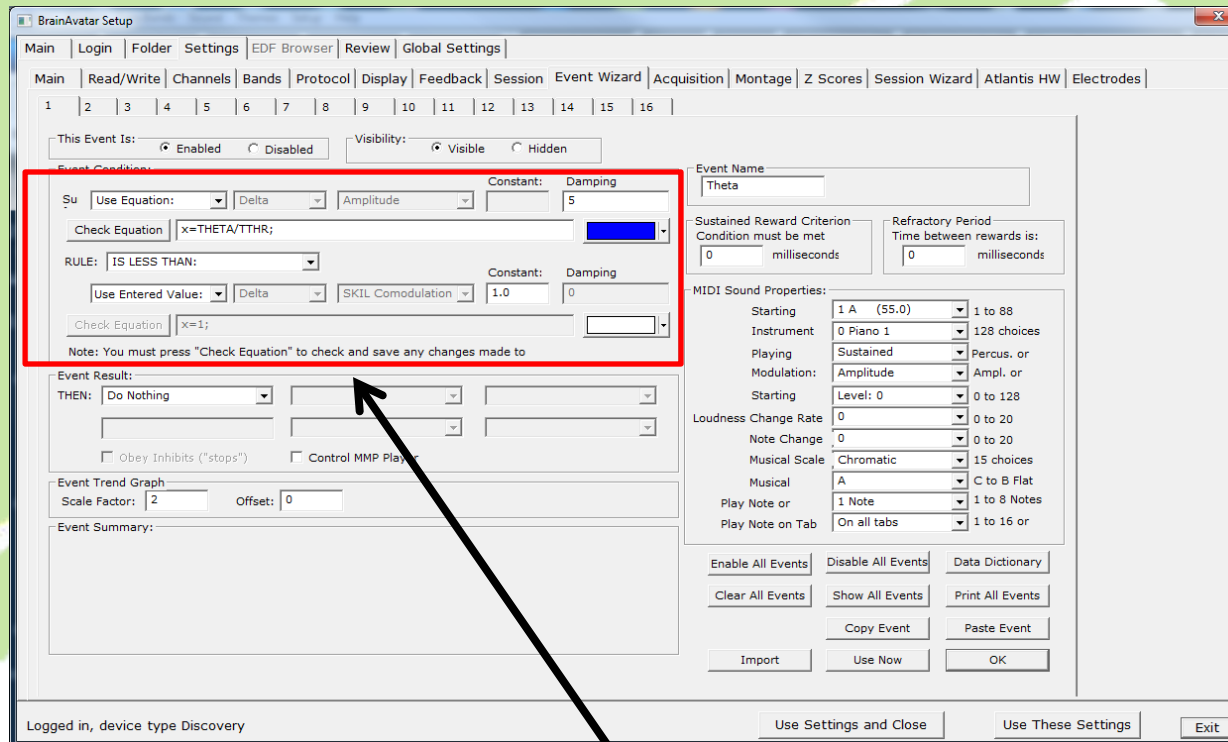
Focus



- The “This Event Is: Enabled or Disabled” check box enables or disables the event.
- The “Visibility Box” allows an event to be visible or not. This means an event may be enabled and made invisible on the screen if so desired.

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Focus



- Brainmaster Technologies has simplified the 5 parts of the development of an event by providing a simple visual structure for an If \rightarrow Then statement rather than using lengthy logical computer language coding.

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Focus

Event Condition:

Supposition: Use Equation: Δ Amplitude Constant: Damping 5

Check Equation $x = \text{THETA} / \text{TTHR};$

RULE: IS LESS THAN: Δ SKIL Comodulation Constant: Damping 1.0 0

Check Equation $x = 1;$

Note: You must press "Check Equation" to check and save any changes made to

Event Result:

THEN: Do Nothing

☐ Obey Inhibits ("stops") ☐ Control MMP Player

- The first statement is the Supposition or “If Statement”. For example, the above formula states, “If $x = \text{THETA} / \text{TTHR}$ ” (If the Theta Amplitude divided by the Theta Threshold). If you think about it, if the theta amplitude is greater than the threshold a number greater than 1 will be returned. Conversely, if the theta amplitude is less than the theta threshold a number less than 1 will be returned.

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Focus

Event Condition:

Su Use Equation: Delta Amplitude Constant: Damping

Check Equation x=THETA/TTHR;

RULE: IS LESS THAN:
IS GREATER THAN:
IS LESS THAN:
GOES UP AND IS ABOVE:
GOES DOWN AND IS BELOW:

SKIL Comodulation Constant: Damping

1.0 0

Note: You must press "Check Equation" to check and save any changes made to

Event Result:

THEN: Do Nothing

☐ Obey Inhibits ("stops") ☐ Control MMP Player

- The Rule provides a condition that compares the first part of the equation with the second. We have chosen "Is Less Than" for our choice. So now our equation is "If Theta Amplitude divided by the theta threshold is less than"...is less than what?

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Focus

Event Condition:

Su Use Equation: Delta Amplitude Constant: Damping 5

Check Equation x=THETA/TTTHR;

RULE: IS LESS THAN:

Use Entered Value: Delta SKIL Comodulation Constant: 1.0 Damping 0

Check Equation x=1;

Note: You must press "Check Equation" to check and save any changes made to

Event Result:

THEN: Do Nothing

☐ Obey Inhibits ("stops") ☐ Control MMP Player

- ... is less than the "Use Entered Value" or the "Constant" = 1.0. So now our equation has been built to say, "If (A) the theta amplitude divided by the theta threshold is less than (B) the entered value of 1...then what?..."

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Focus

Event Condition:

Su Use Equation: Delta Amplitude Constant: Damping 5

Check Equation x=THETA/TTHR;

RULE: IS LESS THAN:

Use Entered Value: Delta SKIL Comodulation 1.0 Damping 0

Check Equation x=1;

Note: You must press "Check Equation" to check and save any changes made to

Event Result:

THEN: Do Nothing

☐ Obey Inhibits ("stops") ☐ Control MMP Player

- ... then in this case “Event Result...Do Nothing”. And so you can see this equation portrays a theta inhibit by saying “If condition A, theta amplitude divided by the theta threshold is less than condition B, use entered value 1.0 then do nothing. Of course if you wanted this equation to play a sound when true you would simply choose a sound in the Event Result area.

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Focus

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

This Event Is: ☒ Enabled ☐ Disabled Visibility: ☒ Visible ☐ Hidden

A Event Condition:

IF: Use Equation: Delta Amplitude Constant: Damping

Check Equation x=LOBETA/LTHR; 5

RULE: IS GREATER THAN:

B Use Entered Value: Delta SKIL Comodulation Constant: Damping

Check Equation x=0; 1.0 0

Note: You must press "Check Equation" to check and save any changes made to

Event Result:

THEN: Do Nothing

☐ Obey Inhibits ("stops") ☐ Control MMP Player

- If we look at Event 2 we can understand how the reward condition appears. If Event Condition A, lobeta amplitude divided by lobeta threshold is greater than 1 then do nothing. This one is a reward because the true statement occurs when the lobeta amplitude is greater than the beta threshold.

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Focus

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

This Event Is: ☒ Enabled ☐ Disabled Visibility: ☒ Visible ☐ Hidden

Event Condition:

A Su Use Equation: Delta Amplitude Constant: Damping:

Check Equation x=HIBETA/HTHR;

RULE: IS LESS THAN:

Use Entered Value: Delta SKIL Comodulation Constant: Damping:

B Check Equation x=0;

Note: You must press "Check Equation" to check and save any changes made to

Event Result:

THEN: Do Nothing

☐ Obey Inhibits ("stops") ☐ Control MMP Player

- If we look at Event 3 we can understand how the other inhibit condition appears. If Event Condition A, hibeta amplitude divided by hibeta threshold is greater than 1 then do nothing. This one is an inhibit because the true statement occurs when the hibeta amplitude is lower than the hibeta threshold. If, again, you are wondering why we do nothing over the first three events, this will be answered for you next.

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Focus

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

This Event Is: ☒ Enabled ☐ Disabled Visibility: ☐ Visible ☒ Hidden

Event Condition:

A Su Use Equation: Theta Amplitude Constant: Damping 0

Check Equation x=POINTS/100;

RULE: IS GREATER THAN: Constant: Damping

B Use Entered Value: Delta Amplitude 0.0 0

Check Equation x=0;

Note: You must press "Check Equation" to check and save any changes made to

Event Result:

THEN: Do Nothing

☐ Obey Inhibits ("stops") ☐ Control MMP Player

- If we look at Event 4 which we use to control points, the equation states if $x = \text{POINTS}/100$ is greater than 0 then do nothing. The reason for $\text{POINTS}/100$ is because the software processor delivers points in the 100's and must be divided by 100 to give single points. Again, the results are we did nothing....Mmmmm.

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Focus

The screenshot shows the 'Focus' software interface for configuring Event 5. The interface includes a tabbed menu at the top (1-16). The 'Event Condition' section is active, showing 'This Event Is: Enabled' and 'Visibility: Visible'. The 'Event Condition' is set to 'Su' with 'Use Equation' selected. The equation is 'x=ALLOK;'. The 'Rule' is 'IS GREATER THAN:'. The 'Check Equation' box shows 'x=0;'. The 'Event Result' section shows 'THEN: Play MIDI Sound' and 'Control MMP Player' checked. A note at the bottom states: 'Note: You must press "Check Equation" to check and save any changes made to'.

If we look at Event 5 which we use to control feedback (i.e. games and videos) the equation states that if $x=ALLOK$ is greater than 0 then Play MIDI Sound and Control the MMP (Multimedia Player). The ALLOK formula produces a 1 if all parameters are met (theta and hibeta are below threshold and beta is above threshold) and a zero if any one of the parameters is not met. With regards to the MMP, if a 1 is returned to the MMP it advances the game or video and if a 0 is returned then feedback ceases. Place this bit of information in the back of your mind. When controlling the MMP player or flash games, the software will only work when receiving a 1 or a 0.

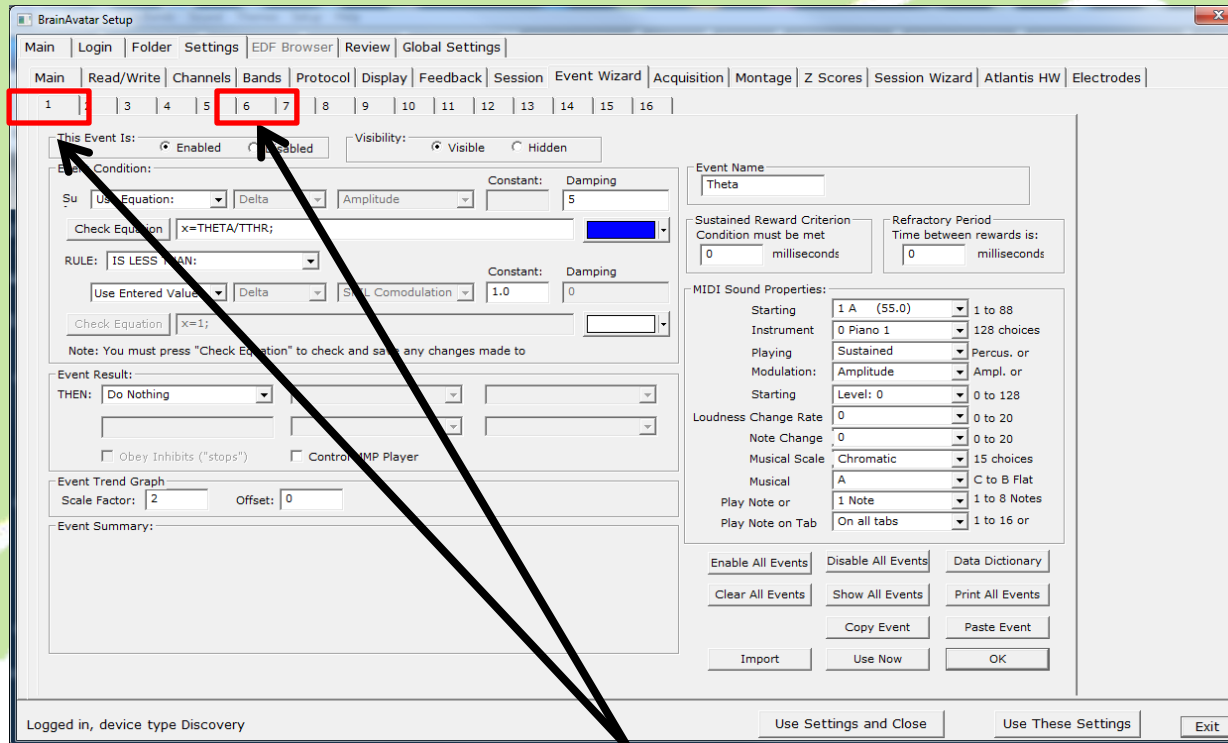
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Focus

- The Event Wizard exercise we just reviewed provided 5 events which correlate to the objects used in the built in digital filter used in Level 1 and Level 2 Focus Protocols.
- It follows the convention below;
 - Event 1: Slow Frequency Inhibit
 - Event 2: Alpha, SMR or Beta Reward
 - Event 3: HiBeta Inhibit
 - Event 4: A formula to tally points and;
 - Event 5: A mechanism to operate feedback options such as games, videos, music and the like
- Let us now modify the 3 reward and inhibit events in order to perform the single channel Focus protocol in another way which allows us to manually control thresholds using the mouse rather than the keyboard.
- We are going to use events 6, 7, 8 for the modification so we can compare the changes and be able to use the panel wizard to define the objects (training screen components, i.e. thermometers, labels, meters and trend graphs.

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Focus



- So let's venture to tab 1 and tab 6 of the Event Wizard Screen.

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Focus

Event Condition:

Sub: **Use Equation:** Delta Amplitude Constant: Damping

Check Equation: $x = \text{THETA} / \text{TTHR};$

RULE: IS LESS THAN: **Use Entered Value:** Delta SKIL Comodulation Constant: Damping

Check Equation: $x = 1;$

Note: You must press "Check Equation" to check and save any changes made to

Event Result:

THEN: Do Nothing

☐ Obey Inhibits ("stops") ☐ Control MMP Player

1. Go to event 6 where we can change "Use Equation" from Event 1 to "Channel 1, Theta, Amplitude". Adjust the Damping to 5 so that meters and thermometers move a bit slower for ease of viewing.

Event Condition:

Sub: **Channel 1: Theta Amplitude** Constant: Damping

Check Equation: $x = \text{THETA} / \text{TTHR};$

RULE: IS LESS THAN: **Channel 1: Theta Threshold** Constant: Damping

Check Equation: $x = 1;$

Note: You must press "Check Equation" to check and save any changes made to

Event Result:

THEN: Do Nothing

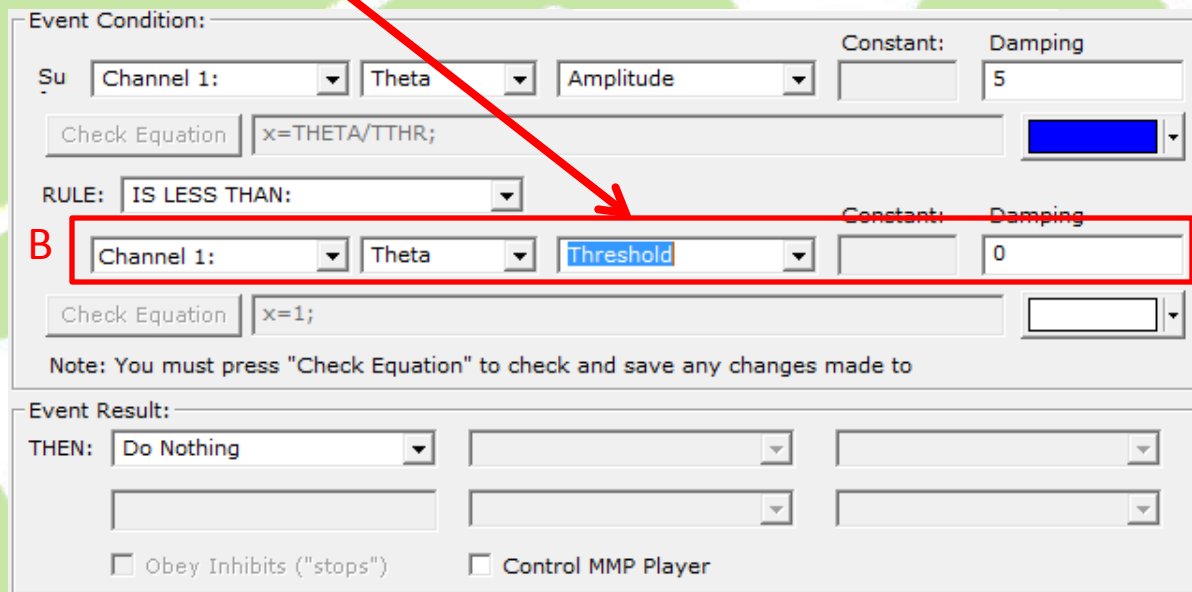
☐ Obey Inhibits ("stops") ☐ Control MMP Player

2. In Event 6 change "Use Entered Value" from Event 1 to "Channel 1, Theta, Threshold." Take a moment to think about these changes.

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Focus

- Do you understand that event 1 and event 6 accomplish exactly the same task.
- The only difference is that by adjusting the B section of event 6 to “Channel 1 Theta Threshold” this allows you to use the mouse to adjust the theta threshold.



The screenshot shows the 'Event Condition' dialog box. It has two main sections: 'A' and 'B'. Section 'A' is for 'Channel 1: Theta Amplitude' with a 'Constant' of 5 and a 'Damping' of 5. Section 'B' is for 'Channel 1: Theta Threshold' with a 'Constant' of 0 and a 'Damping' of 0. A red arrow points to the 'Threshold' dropdown in section 'B'. The 'Check Equation' field for section 'B' contains 'x=1;'. Below the sections is a note: 'Note: You must press "Check Equation" to check and save any changes made to'. At the bottom is the 'Event Result' section with a 'THEN:' dropdown set to 'Do Nothing' and two checkboxes: 'Obey Inhibits ("stops")' and 'Control MMP Player'.

Event Condition:

Section A: Su Channel 1: Theta Amplitude Constant: Damping 5

Check Equation x=THETA/TTHR;

RULE: IS LESS THAN:

Section B: Channel 1: Theta Threshold Constant: Damping 0

Check Equation x=1;

Note: You must press "Check Equation" to check and save any changes made to

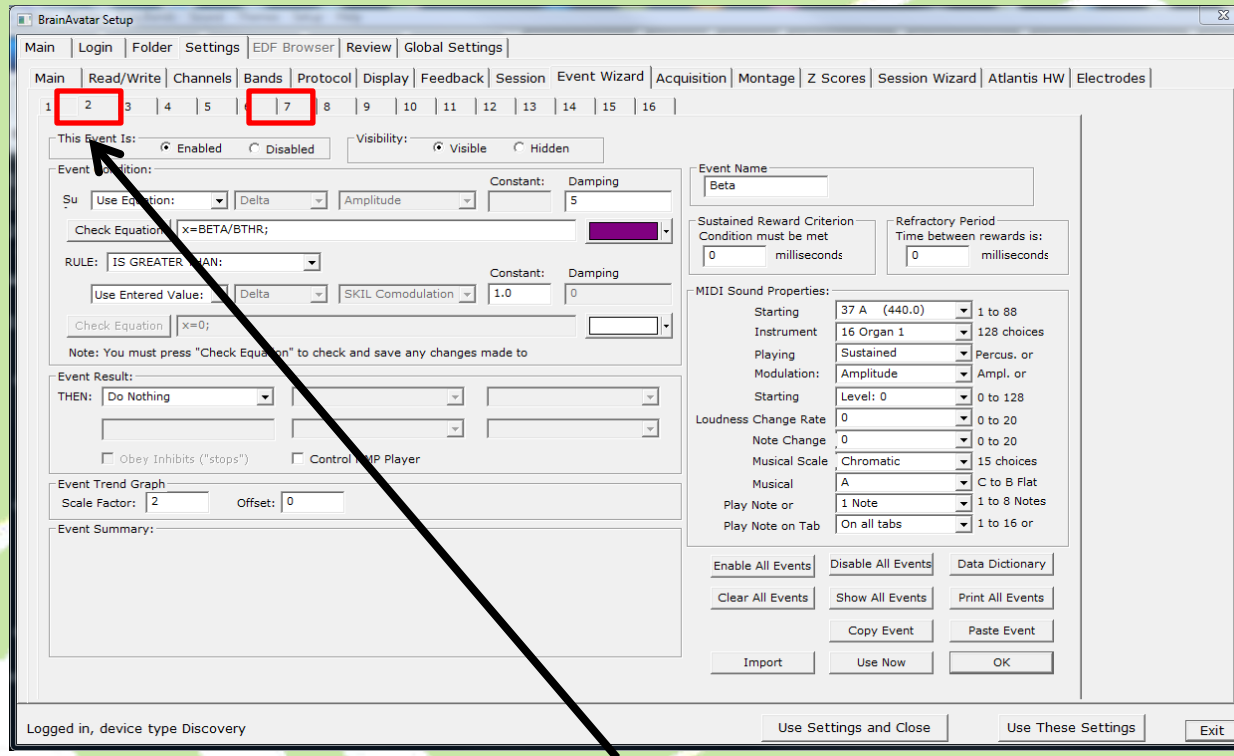
Event Result:

THEN: Do Nothing

☐ Obey Inhibits ("stops") ☐ Control MMP Player

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.

Focus



- Now let's venture to tab 2 and tab 7 of the Event Wizard Screen.

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Focus

Event Condition:

IF: **Use Equation:** **Delta** **Amplitude** **Constant:** **Damping**
5

Check Equation $x = \text{LOBETA} / \text{LTHR};$

RULE: **IS GREATER THAN:** **Use Entered Value:** **Delta** **SKIL Comodulation** **Constant:** **Damping**
1.0 0

Check Equation $x = 0;$

Note: You must press "Check Equation" to check and save any changes made to

Event Result:

THEN: Do Nothing

☐ Obey Inhibits ("stops") ☐ Control MMP Player

1. Go to event 7 where we can change "Use Equation" from Event 2 to "Channel 1, LoBeta, Amplitude". Adjust the Damping to 5 so that meters and thermometers move a bit slower for ease of viewing.

2. In Event 7 change "Use Entered Value" from Event 2 to "Channel 1, LoBeta, Threshold." Take a moment to think about these changes.

Event Condition:

IF: **Channel 1: Lobeta Amplitude** **Constant:** **Damping**
5

Check Equation $x = 0;$

RULE: **IS GREATER THAN:** **Channel 1: Lobeta Threshold** **Constant:** **Damping**
0 0

Check Equation $x = 0;$

Note: You must press "Check Equation" to check and save any changes made to

Event Result:

THEN: Do Nothing

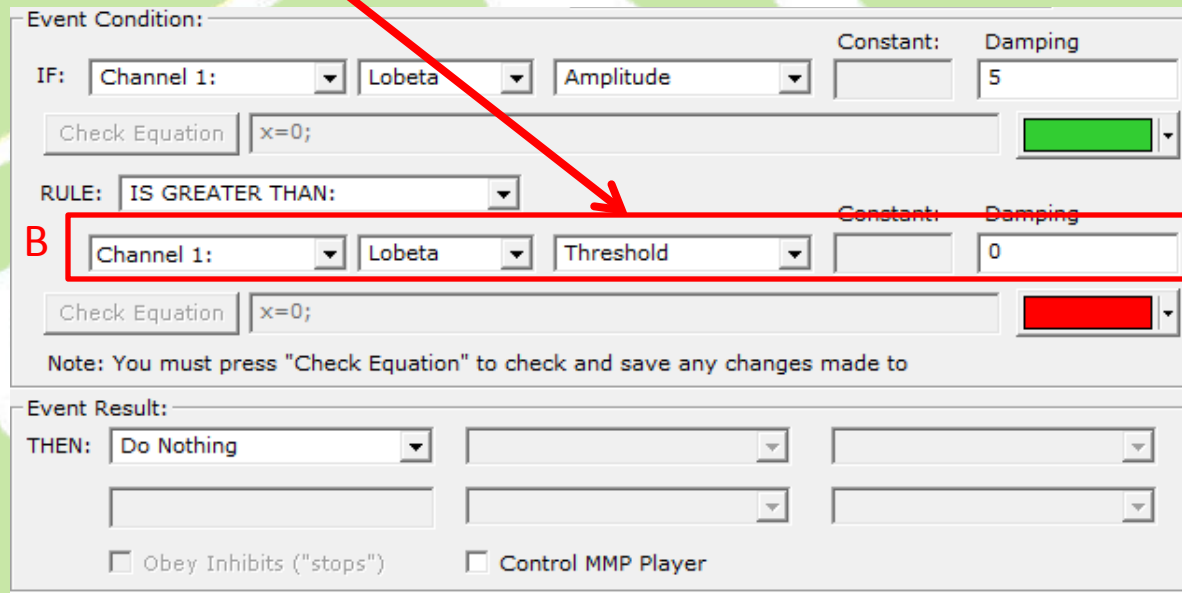
☐ Obey Inhibits ("stops") ☐ Control MMP Player

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Focus

The Protocol is now ready for Modification

- Do you understand that event 2 and event 7 accomplish exactly the same task.
- The only difference is that by adjusting the B section of event 7 to “Channel 1 LoBeta Threshold” this allows you to use the mouse to adjust the LoBeta threshold.



The screenshot shows the 'Event Condition' dialog box. A red arrow points from the text 'adjust the LoBeta threshold' in the list above to the 'B' section of the dialog. The 'B' section is highlighted with a red box and contains the following fields: 'Channel 1:', 'Lobeta', 'Threshold', 'Constant:', and 'Damping'. The 'Damping' field is set to 0. Below the 'B' section, there is a 'Check Equation' button and a text field containing 'x=0;'. At the bottom of the dialog, there is a 'Note: You must press "Check Equation" to check and save any changes made to' and an 'Event Result' section with 'THEN: Do Nothing' and two empty dropdown menus. At the very bottom, there are two checkboxes: 'Obey Inhibits ("stops")' and 'Control MMP Player'.

Event Condition:

IF: Channel 1: Lobeta Amplitude Constant: Damping 5

Check Equation x=0;

RULE: IS GREATER THAN:

B Channel 1: Lobeta Threshold Constant: Damping 0

Check Equation x=0;

Note: You must press "Check Equation" to check and save any changes made to

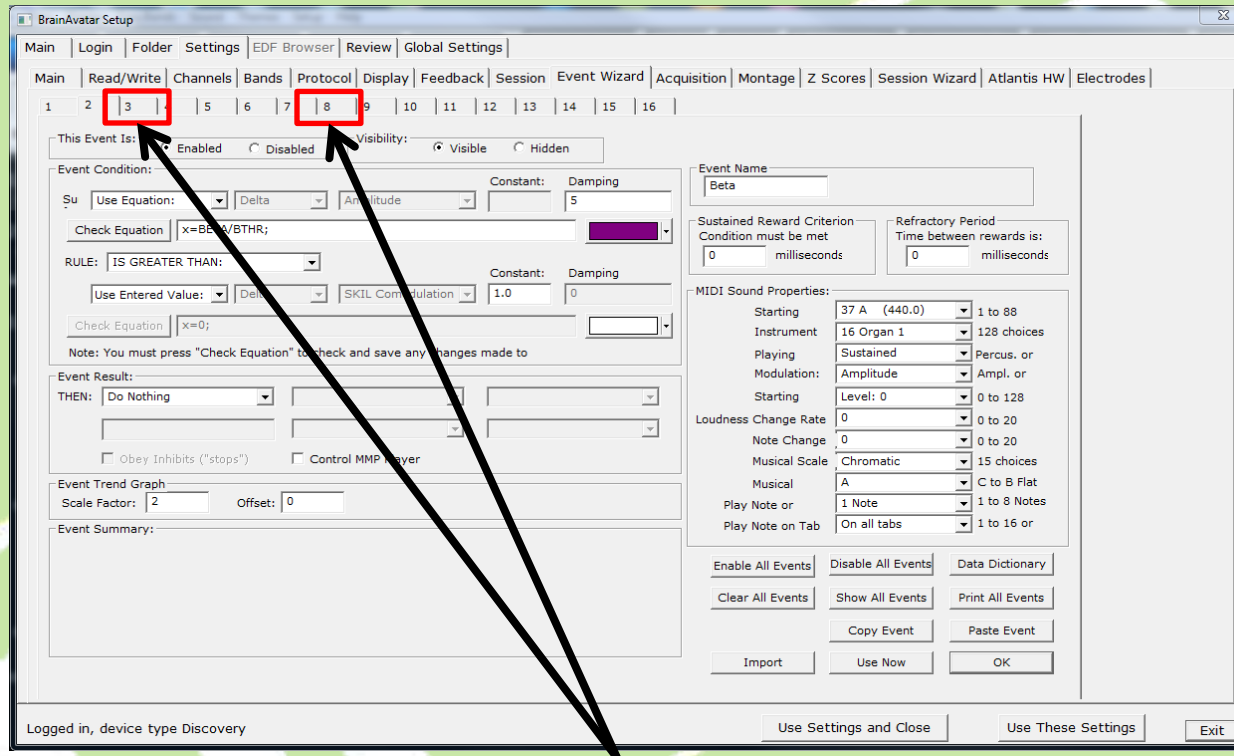
Event Result:

THEN: Do Nothing

☐ Obey Inhibits ("stops") ☐ Control MMP Player

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Focus



- Now let's venture to tab 3 and tab 8 of the Event Wizard Screen.

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Focus

The Protocol is now ready for Modification

Event Condition:

Su **Use Equation:** Delta Amplitude Constant: Damping 5

Check Equation $x = \text{HIBETA} / \text{HTHR};$

RULE: IS LESS THAN: Constant: Damping

Use Entered Value: Delta SKIL Comodulation 1.0

Check Equation $x = 0;$

Note: You must press "Check Equation" to check and save any changes made to

Event Result:

THEN: Do Nothing

☐ Obey Inhibits ("stops") ☐ Control MMP Player

1. Go to event 8 where we can change "Use Equation" from Event 3 to "Channel 1, Hibeta, Amplitude". Adjust the Damping to 5 so that meters and thermometers move a bit slower for ease of viewing.

2. In Event 8 change "Use Entered Value" from Event 3 to "Channel 1, Hibeta, Threshold." Take a moment to think about these changes.

Event Condition:

Su **Channel 1:** Hibeta Amplitude Constant: Damping 5

Check Equation $x = \text{HIBETA} / \text{HTHR};$

RULE: IS LESS THAN: Constant: Damping

Channel 1: Hibeta Threshold 0

Check Equation $x = 0;$

Note: You must press "Check Equation" to check and save any changes made to

Event Result:

THEN: Do Nothing

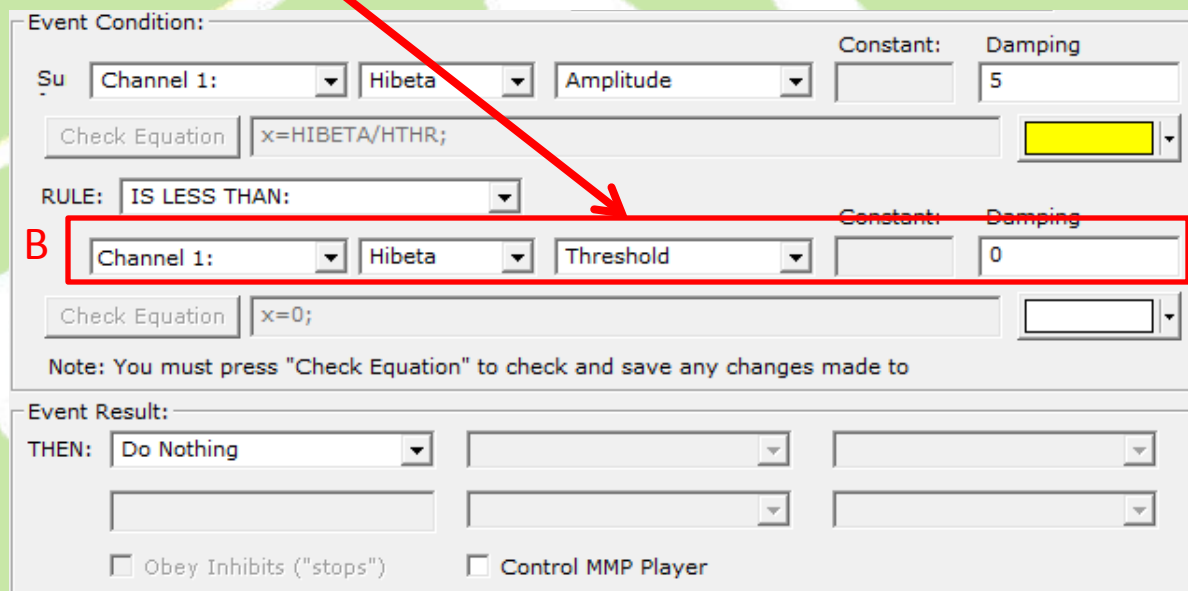
☐ Obey Inhibits ("stops") ☐ Control MMP Player

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Focus

The Protocol is now ready for Modification

- Do you understand that event 3 and event 8 accomplish exactly the same task.
- The only difference is that by adjusting the B section of event 8 to “Channel 1 Hibeta Threshold” this allows you to use the mouse to adjust the Hibeta threshold.



The screenshot shows the 'Event Condition' dialog box. A red arrow points from the text 'adjust the Hibeta threshold' in the list above to the 'B' section of the dialog. The 'B' section is highlighted with a red rectangle. It contains the following fields:

- RULE:** IS LESS THAN:
- Channel 1:** Channel 1
- Hibeta:** Hibeta
- Threshold:** Threshold
- Constant:** (empty)
- Damping:** 0

Below the 'B' section, there is a 'Check Equation' button and a text field containing 'x=0;'. At the bottom of the dialog, there is a note: 'Note: You must press "Check Equation" to check and save any changes made to'. Below the note, there is an 'Event Result' section with a 'THEN:' dropdown set to 'Do Nothing' and two empty dropdowns. At the very bottom, there are two checkboxes: 'Obey Inhibits ("stops")' and 'Control MMP Player'.

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Focus

The Protocol is now ready for Modification

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

This Event Is: ☒ Enabled ☐ Disabled Visibility: ☐ Visible ☒ Hidden

Event Condition:

Su Use Equation: Theta Amplitude Constant: Damping

Check Equation x=POINTS/100;

RULE: IS GREATER THAN:

Use Entered Value: Delta Amplitude Constant: Damping

Check Equation x=0;

Note: You must press "Check Equation" to check and save any changes made to

Event Result:

THEN: Do Nothing

☐ Obey Inhibits ("stops") ☐ Control MMP Player

Event 4 and Event 5 remain the same with no changes.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

This Event Is: ☒ Enabled ☐ Disabled Visibility: ☒ Visible ☐ Hidden

Event Condition:

Su Use Equation: Lobeta Amplitude Constant: Damping

Check Equation x=ALLOK;

RULE: IS GREATER THAN:

Use Entered Value: Lobeta Amplitude Constant: Damping

Check Equation x=0;

Note: You must press "Check Equation" to check and save any changes made to

Event Result:

THEN: Play MIDI Sound

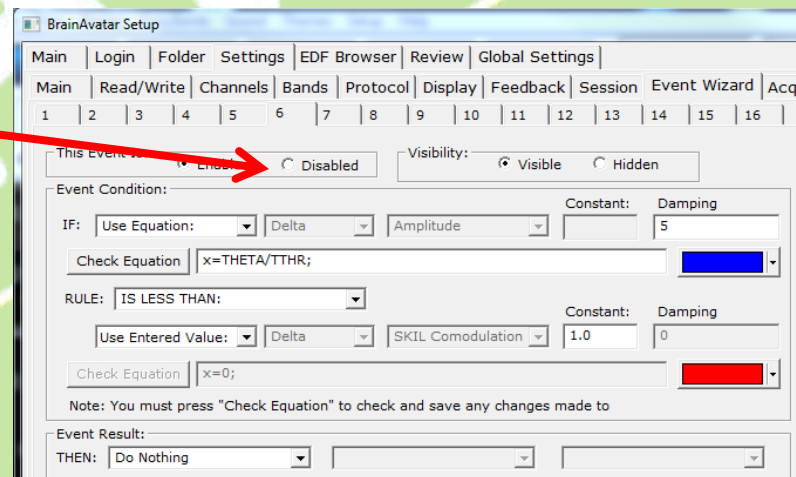
☐ Obey Inhibits ("stops") ☒ Control MMP Player

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Focus

The Protocol is now ready for Modification

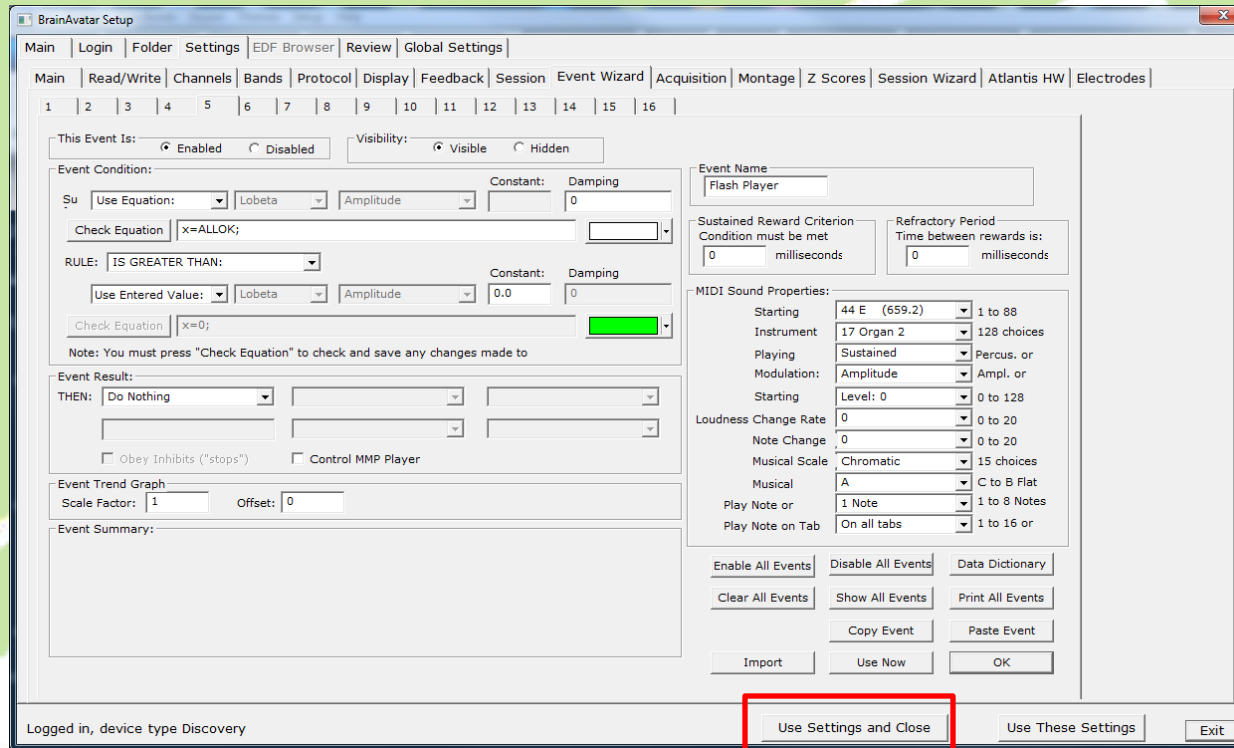
- One last step must be accomplished. Since we have given control of the protocol over to events 6, 7 and 8 instead of 1, 2 and 3, the first 3 events should be disabled.
- Proceed to Event 1 of the Event Wizard (by now you should know how to access and navigate within the Event Wizard)
- Click the “Disabled” Radio Button to Disable Event 1.
- Do the same for Events 2 and 3.



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Focus

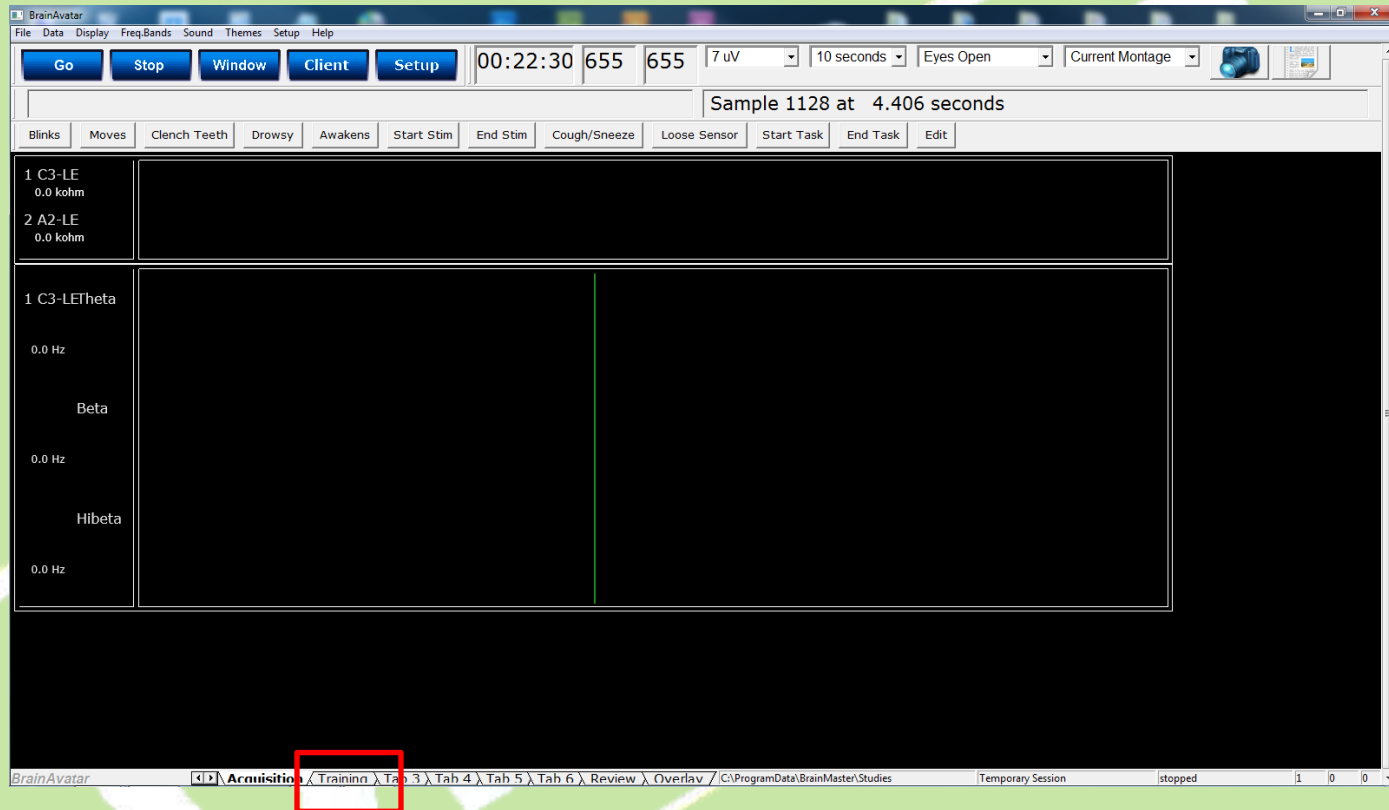
The Protocol is now ready for Modification



- Click “Use Settings and Close” to save the changes.

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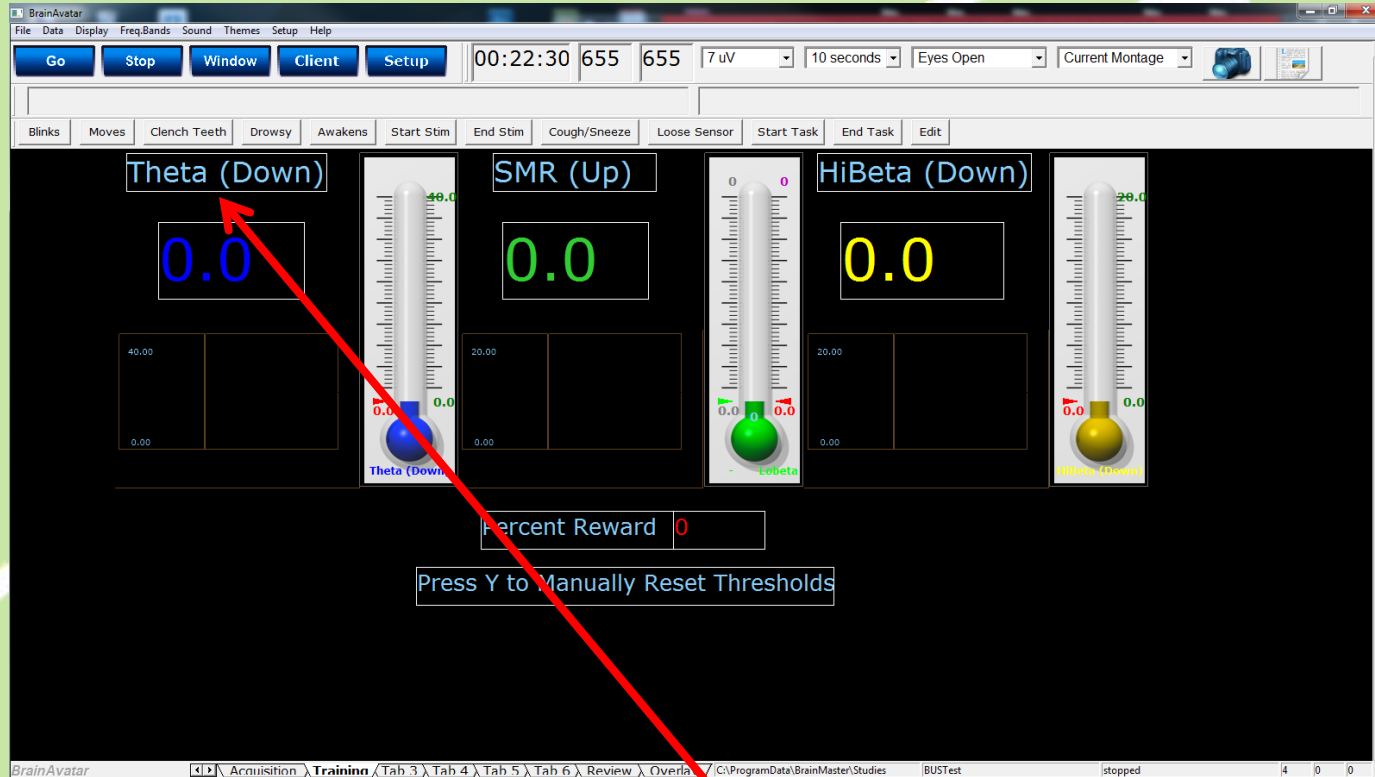
Focus



- We are not quite finished. Now that we have changed control of the protocol from the digital filters to the Event Wizard, we have to let the objects on the screen know this. Please click the Training Tab at the bottom.

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Focus

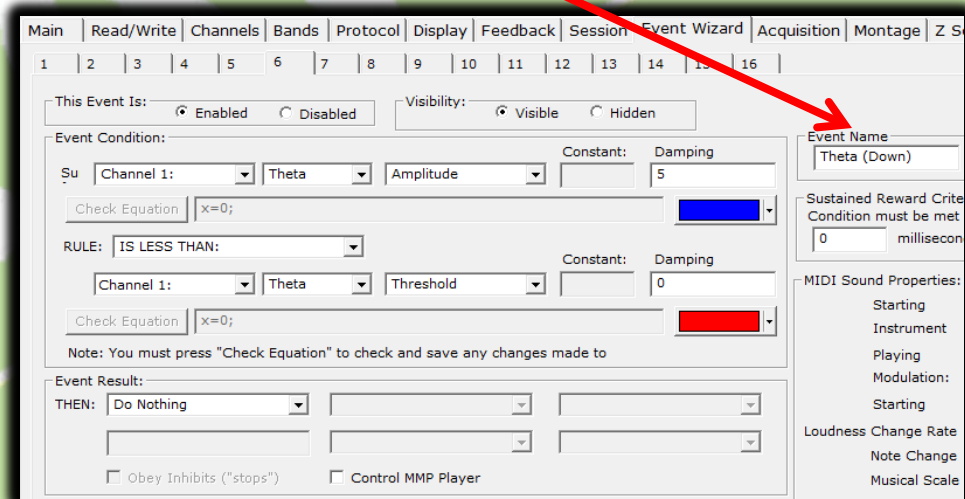
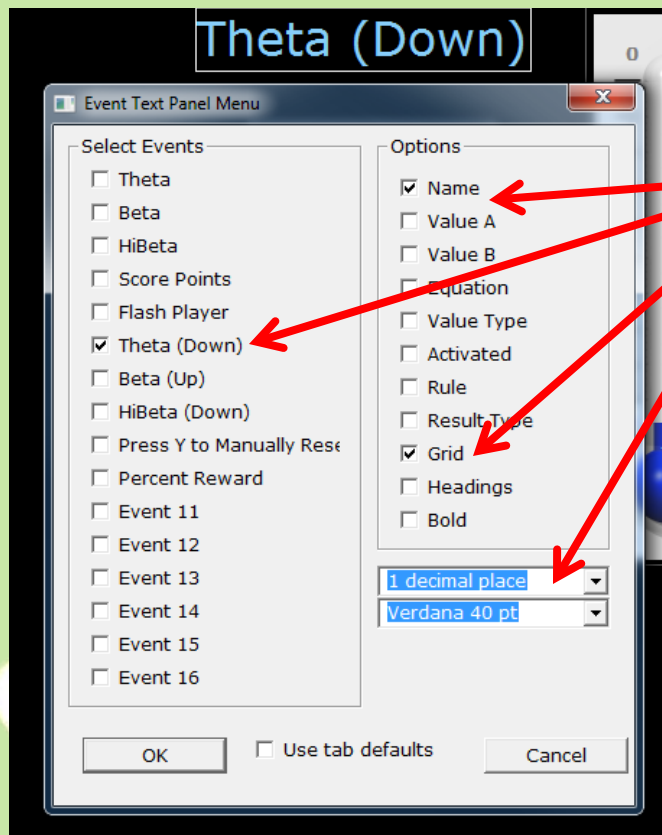


- Each object of the training screen has a menu associated with it. Let's start at the top and right-click the "Theta (Down)" Label in order to open its associated "Event Text Panel Menu".

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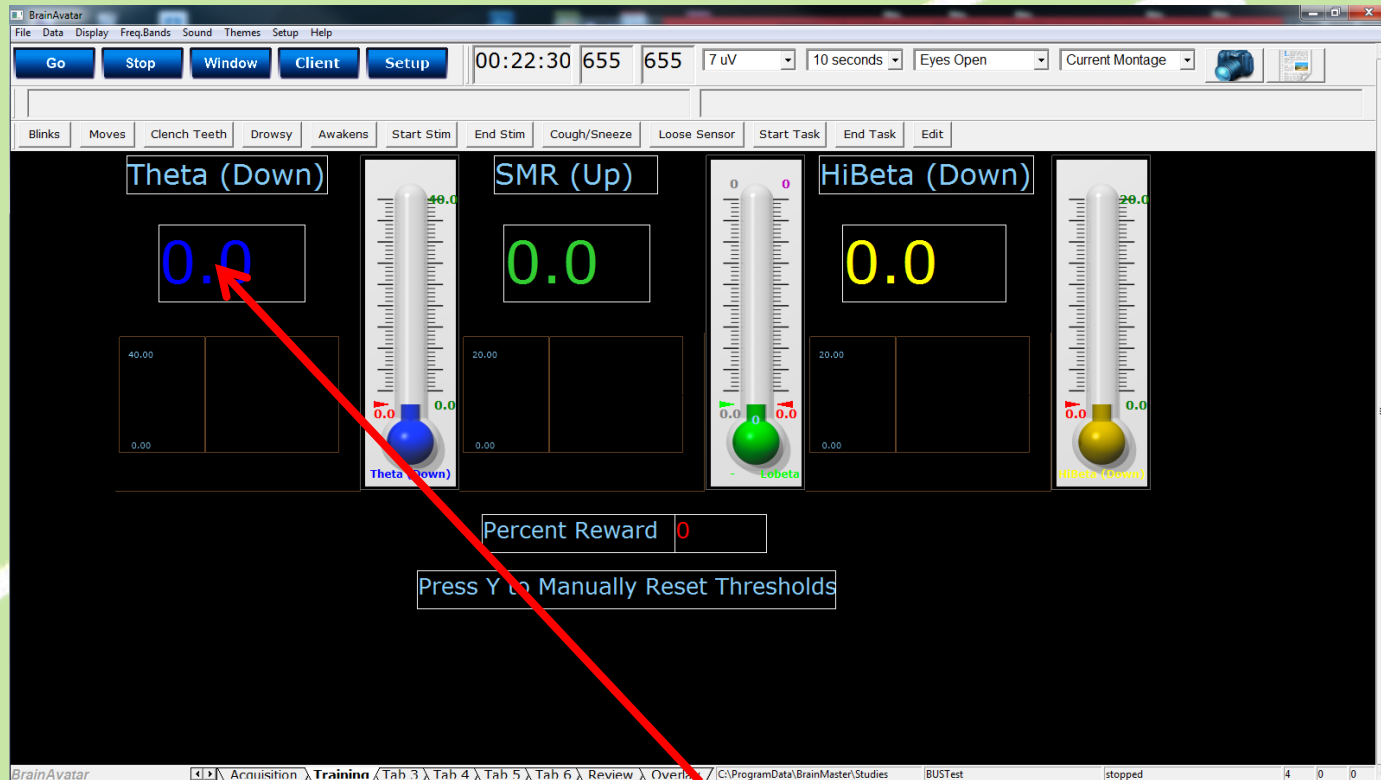
Focus

- The event which controls the Theta (Down) Label object is now the 6th Event. We asked that the Name of the event, Theta (Down), be listed as well as a Grid bounding the event. It is produced with a Verdana 40 pt. Font. When finished reviewing this please click OK on the “Event Text Panel Menu”.



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Focus



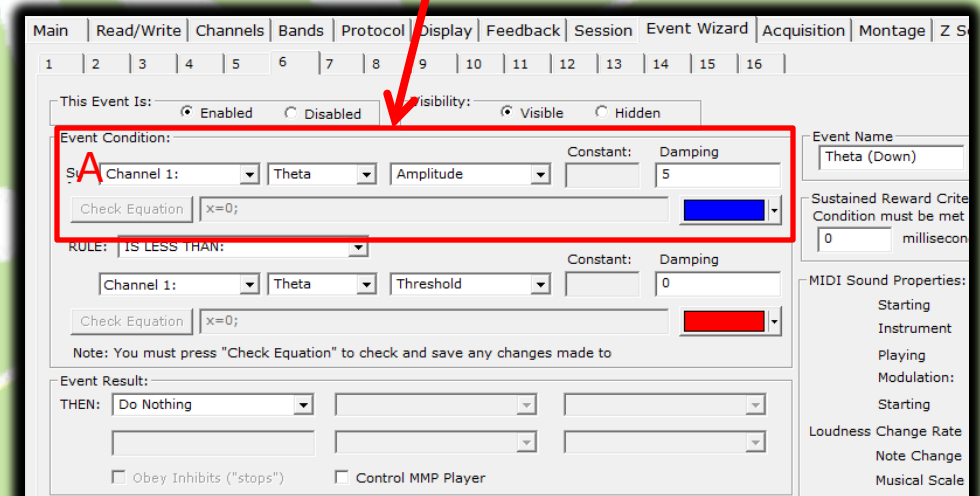
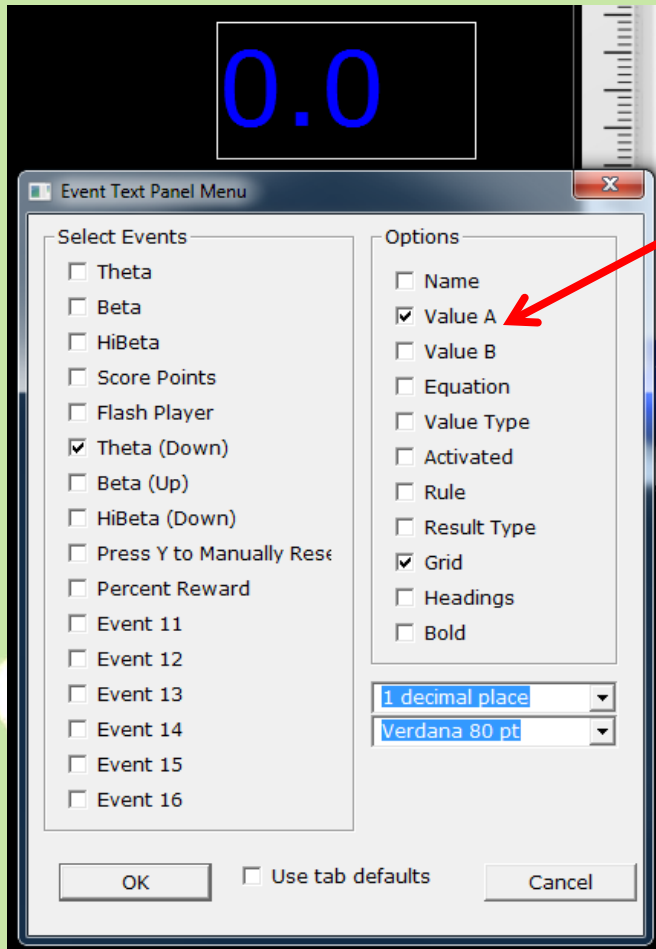
- Next, let's look at the blue meter underneath the Theta (Down) label. Right-click the Meter in order to open its associated "Event Text Panel Menu".

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Focus

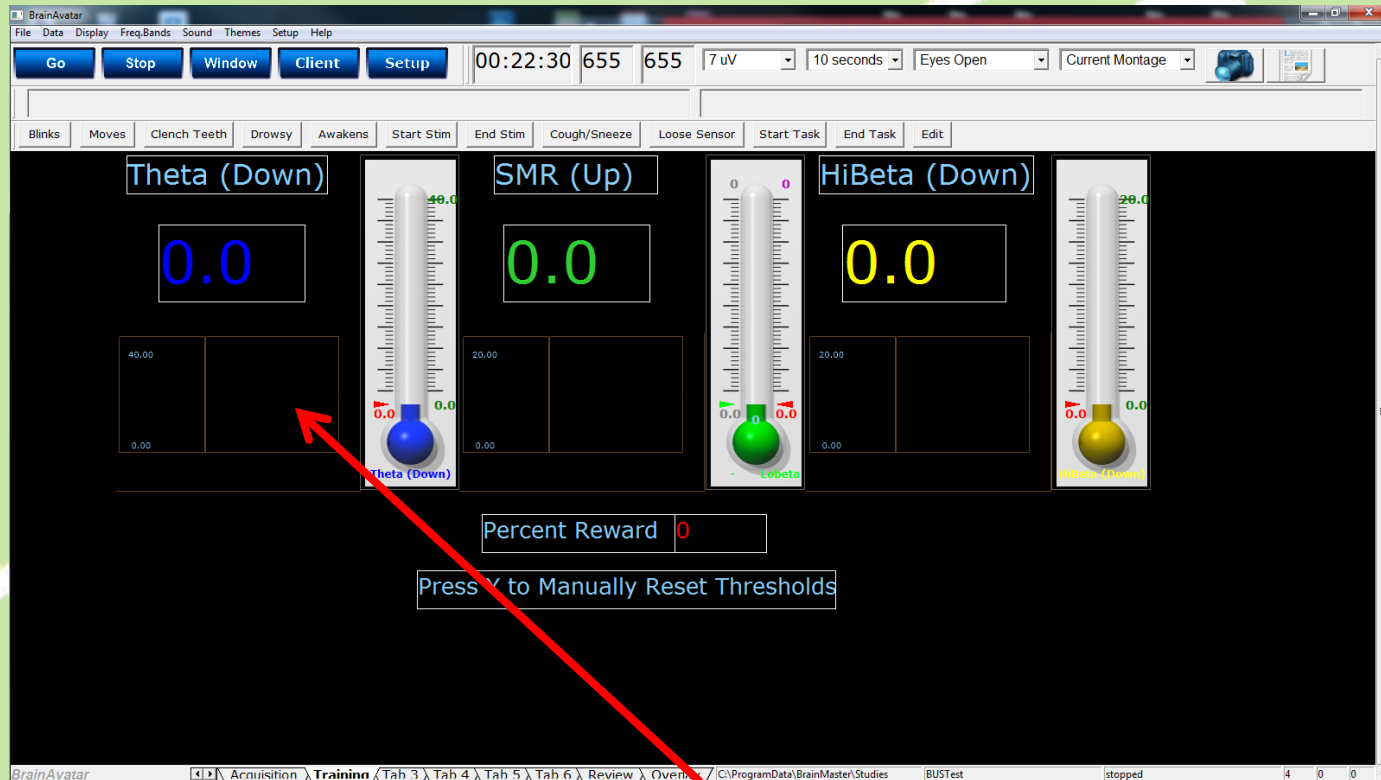
The Protocol is now ready for Modification

- The event which controls the Theta (Down) Meter object is again the 6th Event. We asked that the Value A (Theta Amplitude) of the event be listed as well as a Grid bounding the event. It is produced with a Verdana 80 pt. Font. When finished reviewing this please click OK on the “Event Text Panel Menu”.



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Focus



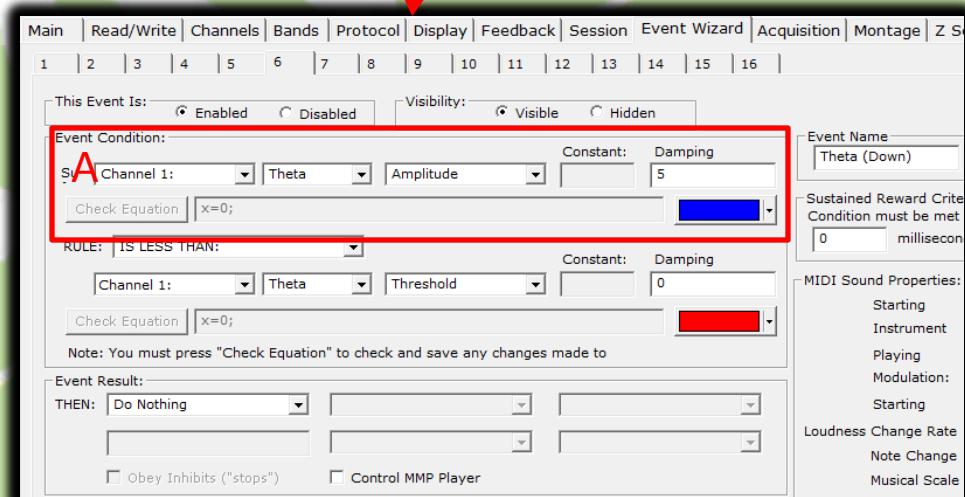
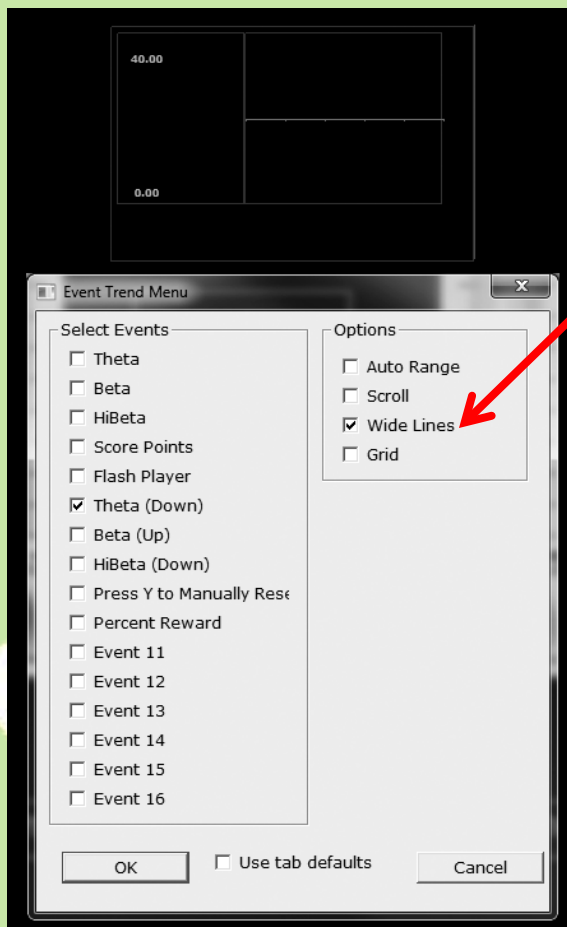
- Next let's look at the Wide Trend Event Graph underneath the blue meter. Right-click the Wide Trend Event Graph in order to open its associated "Event Trend Menu".

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Focus

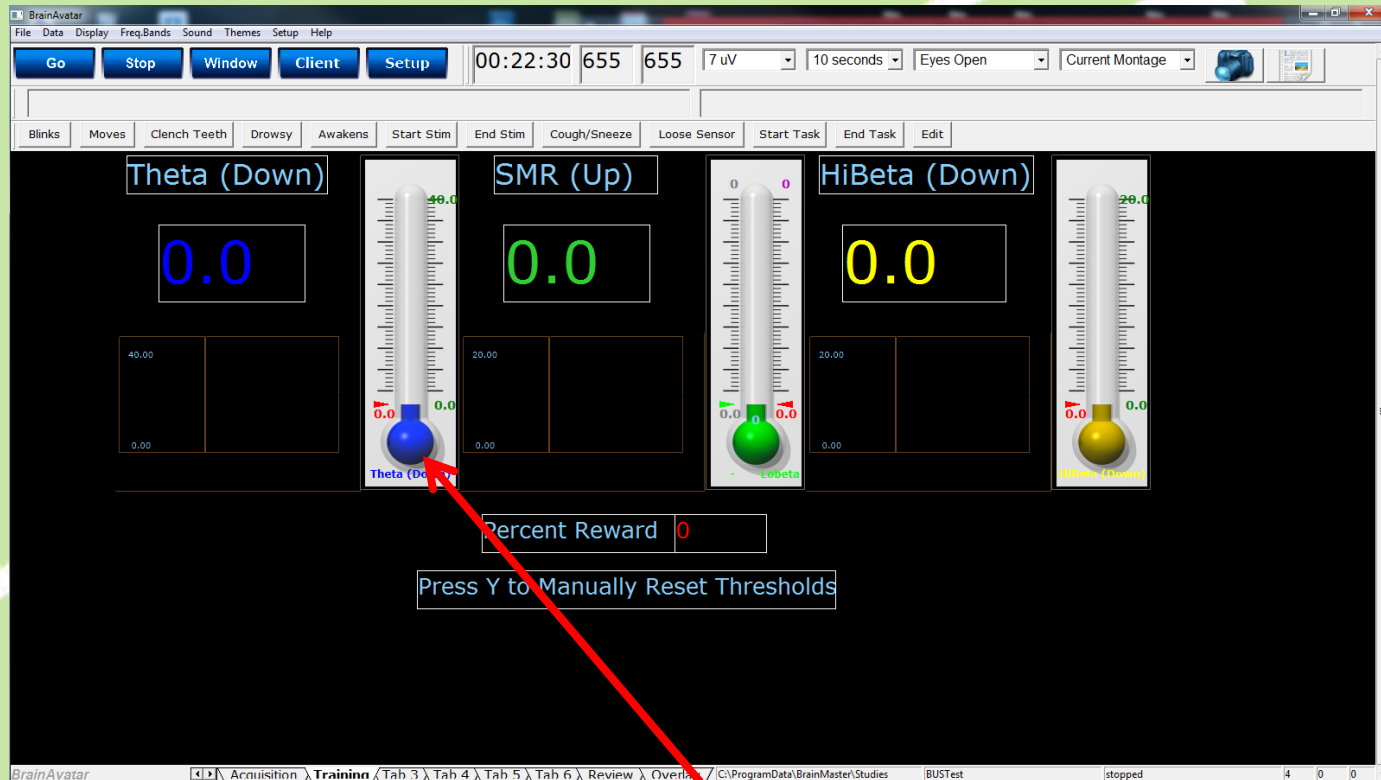
The Protocol is now ready for Modification

- The event which controls the Theta (Down) Event Trend Graph is again the 6th Event. We asked that Wide lines be used.



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Focus

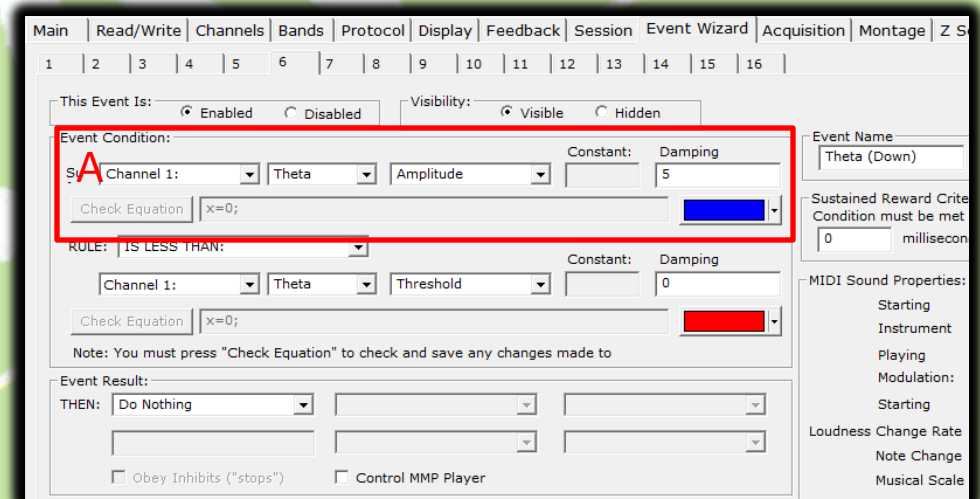
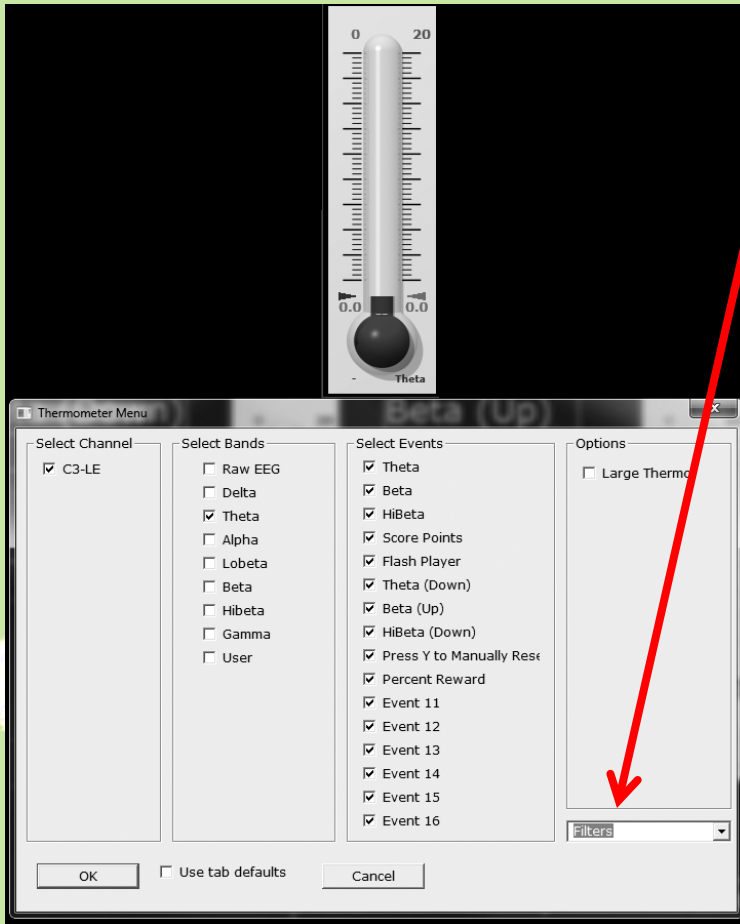


- Next let's finally look at the Blue Thermometer. Right-click the Thermometer in order to open its associated "Thermometer Menu".

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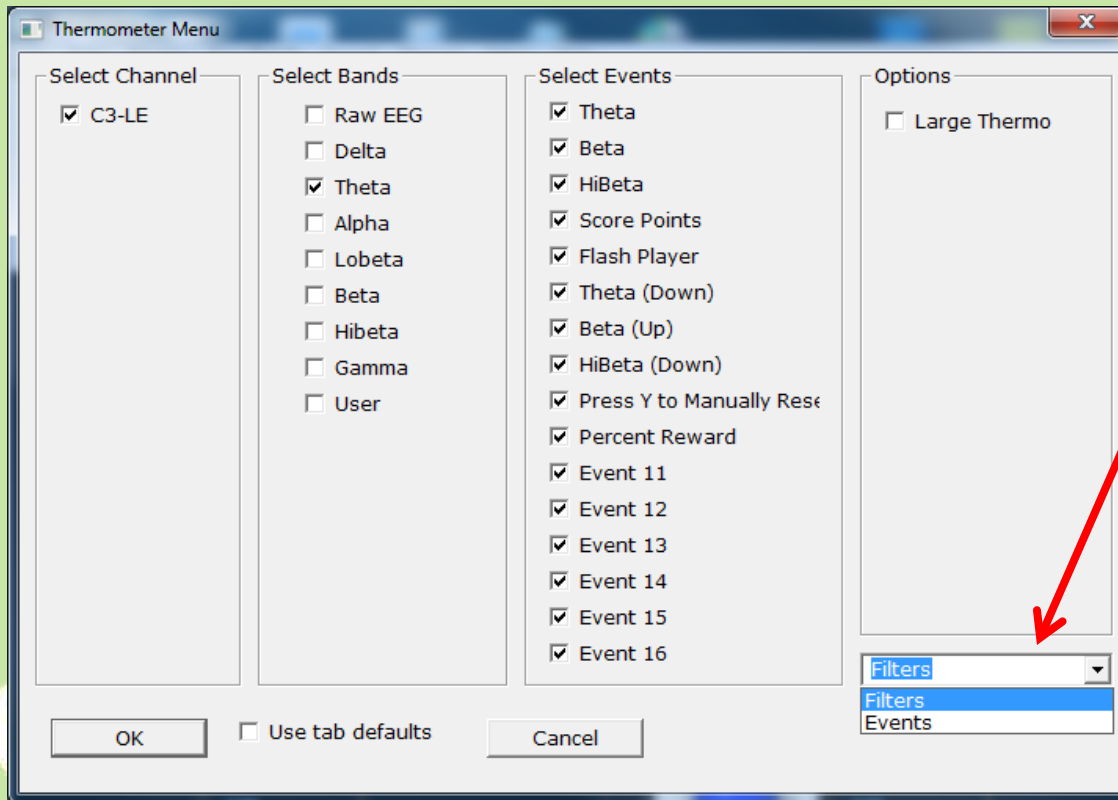
Focus

- The event which controls the Theta (Down) Thermometer should again be the 6th Event. If you notice in the dropdown menu it says “Filters” which means the digital filters are in control of this thermometer. Let’s now switch control over to Event 6 rather than the digital filtering in event 1.



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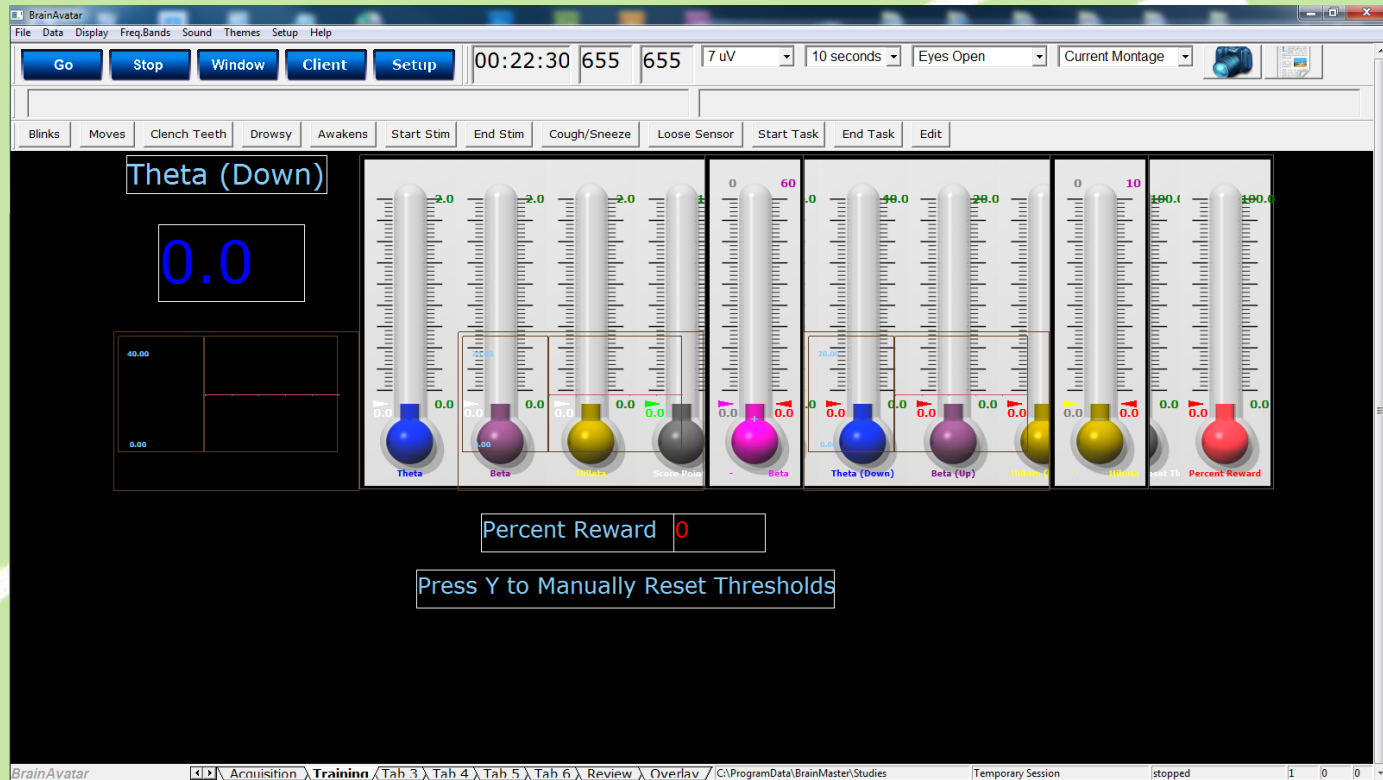
Focus



If you select the dropdown arrow you will notice there are two choices; 1) Filters and 2) Events. The Filters choice activates the Select Channel column all the way to the left and the Select Bands Column to the right of the first one. When Events are selected than the Select Events Column becomes active. Notice by default all 16 of the events are selected.

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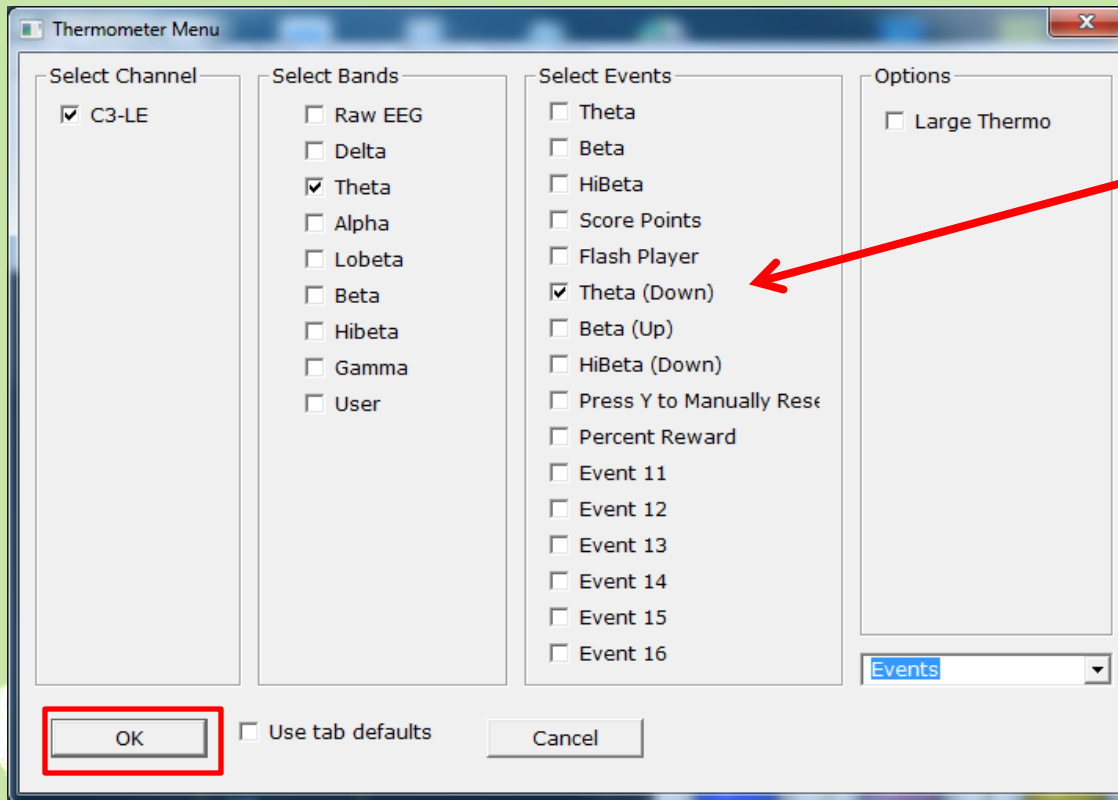
Focus



- Because all 16 events are selected by default, 16 thermometers will appear on the screen. DON'T BE DISTURBED BY THIS.

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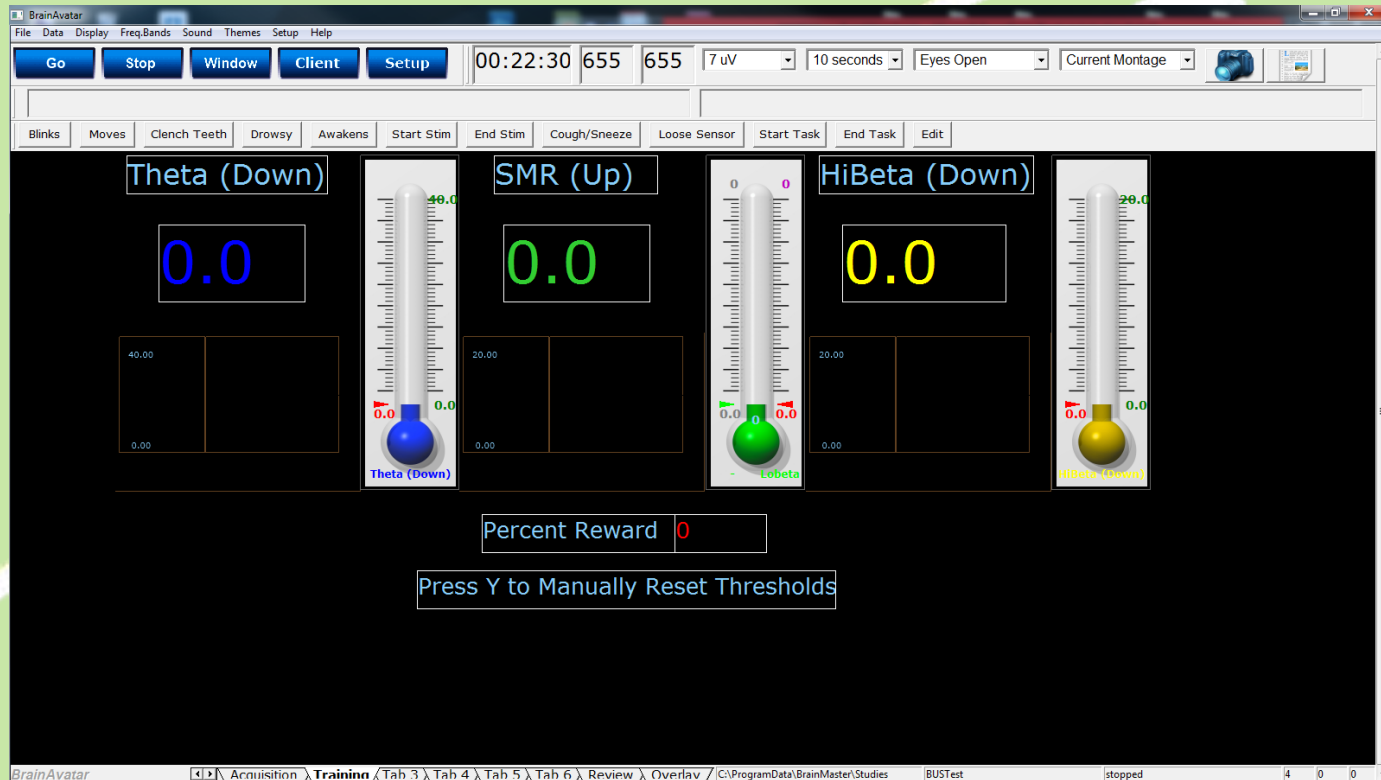
Focus



Choose the event that you would like represented by clicking off all of the events except for the one required for 6th event, Theta (down). Then click OK.

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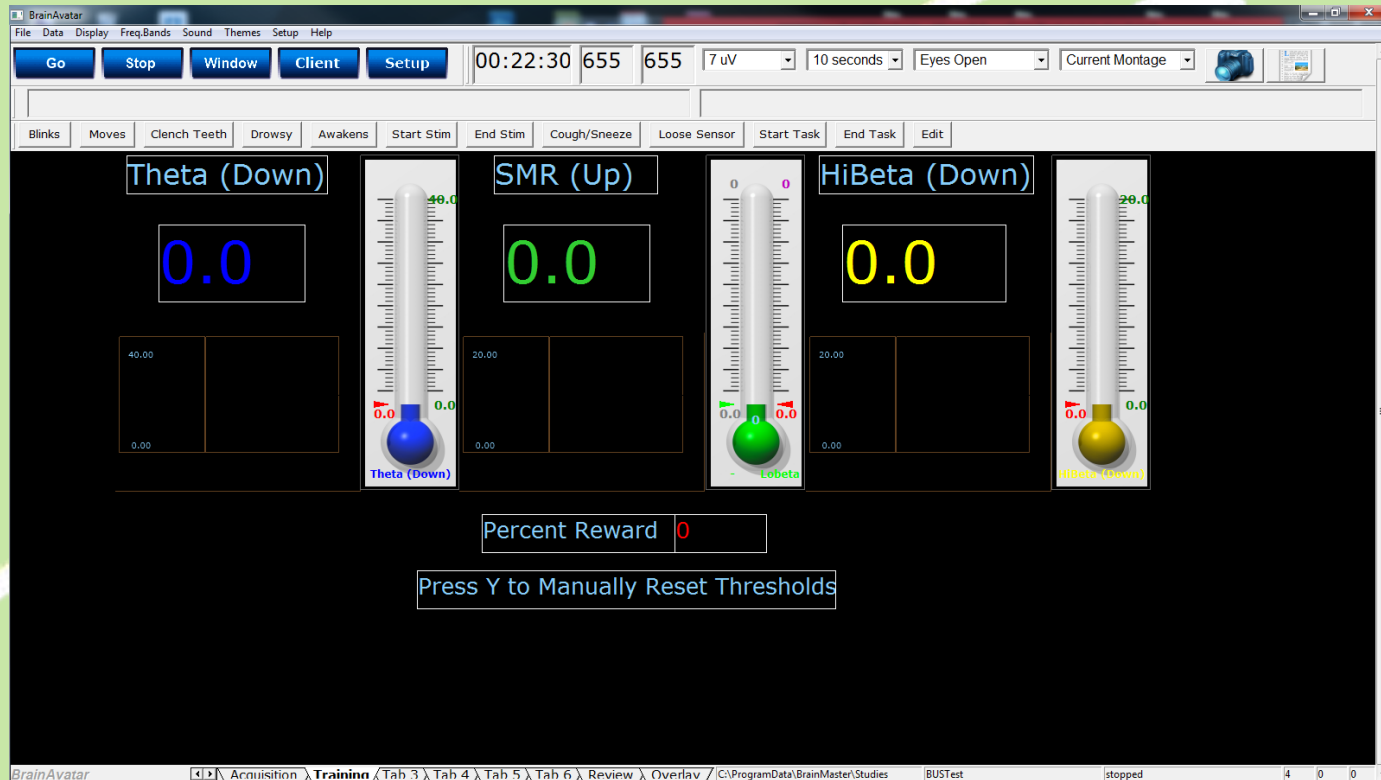
Focus



- Notice, all but one of the thermometers have been eliminated, the Theta (Down) thermometer.

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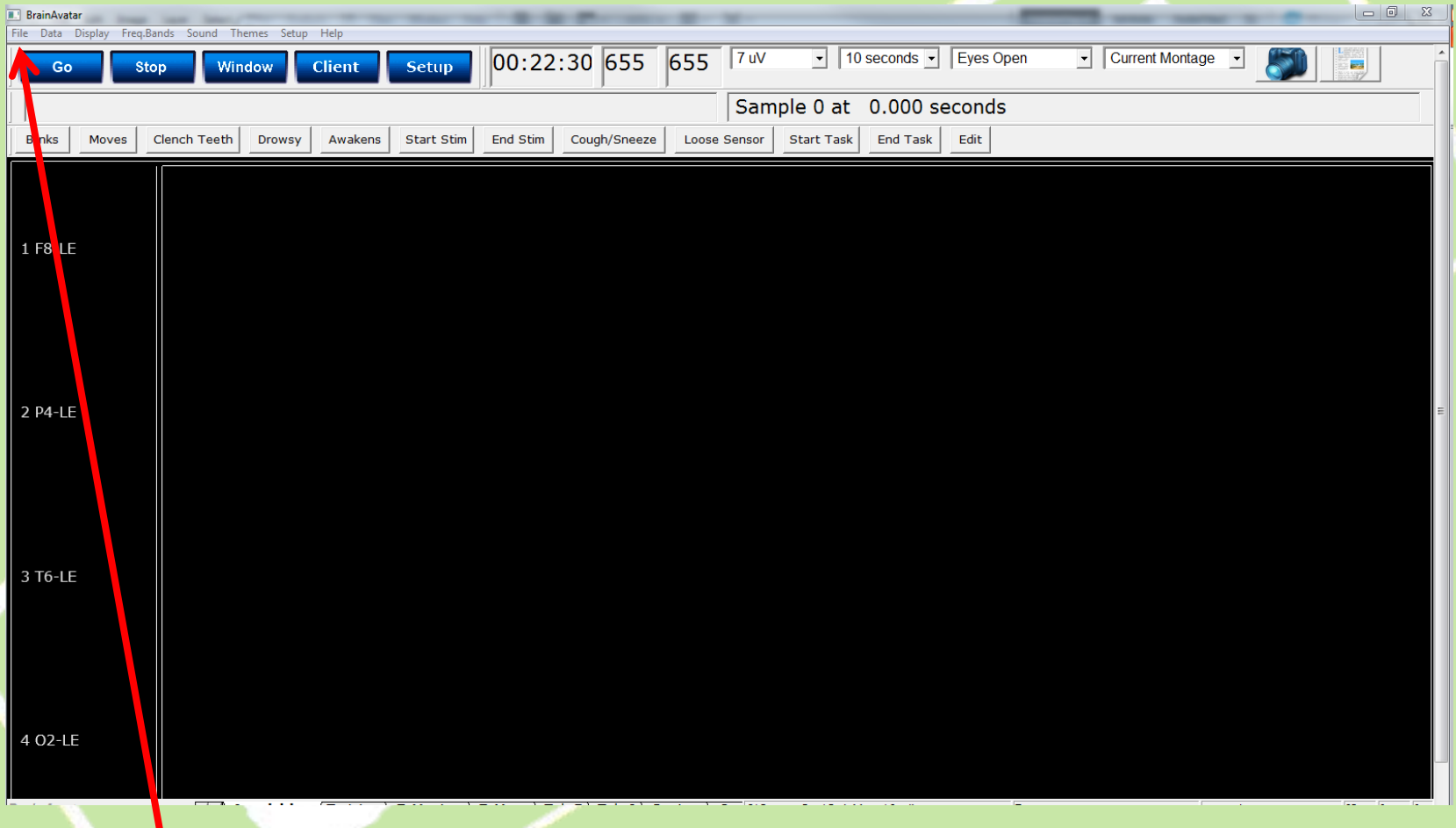
Focus



- You may practice viewing and changing the specifications for the labels, meters, event graphs and thermometers for LoBeta (Up), event 7 and HiBeta (Down) event 8 using the panel wizard and repeating the previous steps.

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Focus



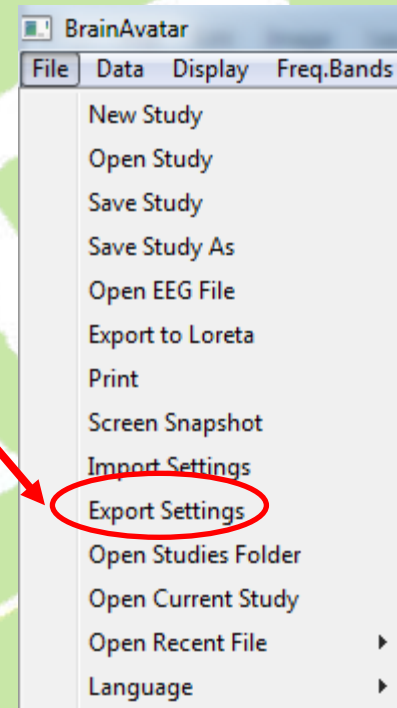
If you would like to save this modified setting click “File”.

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Focus

Level 3

Next click “Export Settings”.

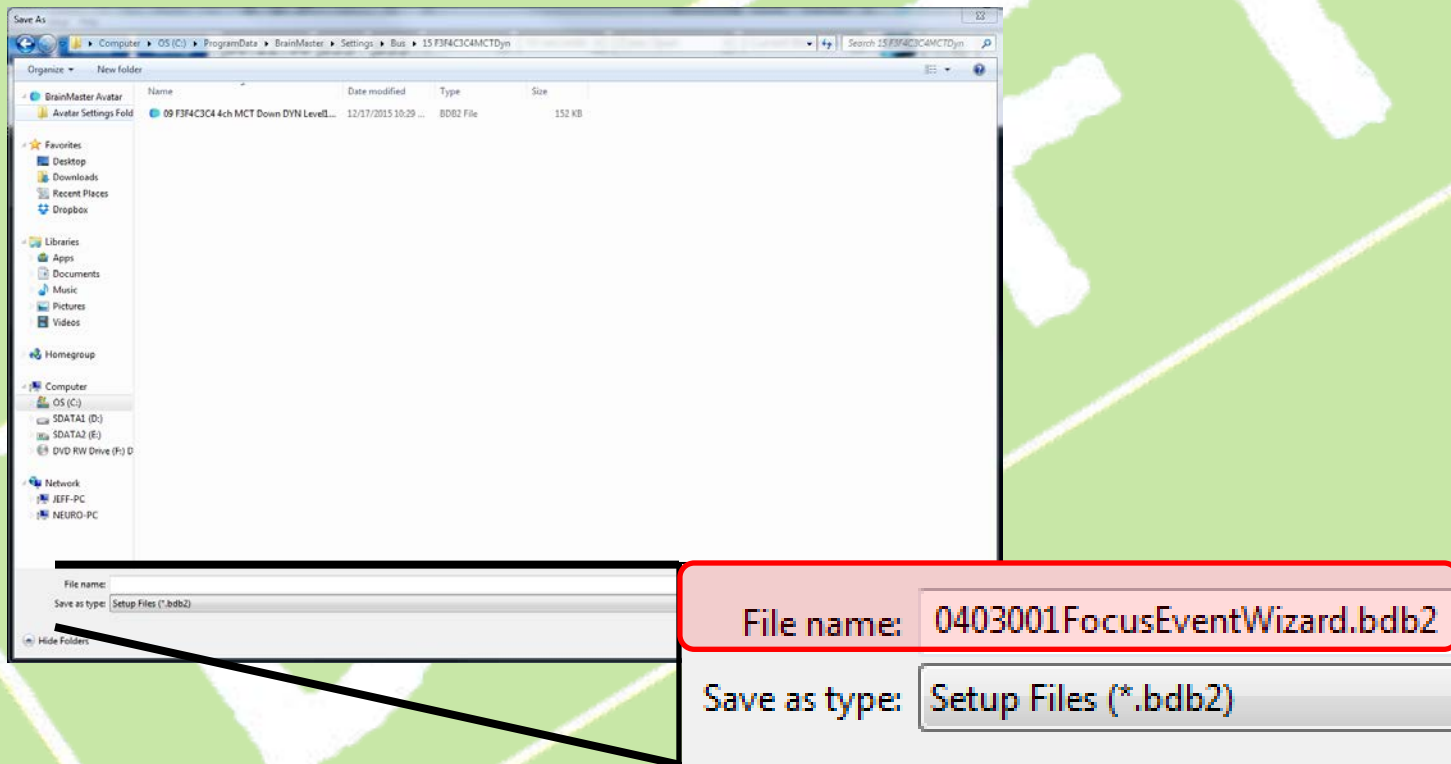


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Focus

Level 3

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

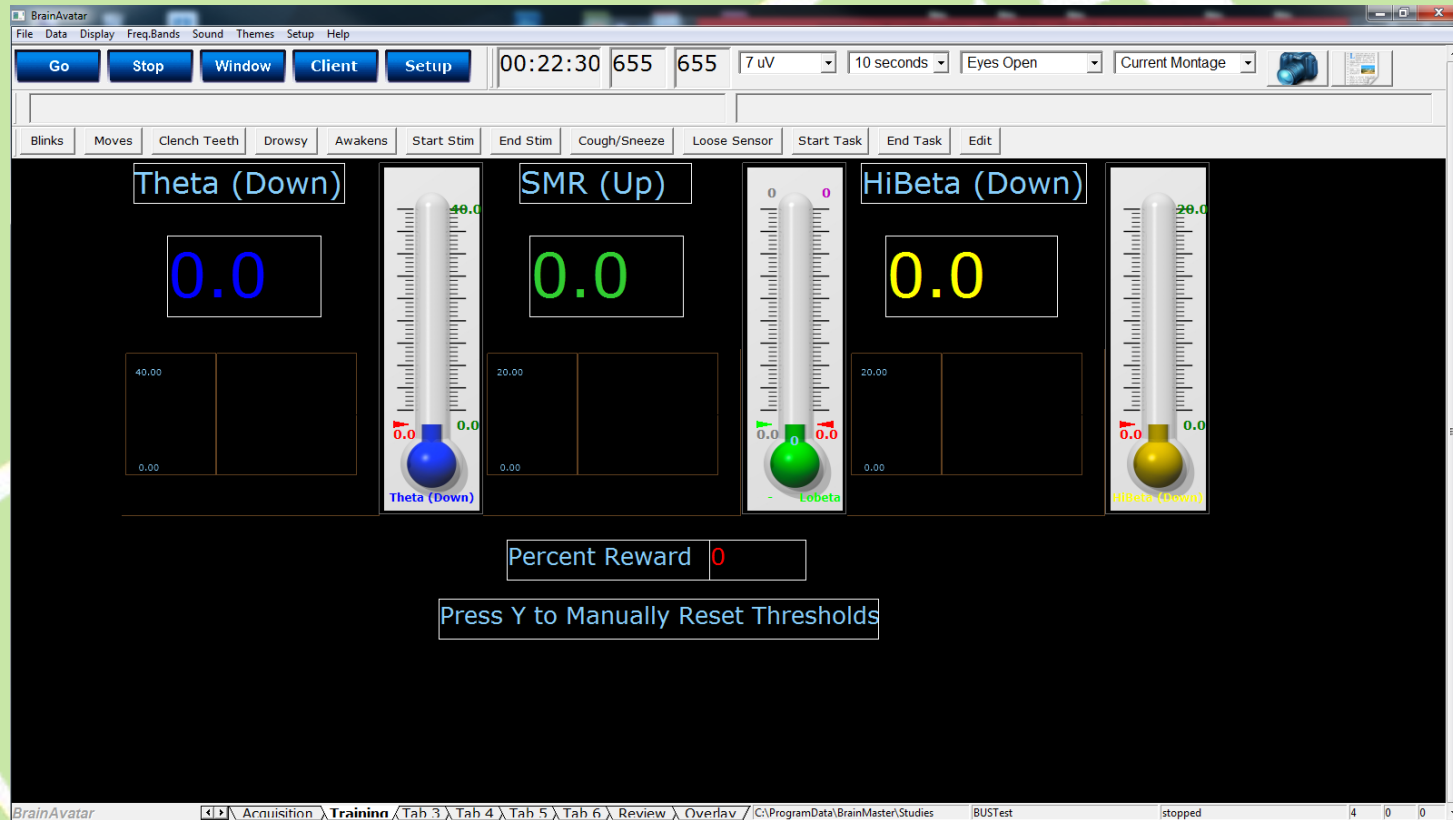


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Focus

Level 3

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



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Power Point Manual

Get On The
BUS



BrainMaster
Universe
Simplified



“focus”
level 3