BrainMaster
TECHNOLOGIES

The next generation of 3D Brain Imaging and Neurotherapy

# BrainAvatar Software Manual

Atlantis
4 x 4
BrainMaster Technologies, Inc.
A1
A2
EEG 1/2
R1
R2
R3
R4
EEG 3/4
A3
A4
AUX
1/2
3/4
Discovery
24 Channel EEG
BrainMaster Technologies, Inc.
BrainMaster 24E
Discovery – 24 Channel EEG
Channels 1 - 22
Channels 23 / 24
Status

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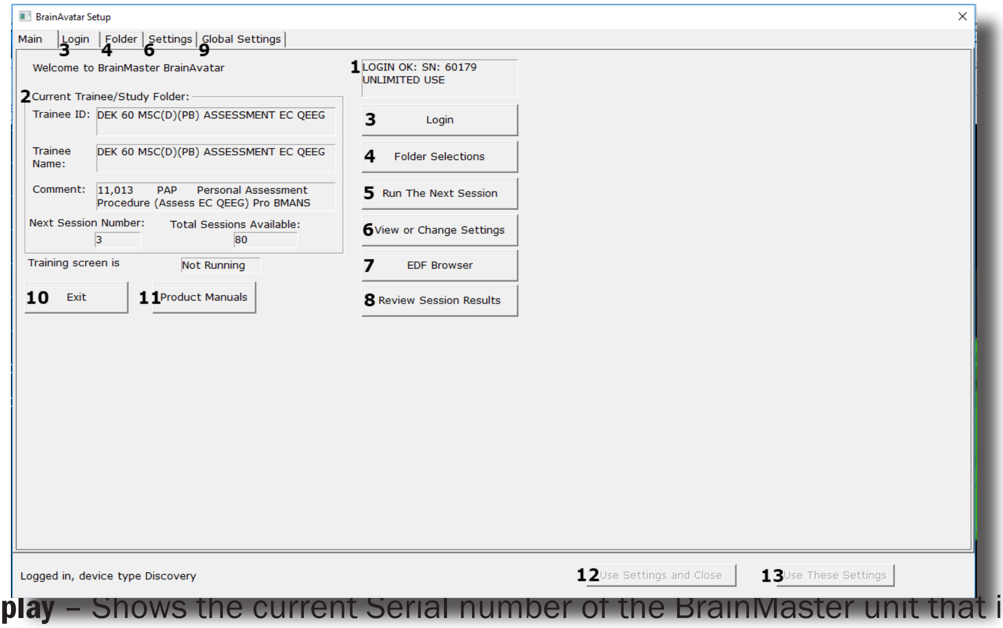
# Minimum PC Computer Requirements

| | |
|---|---|
| **CPU:** | Quad-core or above |
| **Operating System:** | Windows 8, Windows 10 |
| **Memory(RAM):** | 4GB |
| **Graphics Card:** | DirectX 10.1 or above compatible graphics card<br>1GB Dedicated |
| **Optical Drives:** | DVD-ROM Drive: Required for BMrDVD* |
| **Input:** | 1 USB Port |
| **Additional SW:** | Microsoft Office: Required for certain reports and EEGAudio*<br>Windows Media Player or 3rd Party DVD Decoder: Required for BMrDVD*<br>Adobe Acrobat Reader |

**BMrMMP is an optional purchase*

## Main Screen Menu


BrainAvatar Setup
Main
Login
Folder
Settings
Global Settings
3
4
6
9
1
2
3 Login
4 Folder Selections
5 Run The Next Session
6 View or Change Settings
7 EDF Browser
8 Review Session Results
10 Exit
11 Product Manuals
12 Use Settings and Close
13 Use These Settings

Welcome to BrainMaster BrainAvatar

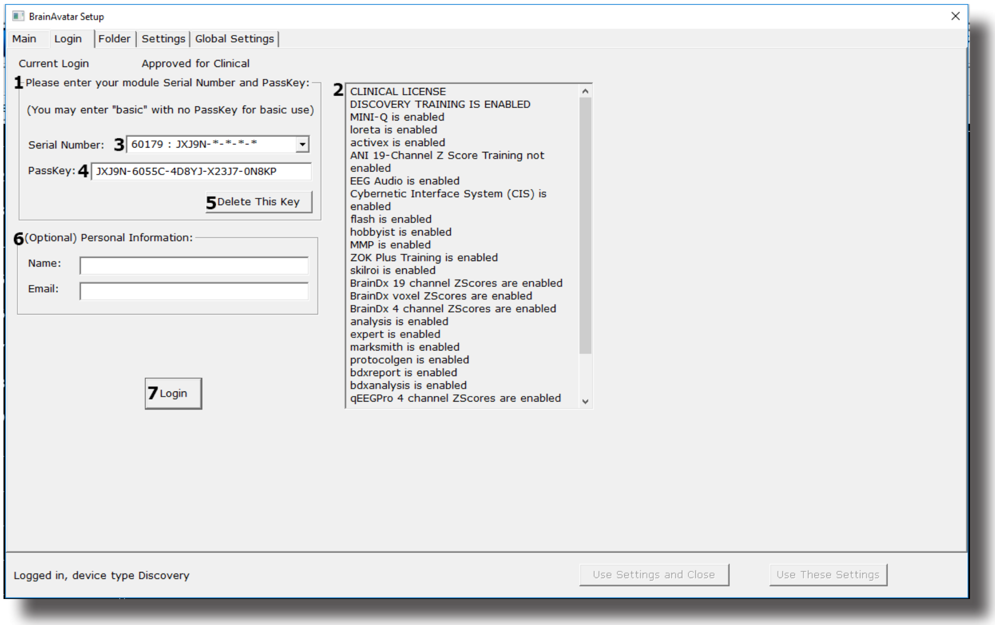
LOGIN OK: SN: 60179
UNLIMITED USE

Current Trainee/Study Folder:
Trainee ID: DEK 60 M5C(D)(PB) ASSESSMENT EC QEEG
Trainee Name: DEK 60 M5C(D)(PB) ASSESSMENT EC QEEG
Comment: 11,013 PAP Personal Assessment Procedure (Assess EC QEEG) Pro BMANS
Next Session Number: 3
Total Sessions Available: 80
Training screen is Not Running

Logged in, device type Discovery

1. **Log-In Display** – Shows the current Serial number of the BrainMaster unit that is logged in, the expiration of the software if any, and status of its license.
2. **Current Trainee/Study Display** – Shows the current trainee folder, the settings being used, how many sessions that have been used, and how many more that can be run.
3. **Login Button** – Click to open the Login Menu. You can also click the Login Tab at the top.
4. **Folders Selections Button** – Click to open the Select Trainee/Study Folder Menu. You can also click on the Folder Tab at the top.
5. **Run The Next Session Button** – Click to open the Training/Control Screen.
6. **View or Change Settings Button** – Click to open the Setup Options Menu. You can also click the Settings Tab at the top.
7. **EDF Browser Button** – Click to open the EDF Browser.
8. **Review Session Results Button** – Click to open the BReview Screen. You can also click the Review Tab at the top.
9. **Global Settings Tab** – Click to open the Global Settings Screen.
10. **Exit Button** – Click to close the Avatar Setup Screen.
11. **Product Manuals Button** – Click to open a menu displaying documentation on our software.
12. **Use These Settings and Close Button** – Click to Use all settings that you have put into place and close the Avatar Setup Screen.
13. **Use These Settings Button** – Click Use all settings that you have put into place, but keep the Avatar Setup Screen Open.

## Login Menu



Current Login Approved for Clinical

Please enter your module Serial Number and PassKey:

(You may enter "basic" with no PassKey for basic use)

Serial Number: 60179 : JXJ9N-*-*-*-*

PassKey: JXJ9N-6055C-4D8YJ-X23J7-0N8KP

(Optional) Personal Information:

Name:

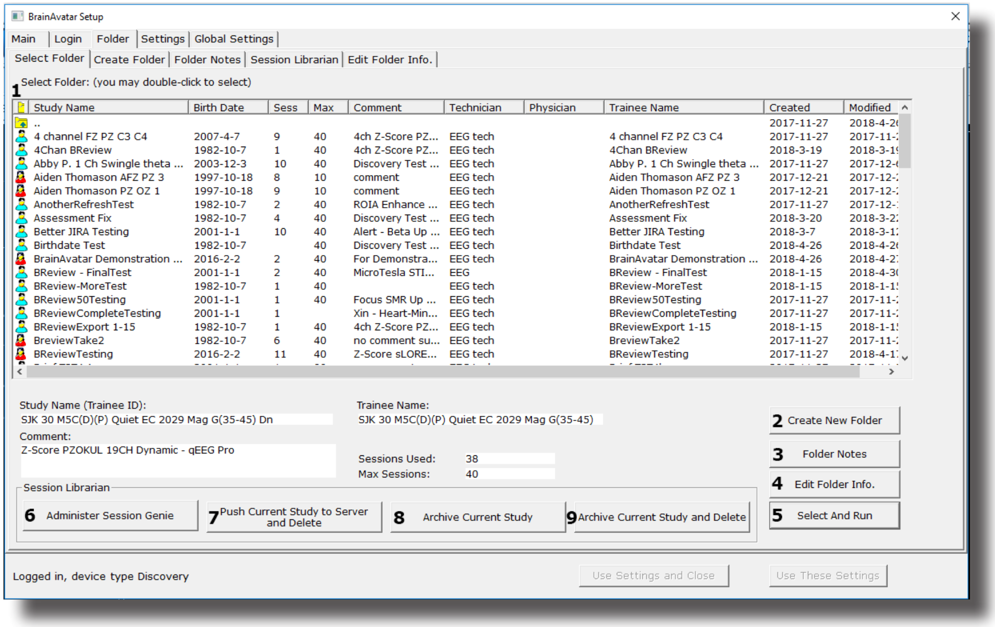
Email:

```
CLINICAL LICENSE
DISCOVERY TRAINING IS ENABLED
MINI-Q is enabled
loreta is enabled
activex is enabled
ANI 19-Channel Z Score Training not
enabled
EEG Audio is enabled
Cybernetic Interface System (CIS) is
enabled
flash is enabled
hobbyist is enabled
MMP is enabled
ZOK Plus Training is enabled
skilroi is enabled
BrainDx 19 channel ZScores are enabled
BrainDx voxel ZScores are enabled
BrainDx 4 channel ZScores are enabled
analysis is enabled
expert is enabled
marksmith is enabled
protocolgen is enabled
bdxreport is enabled
bdxanalysis is enabled
qEEGPro 4 channel ZScores are enabled
```

Logged in, device type Discovery

1. **Current Login Status** – Displays what your Current Login status is.
2. **Current Passkey Status** – Displays currently what the Passkey for your BrainMaster is enabled with.
3. **Serial Number Box** – Box where you will type in the Serial Number of your BrainMaster unit. *****PLEASE NOTE:** The BrainMaster Software has the capabilities to remember multiple passkeys. If you have entered multiple passkeys, you will be able to choose between the different passkeys by click the drop-down arrow to the right of the Serial Number Box.
4. **PassKey Box** – Box where you type in your Passkey supplied by BrainMaster Technologies. *****PLEASE NOTE:** Always be sure to keep record of your passkey. If BrainMaster Technologies is needed to retrieve the passkey for you, an Administration fee will be charged.
5. **Delete This Key Button** – Click to remove your passkey from the BrainAvatar Software.
6. **(Optional) Personal Information** – Name and E-Mail information utilized for sending BMZ Files via E-Mail.
7. **Login Button** – Click to log into the Current passkey that is entered into the BrainAvatar Software. *****PLEASE NOTE:** If you are having any difficulties logging in, please double-check your passkey. When entering, it is highly recommended that CAPS Lock is on, and the “-“are left out. If you are still having difficulties, please contact BrainMaster Technologies Technical Support.

## Select Trainee/Study Folder Menu


BrainAvatar Setup
Main
Login
Folder
Settings
Global Settings
Select Folder
Create Folder
Folder Notes
Session Librarian
Edit Folder Info.
1
2 Create New Folder
3 Folder Notes
4 Edit Folder Info.
5 Select And Run
Session Librarian
6 Administer Session Genie
7 Push Current Study to Server and Delete
8 Archive Current Study
9 Archive Current Study and Delete
Use Settings and Close
Use These Settings

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

| Study Name | Birth Date | Sess | Max | Comment | Technician | Physician | Trainee Name | Created | Modified |
|---|---|---|---|---|---|---|---|---|---|
| .. | | | | | | | | 2017-11-27 | 2018-4-2 |
| 4 channel FZ PZ C3 C4 | 2007-4-7 | 9 | 40 | 4ch Z-Score PZ... | EEG tech | | 4 channel FZ PZ C3 C4 | 2017-11-27 | 2017-11- |
| 4Chan BReview | 1982-10-7 | 1 | 40 | 4ch Z-Score PZ... | EEG tech | | 4Chan BReview | 2018-3-19 | 2018-3-1 |
| Abby P. 1 Ch Swingle theta ... | 2003-12-3 | 10 | 40 | Discovery Test ... | EEG tech | | Abby P. 1 Ch Swingle theta ... | 2017-11-27 | 2017-12- |
| Aiden Thomason AFZ PZ 3 | 1997-10-18 | 8 | 10 | comment | EEG tech | | Aiden Thomason AFZ PZ 3 | 2017-12-21 | 2017-12- |
| Aiden Thomason PZ OZ 1 | 1997-10-18 | 9 | 10 | comment | EEG tech | | Aiden Thomason PZ OZ 1 | 2017-12-21 | 2017-12- |
| AnotherRefreshTest | 1982-10-7 | 2 | 40 | ROIA Enhance ... | EEG tech | | AnotherRefreshTest | 2017-11-27 | 2017-12- |
| Assessment Fix | 1982-10-7 | 4 | 40 | Discovery Test ... | EEG tech | | Assessment Fix | 2018-3-20 | 2018-3-2 |
| Better JIRA Testing | 2001-1-1 | 10 | 40 | Alert - Beta Up ... | EEG tech | | Better JIRA Testing | 2018-3-7 | 2018-3-1 |
| Birthdate Test | 1982-10-7 | | 40 | Discovery Test ... | EEG tech | | Birthdate Test | 2018-4-26 | 2018-4-2 |
| BrainAvatar Demonstration ... | 2016-2-2 | 2 | 40 | For Demonstra... | EEG tech | | BrainAvatar Demonstration ... | 2018-4-26 | 2018-4-2 |
| BReview - FinalTest | 2001-1-1 | 2 | 40 | MicroTesla STI... | EEG | | BReview - FinalTest | 2018-1-15 | 2018-4-3 |
| BReview-MoreTest | 1982-10-7 | 1 | 40 | | EEG tech | | BReview-MoreTest | 2018-1-15 | 2018-1-1 |
| BReview50Testing | 2001-1-1 | 1 | 40 | Focus SMR Up ... | EEG tech | | BReview50Testing | 2017-11-27 | 2017-11- |
| BReviewCompleteTesting | 2001-1-1 | 1 | | Xin - Heart-Min... | EEG tech | | BReviewCompleteTesting | 2017-11-27 | 2017-11- |
| BReviewExport 1-15 | 1982-10-7 | 1 | 40 | 4ch Z-Score PZ... | EEG tech | | BReviewExport 1-15 | 2018-1-15 | 2018-1-1 |
| BreviewTake2 | 1982-10-7 | 6 | 40 | no comment su... | EEG tech | | BreviewTake2 | 2017-11-27 | 2017-11- |
| BReviewTesting | 2016-2-2 | 11 | 40 | Z-Score sLORE... | EEG tech | | BReviewTesting | 2017-11-27 | 2018-4-1 |

Study Name (Trainee ID): SJK 30 M5C(D)(P) Quiet EC 2029 Mag G(35-45) Dn

Comment: Z-Score PZOKUL 19CH Dynamic - qEEG Pro

Trainee Name: SJK 30 M5C(D)(P) Quiet EC 2029 Mag G(35-45)

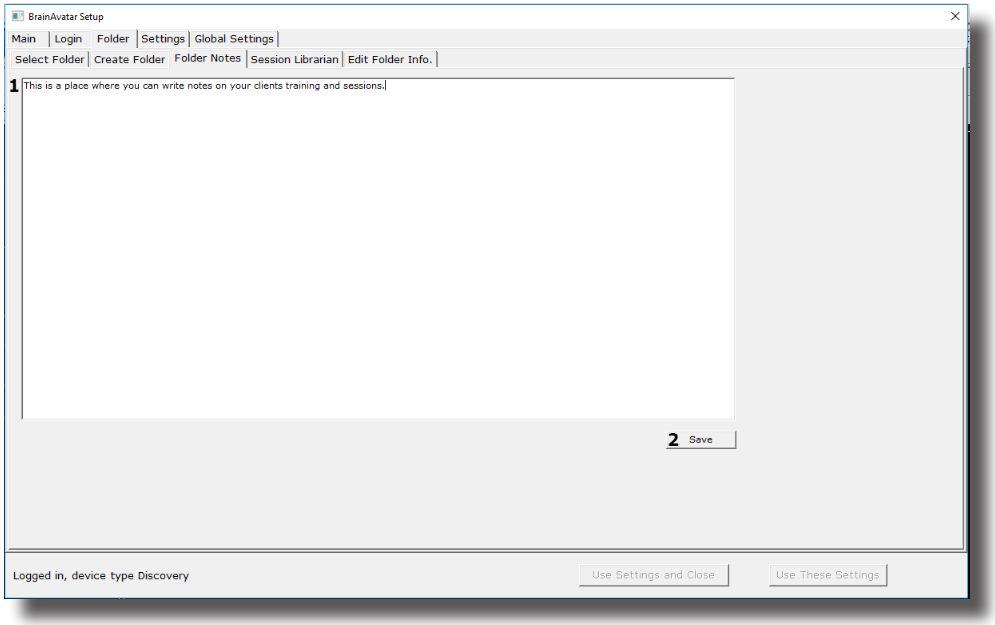
Sessions Used: 38

Max Sessions: 40

Logged in, device type Discovery

1. **Folder Selection List** – List where you can select from already created Studies folder. You may double-click to select a file. When highlighted information on the folder will be displayed below this box.
2. **Create New Folder Button** – Click to create a new Study Folder to be used. You can also click the Create Folder Tab at the top.
3. **Folder Notes Button** – Click to create or look at a Note page for a specific client folder. You can also click the Folder Notes Tab at the top.
4. **Edit Folder Button** – Click to edit the folder information for the selected folder. You can also click the Edit Folder Info. Tab at the top.
5. **Select and Run Button** – Click to confirm the folder that you have highlighted and exit the Set-up Menu.
6. **Administer Session Genie** – Click to utilize the Session genie. ***__PLEASE NOTE:__ Administer Session Genie will not be available on Remote User Systems.
7. **Push to Current Study to Server and Delete Button** – Click to remove a no longer wanted folder from your Folder Selection List. ***__PLEASE NOTE:__ Using this feature will not remove your file permanently. Using this feature creates a BMZ version of your folder in case it is needed in the future.
8. **Archive Current Study Button** – Click this to back-up the current folder that is selected.
9. **Archive Current Study and Delete Button** - Click to back-up the current folder that is selected, and remove it.

## Folder Notes Screen

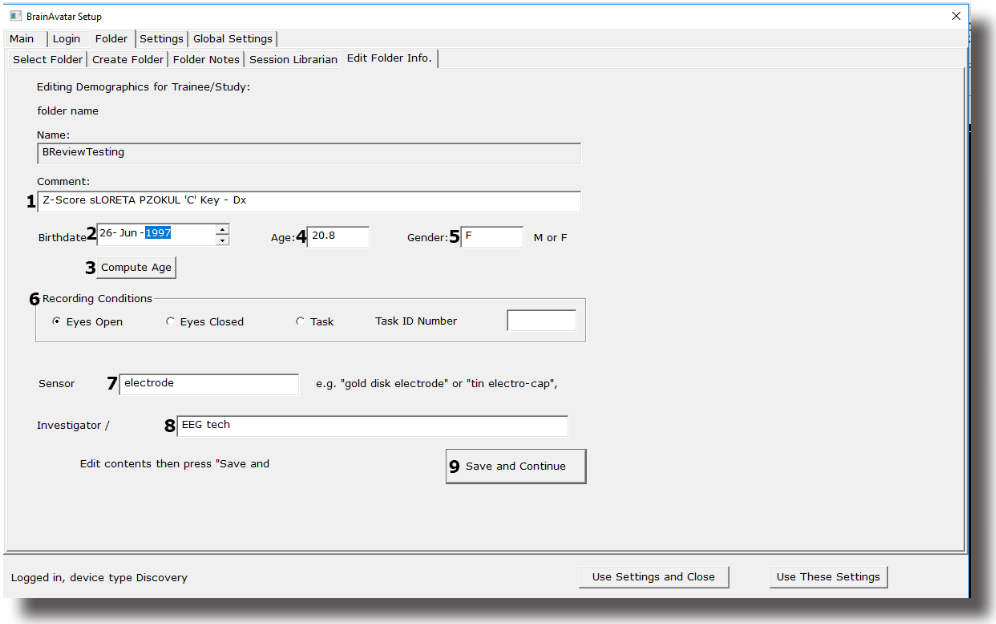

BrainAvatar Setup
Main
Login
Folder
Settings
Global Settings
Select Folder
Create Folder
Folder Notes
Session Librarian
Edit Folder Info.
1
2
Save
Use Settings and Close
Use These Settings

This is a place where you can write notes on your clients training and sessions.

Logged in, device type Discovery

1. **Text Area** – Area, where you can type notes for the particular client.
2. **Save Button** – Click to save any changes to the Text Area.

## Edit Folder Info Screen


BrainAvatar Setup
Main
Login
Folder
Settings
Global Settings
Select Folder
Create Folder
Folder Notes
Session Librarian
Edit Folder Info.
1
2
3
Compute Age
4
5
6
7
8
9
Save and Continue
Use Settings and Close
Use These Settings

Editing Demographics for Trainee/Study:

folder name

Name: BReviewTesting

Comment: Z-Score sLORETA PZOKUL 'C' Key - Dx

Birthdate: 26- Jun -1997

Age: 20.8

Gender: F M or F

Recording Conditions: ● Eyes Open ○ Eyes Closed ○ Task Task ID Number

Sensor: electrode e.g. "gold disk electrode" or "tin electro-cap",

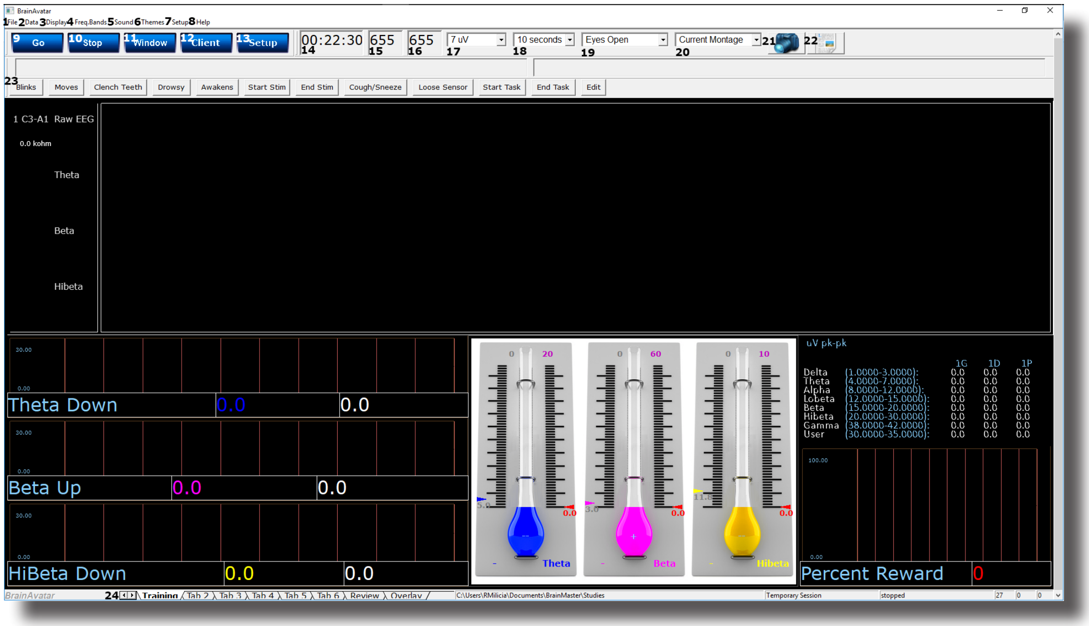
Investigator /: EEG tech

Edit contents then press "Save and

Logged in, device type Discovery

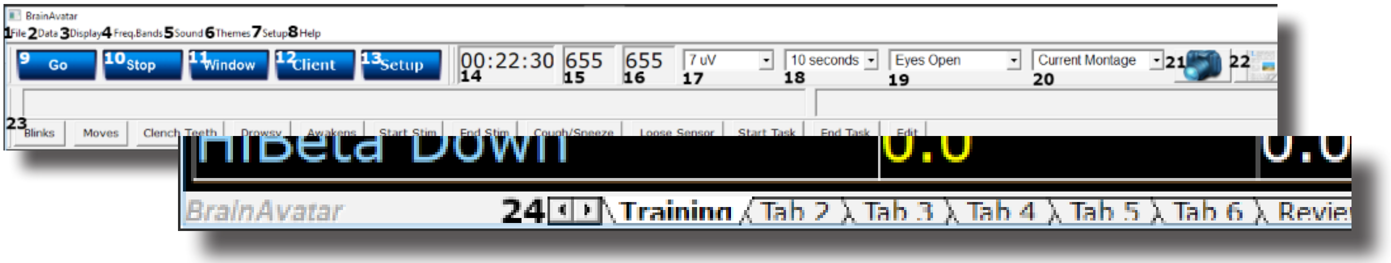
1. **Comment Line** – Line that a customer can add a comment for the selected Trainee folder.
2. **Birthday Section** – Click to put in the client's Birthday. As you change the date, the age will set itself
3. **Compute Age Button** – Click to compute the age of the client based on their entered Birthday. You will use this button, if you import a Protocol, and the age does not match based off of the birthday
4. **Age Line** – Line where you enter the clients age.***PLEASE NOTE: You do not need to manually set this. The Age will set itself based off of the Birthday.
5. **Gender Line** – Line where you enter the clients gender. M = Male and F = Female
6. **Recording Conditions Section** – Section where you can adjust the Recording condition.***PLEASE NOTE: If you set Recording Condition to Task, you will need to assign a 3-Digit number to it using the box next to the Task Recording Condition.
7. **Sensor Section** – Section that you can input the type of sensor that you are using for the client.
8. **Investigator Section** – Section that you can enter the person who is running the session.
9. **Save and Continue Button** - Click to save the protocol and exit to the Folder Selection Tab

## Training/Control Screen


BrainAvatar
1 File 2 Data 3 Display 4 Freq.Bands 5 Sound 6 Themes 7 Setup 8 Help
9 Go
10 Stop
11 Window
12 Client
13 Setup
00:22:30 14
655 15
655 16
7 uV 17
10 seconds 18
Eyes Open 19
Current Montage 20
21
22
23 Blinks
Moves
Clench Teeth
Drowsy
Awakens
Start Stim
End Stim
Cough/Sneeze
Loose Sensor
Start Task
End Task
Edit
1 C3-A1 Raw EEG
0.0 kohm
Theta
Beta
Hibeta
Theta Down 0.0 0.0
Beta Up 0.0 0.0
HiBeta Down 0.0 0.0
Theta
Beta
Hibeta
uV pk-pk
Delta
Theta
Alpha
Lobeta
Beta
Hibeta
Gamma
User
Percent Reward 0
24 Training Tab 2 Tab 3 Tab 4 Tab 5 Tab 6 Review Overlay
C:\Users\RMilicia\Documents\BrainMaster\Studies
Temporary Session
stopped

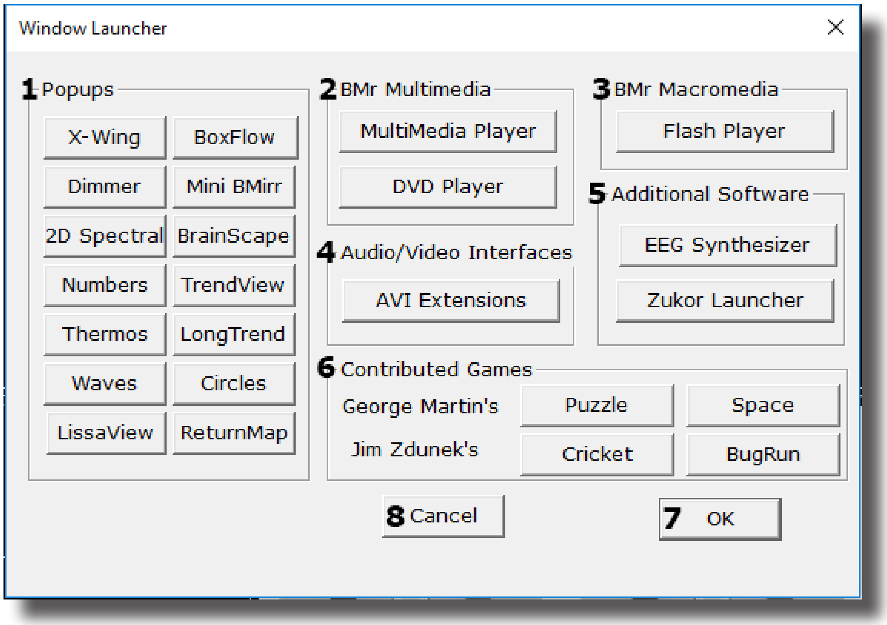
1. **File Tab** – Click to create a new study, open existing study, export files and import a file.
2. **Data Tab** – Click to access COM, filter settings, playback options, and Atlantis Setup Menu.
3. **Display Tab** – Click to choose from various display options. This option will display the chosen option for whatever tab you are currently looking at.
4. **Freq. Bands Tab** – Click to choose what filtered waveforms to display.
5. **Sound Tab** – Click to choose your sound settings.
6. **Themes Tab** – Click to adjust your Theme of the Training Screen.
7. **Setup Tab** – Click to open up the Main Screen Menu.
8. **Help Tab** – Click to view Help information.
9. **GO Button** – Click to run a session. *****PLEASE NOTE:** Be sure that before clicking GO that your BrainMaster Unit is plugged in, installed, and the software is set to the proper COM Port.
10. **STOP Button** – Click to stop a session.
11. **Window Button** – Click to open the Window Menu.
12. **Client Button** – Click to open the Client Training Window.
13. **Setup Button** – Click to open the Main Screen Menu.
14. **Clock Window** – Window that will display the time for your session as defined from the Session Control Menu.
15. **Points 1 Window** – Box that will show the points gained from training.
16. **Points 2 Window** – Box that will show the points gained from training. This will only be activated, if defined either from the Protocol Menu or the Event Wizard.
17. **Gain Box** – Used to change the Gain of the Raw EEG.
18. **Second Box** – Used to change how many seconds of data to be displayed on the screen.

## Training/Control Screen (Continued)


BrainAvatar
1 File 2 Data 3 Display 4 Freq.Bands 5 Sound 6 Themes 7 Setup 8 Help
9 Go
10 Stop
11 Window
12 Client
13 Setup
00:22:30 14
655 15
655 16
7 uV 17
10 seconds 18
Eyes Open 19
Current Montage 20
21
22
23 Blinks
Moves
Clench Teeth
Drowsy
Awakens
Start Stim
End Stim
Cough/Sneeze
Loose Sensor
Start Task
End Task
Edit
HiBeta Down
0.0
0.0
BrainAvatar
24
Training
Tab 2
Tab 3
Tab 4
Tab 5
Tab 6
Revie

19. **Recording Condition Button** – Click change the recording condrtion. When switching between condtions, a New EDF will be created.
20. **Montage Button** – Click to change between saved, and pre-created Montages. ***PLEASE NOTE: The Montage Button will only work in the Training Waveforms Display.
21. **Picture Button** – Click to capture a screenshot of what is happening on the screen. The image will be saved to the Current Study folder.
22. **Report Button** – Click to create a report that will take a screen capture and save the picture in this report.***PLEASE NOTE: Microsoft Word is required for this feature.
23. **Annotation Button** – Click one of the 12 buttons, to annotation Buttons. When this is pressed, it will place a marker on the EDF, and the annotation Buttons name.
24. **Tab Section** – Area where you can switch which display tab you wish to look at.

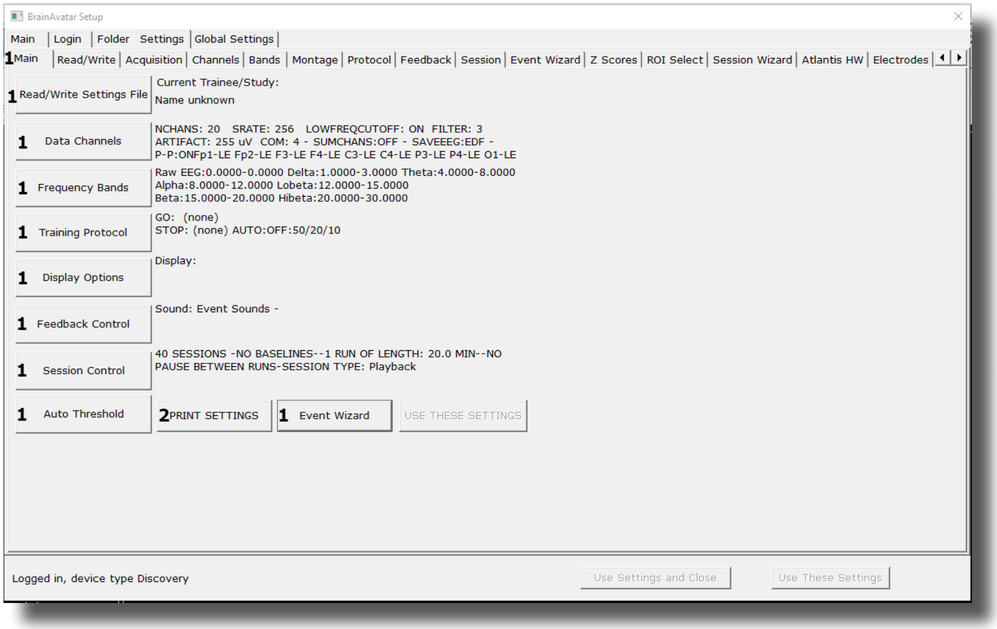
## Window Menu


Window Launcher
1 Popups
X-Wing
BoxFlow
Dimmer
Mini BMirr
2D Spectral
BrainScape
Numbers
TrendView
Thermos
LongTrend
Waves
Circles
LissaView
ReturnMap
2 BMr Multimedia
MultiMedia Player
DVD Player
3 BMr Macromedia
Flash Player
4 Audio/Video Interfaces
AVI Extensions
5 Additional Software
EEG Synthesizer
Zukor Launcher
6 Contributed Games
George Martin's
Puzzle
Space
Jim Zdunek's
Cricket
BugRun
8 Cancel
7 OK

1. **Popups Section** – Click the included buttons to launch additional display/training feedback options used for feedback. ***PLEASE NOTE: More Information on the Popups Section in document 531-343.
2. **BMr Multimedia Section*** – Click the included buttons to launch either BMrDVD* or BMrMMP* used for feedback. ***PLEASE NOTE: More Information on the Popups Section in document 531-308.
3. **BMr Macromedia Section** – Click the included buttons to launch the BMrFlashPlayer used for feedback. ***PLEASE NOTE: More Information on the Popups Section in document 531-313.
4. **Audio/Video Interfaces Section** – Click the included buttons to launch EEGAudio*. ***PLEASE NOTE: More Information on the Popups Section in document 531-308.
5. **Additional Software Section** – Click the included buttons to launch additional software.
6. **Contributed Games Section** – Click the included buttons to launch contributed games used for feedback. ***PLEASE NOTE: More Information on the Popups Section in document 531-343.
7. **OK Button** – Click to close the Window Menu.
8. **Cancel Button** – Click to close the Window Menu.

**BMrMMP, BMrDVD, and EEGAudio make up the MultiMediaPlayer Suite. MultiMediaPlayer is an Optional Purchase.*

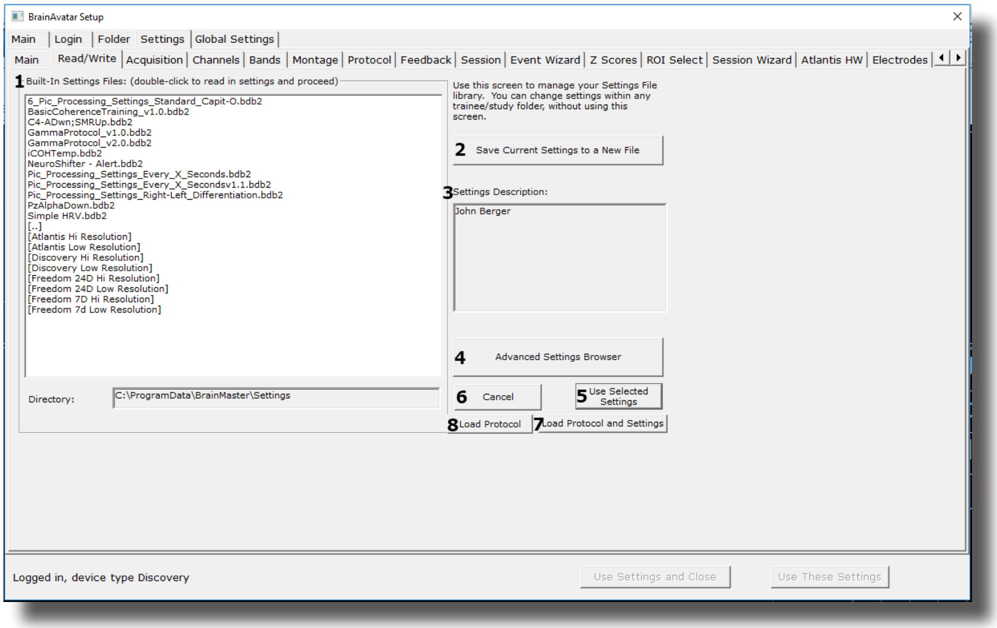
## Setup Options Menu


BrainAvatar Setup
Main
Login
Folder
Settings
Global Settings
1
Main
Read/Write
Acquisition
Channels
Bands
Montage
Protocol
Feedback
Session
Event Wizard
Z Scores
ROI Select
Session Wizard
Atlantis HW
Electrodes
1 Read/Write Settings File
1 Data Channels
1 Frequency Bands
1 Training Protocol
1 Display Options
1 Feedback Control
1 Session Control
1 Auto Threshold
2 PRINT SETTINGS
1 Event Wizard
USE THESE SETTINGS
Use Settings and Close
Use These Settings

```
Current Trainee/Study:
Name unknown

NCHANS: 20   SRATE: 256   LOWFREQCUTOFF: ON  FILTER: 3
ARTIFACT: 255 uV  COM: 4 - SUMCHANS:OFF - SAVEEEG:EDF -
P-P:ONFp1-LE Fp2-LE F3-LE F4-LE C3-LE C4-LE P3-LE P4-LE O1-LE

Raw EEG:0.0000-0.0000 Delta:1.0000-3.0000 Theta:4.0000-8.0000
Alpha:8.0000-12.0000 Lobeta:12.0000-15.0000
Beta:15.0000-20.0000 Hibeta:20.0000-30.0000

GO:  (none)
STOP: (none) AUTO:OFF:50/20/10

Display:

Sound: Event Sounds -

40 SESSIONS -NO BASELINES--1 RUN OF LENGTH: 20.0 MIN--NO
PAUSE BETWEEN RUNS-SESSION TYPE: Playback

Logged in, device type Discovery
```

1. **Various Menu Buttons** – Click to open the associated menus.  You can also click the tabs that are located at the top.
2. **PRINT SETTINGS Button** – Click to print a hard copy of all of your Settings.

## Read/Write Settings File Menu


BrainAvatar Setup
Main
Login
Folder
Settings
Global Settings
Main
Read/Write
Acquisition
Channels
Bands
Montage
Protocol
Feedback
Session
Event Wizard
Z Scores
ROI Select
Session Wizard
Atlantis HW
Electrodes
1
2 Save Current Settings to a New File
3
4 Advanced Settings Browser
6 Cancel
5 Use Selected Settings
8 Load Protocol
7 Load Protocol and Settings
Use Settings and Close
Use These Settings

Built-In Settings Files: (double-click to read in settings and proceed)

6_Pic_Processing_Settings_Standard_Capit-O.bdb2
BasicCoherenceTraining_v1.0.bdb2
C4-ADwn;SMRUp.bdb2
GammaProtocol_v1.0.bdb2
GammaProtocol_v2.0.bdb2
iCOHTemp.bdb2
NeuroShifter - Alert.bdb2
Pic_Processing_Settings_Every_X_Seconds.bdb2
Pic_Processing_Settings_Every_X_Secondsv1.1.bdb2
Pic_Processing_Settings_Right-Left_Differentiation.bdb2
PzAlphaDown.bdb2
Simple HRV.bdb2
[..]
[Atlantis Hi Resolution]
[Atlantis Low Resolution]
[Discovery Hi Resolution]
[Discovery Low Resolution]
[Freedom 24D Hi Resolution]
[Freedom 24D Low Resolution]
[Freedom 7D Hi Resolution]
[Freedom 7d Low Resolution]

Directory: C:\ProgramData\BrainMaster\Settings

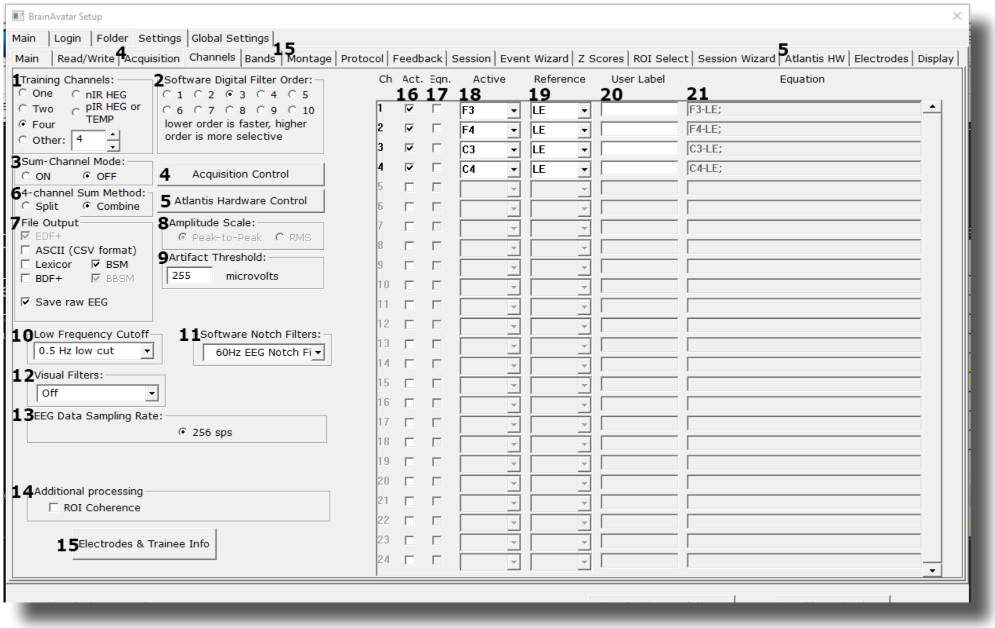
Use this screen to manage your Settings File library. You can change settings within any trainee/study folder, without using this screen.

Settings Description: John Berger

Logged in, device type Discovery

1. **Settings File Name Section** – Section where a new setting may be selected. If you would like to have the selected setting file used in your Studies folder, you may double-click the Settings file to read the settings file into the folder. In the Directory Box, it will let you know which folder you are currently in. ***PLEASE NOTE: Find more Information on this selection in document 531-311.
2. **Save Current Settings to a New File Button** – Click to save the current Studies folders settings into a new Settings file. ***PLEASE NOTE: Find more Information on this selection in document 531-311.
3. **Settings Description Section** - Lists out basic information about the highlighted Settings File.
4. **Advanced Settings Browser Button** – Opens Windows Explorer, to allow you to use Windows Explorer to find the Settings Protocol you would like to select. ***PLEASE NOTE: Find more Information on this selection in document 531-311.
5. **Use Selected Settings Button** – Click to choose the highlighted protocol contained in the Settings File Name Section.
6. **Cancel Button** – Click to cancel changes and exit the Read/Write Settings File Menu.
7. **Load Protocol and Settings Button** - Click to utlize an XML generated from supported 3rd Party applications and select the proper settings file.
8. **Load Protocol Button** - Click to utilize an XML generated from supported 3rd Party applications in the currently loaded settings.

## Data Channels Menu


BrainAvatar Setup
Main
Login
Folder
Settings
Global Settings
Main
Read/Write
4
Acquisition
Channels
Bands
15
Montage
Protocol
Feedback
Session
Event Wizard
Z Scores
ROI Select
Session Wizard
5
Atlantis HW
Electrodes
Display
1
2
3
4
Acquisition Control
5
Atlantis Hardware Control
6
7
8
9
10
11
12
13
14
15
Electrodes & Trainee Info
16
17
18
19
20
21

1 Training Channels: ○ One ○ Two ● Four ○ Other: 4 ○ nIR HEG ○ pIR HEG or TEMP

2 Software Digital Filter Order: ○ 1 ○ 2 ● 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9 ○ 10

lower order is faster, higher order is more selective

3 Sum-Channel Mode: ○ ON ● OFF

6 4-channel Sum Method: ○ Split ● Combine

7 File Output: ☑ EDF+ ☐ ASCII (CSV format) ☐ Lexicor ☑ BSM ☐ BDF+ ☑ BBSM ☑ Save raw EEG

8 Amplitude Scale: ● Peak-to-Peak ○ RMS

9 Artifact Threshold: 255 microvolts

10 Low Frequency Cutoff: 0.5 Hz low cut

11 Software Notch Filters: 60Hz EEG Notch Fi

12 Visual Filters: Off

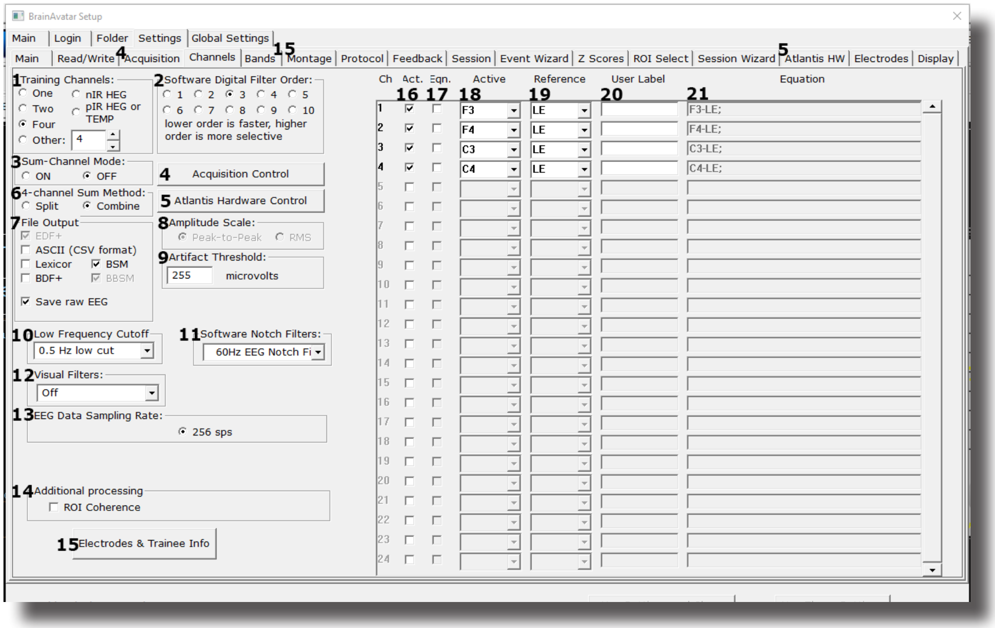
13 EEG Data Sampling Rate: ● 256 sps

14 Additional processing: ☐ ROI Coherence

| Ch | Act. | Eqn. | Active | Reference | User Label | Equation |
|---|---|---|---|---|---|---|
| 1 | ☑ | ☐ | F3 | LE | | F3-LE; |
| 2 | ☑ | ☐ | F4 | LE | | F4-LE; |
| 3 | ☑ | ☐ | C3 | LE | | C3-LE; |
| 4 | ☑ | ☐ | C4 | LE | | C4-LE; |
| 5 | ☐ | ☐ | | | | |
| 6 | ☐ | ☐ | | | | |
| 7 | ☐ | ☐ | | | | |
| 8 | ☐ | ☐ | | | | |
| 9 | ☐ | ☐ | | | | |
| 10 | ☐ | ☐ | | | | |
| 11 | ☐ | ☐ | | | | |
| 12 | ☐ | ☐ | | | | |
| 13 | ☐ | ☐ | | | | |
| 14 | ☐ | ☐ | | | | |
| 15 | ☐ | ☐ | | | | |
| 16 | ☐ | ☐ | | | | |
| 17 | ☐ | ☐ | | | | |
| 18 | ☐ | ☐ | | | | |
| 19 | ☐ | ☐ | | | | |
| 20 | ☐ | ☐ | | | | |
| 21 | ☐ | ☐ | | | | |
| 22 | ☐ | ☐ | | | | |
| 23 | ☐ | ☐ | | | | |
| 24 | ☐ | ☐ | | | | |

1. **Training Channels Section** – Section where you choose the EEG Channels for feedback.
2. **Software Digital Filter Order Sections** – Section where you set the Digital Filter order. The higher the filter order, the more selective the system is.
3. **Sum-Channel Mode Section** – Section where you set the Sum-Channel mode on or off.
4. **Acquisition Control Button** – Click to enter the Acquisition Control Menu. You can also click the Acquisition tab at the top.
5. **Atlantis Hardware Control Button** – Click to enter the Atlantis Hardware Control Menu. You can also click the Atlantis HW tab at the top.
6. **4-Channel Sum Method Section** – Section where you can set the 4-Channel Sum Method to either Split or Combine.
7. **File Output Section** – Section where you can choose what type of File Outputs that you would like to be created for review.
8. **Amplitude Scale Section** – Section where you can set the Amplitude scale to either Peak-to-Peak or RMS.
9. **Artifact Threshold Section** – Section where you can adjust the artifact rejection range.
10. **Low Frequency Cutoff Section** – Section where you can enable or disable the Low Frequency Cutoff.
11. **Software Notch Filters Section** – Section where you can turn on or off the Software notch filters.
12. **Visual Filters Section** - Section where you can turn on a Visual Filter that displays the data with a filter of 1.5 - 34Hz.
13. **EEG Data Sampling Rate Section** – Section where you can adjust the Sample rate you are collecting from the data.

## Data Channels Menu (Continued)


BrainAvatar Setup
Main | Login | Folder | Settings | Global Settings
Main | Read/Write | Acquisition | Channels | Bands | Montage | Protocol | Feedback | Session | Event Wizard | Z Scores | ROI Select | Session Wizard | Atlantis HW | Electrodes | Display
1 Training Channels:
One
Two
Four
Other:
nIR HEG
pIR HEG or TEMP
2 Software Digital Filter Order:
1 2 3 4 5 6 7 8 9 10
3 Sum-Channel Mode:
ON OFF
4 Acquisition Control
5 Atlantis Hardware Control
6 4-channel Sum Method:
Split Combine
7 File Output
EDF+
ASCII (CSV format)
Lexicor
BSM
BDF+
BBSM
Save raw EEG
8 Amplitude Scale:
Peak-to-Peak RMS
9 Artifact Threshold:
10 Low Frequency Cutoff
11 Software Notch Filters:
12 Visual Filters:
13 EEG Data Sampling Rate:
14 Additional processing
ROI Coherence
15 Electrodes & Trainee Info
Ch | Act. | Eqn. | Active | Reference | User Label | Equation
16 17 18 19 20 21
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
4 15 5

Training Channels: ● Four; Other: 4

Software Digital Filter Order: ● 3

lower order is faster, higher order is more selective

Sum-Channel Mode: ● OFF

4-channel Sum Method: ● Combine

File Output: ☑ EDF+ ☐ ASCII (CSV format) ☐ Lexicor ☑ BSM ☐ BDF+ ☑ BBSM ☑ Save raw EEG

Amplitude Scale: ● Peak-to-Peak

Artifact Threshold: 255 microvolts

Low Frequency Cutoff: 0.5 Hz low cut

Software Notch Filters: 60Hz EEG Notch Fi

Visual Filters: Off

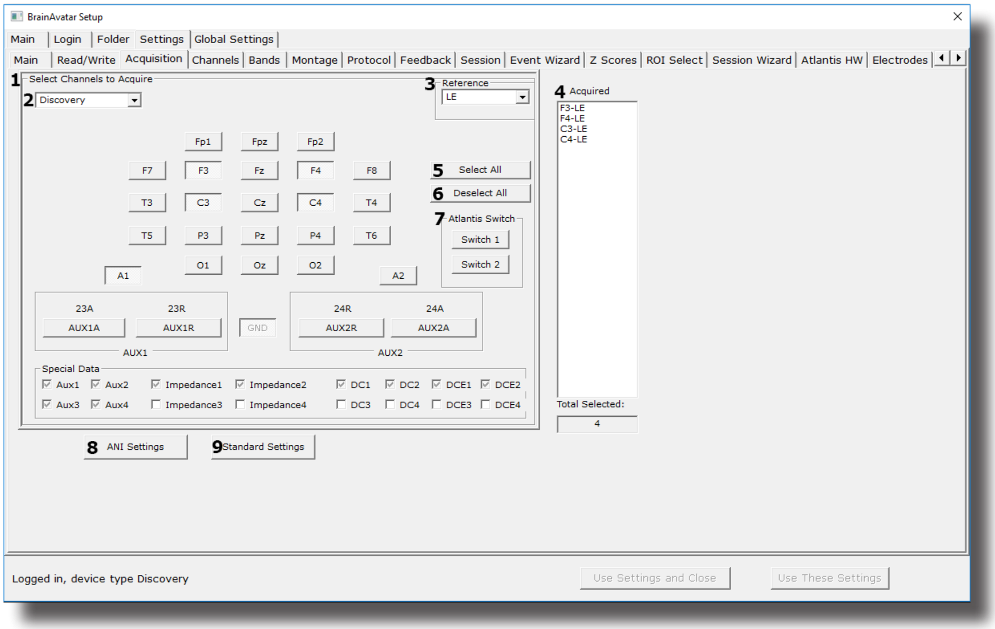
EEG Data Sampling Rate: ● 256 sps

Additional processing: ☐ ROI Coherence

| Ch | Act. | Eqn. | Active | Reference | User Label | Equation |
|---|---|---|---|---|---|---|
| 1 | ☑ | ☐ | F3 | LE | | F3-LE; |
| 2 | ☑ | ☐ | F4 | LE | | F4-LE; |
| 3 | ☑ | ☐ | C3 | LE | | C3-LE; |
| 4 | ☑ | ☐ | C4 | LE | | C4-LE; |

14. **Additional Processing Checkbox -** Click to choose additional settings for additional data processing
15. **Electrode & Trainee Info Button** – Click to enter the Montage Menu. You can also click the Montage tab at the top.
16. **Channel Check Boxes** – Check boxes to control what channels will be trained. ***PLEASE NOTE: These settings can also be adjusted in the Montage Info Menu.
17. **Equation Check Boxes** – Allows you to toggle between Channel combinations defined by the Active and reference site boxes or the Equation Box for the Channel. ***PLEASE NOTE: These settings can also be adjusted in the Montage Info Menu.
18. **Active Site Boxes** – Boxes where you can choose the active site location. ***PLEASE NOTE: These settings can also be adjusted in the Montage Info Menu.
19. **Reference Site Boxes** – Boxes where you can choose the reference site location. ***PLEASE NOTE: These settings can also be adjusted in the Montage Info Menu.
20. **User Label Box** – Allows you to give a name to the Channel, as opposed to being displayed as the Channel Combination or Equation. ***PLEASE NOTE: These settings can also be adjusted in the Montage Info Menu.
21. **Equation Box** – Allows you to define the channel, through an equation, rather than just an Active and Reference Electrode. ***PLEASE NOTE: These settings can also be adjusted in the Montage Info Menu.

## Acquisition Control Menu


BrainAvatar Setup
Main
Login
Folder
Settings
Global Settings
Main
Read/Write
Acquisition
Channels
Bands
Montage
Protocol
Feedback
Session
Event Wizard
Z Scores
ROI Select
Session Wizard
Atlantis HW
Electrodes
1
Select Channels to Acquire
2
3
Reference
4
Acquired
Fp1
Fpz
Fp2
F7
F3
Fz
F4
F8
T3
C3
Cz
C4
T4
T5
P3
Pz
P4
T6
O1
Oz
O2
A1
A2
5
Select All
6
Deselect All
7
Atlantis Switch
Switch 1
Switch 2
23A
23R
AUX1A
AUX1R
GND
24R
24A
AUX2R
AUX2A
AUX1
AUX2
Special Data
8
ANI Settings
9
Standard Settings
Use Settings and Close
Use These Settings

Select Channels to Acquire: Discovery

Reference: LE

Acquired:
F3-LE
F4-LE
C3-LE
C4-LE

Total Selected: 4

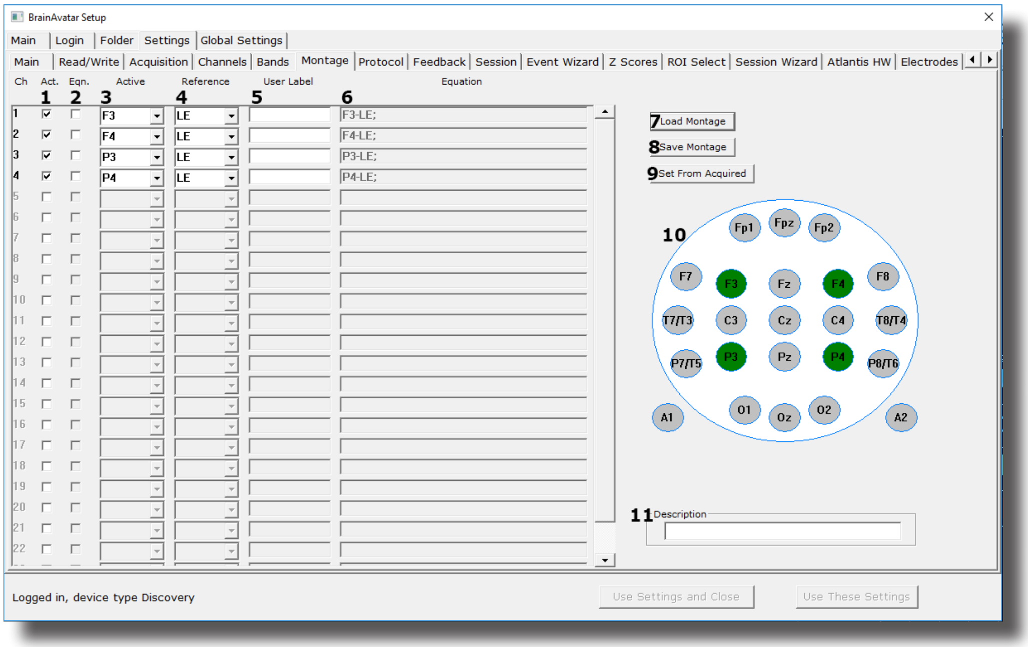
Special Data:
☑ Aux1 ☑ Aux2 ☑ Impedance1 ☑ Impedance2 ☑ DC1 ☑ DC2 ☑ DCE1 ☑ DCE2
☑ Aux3 ☑ Aux4 ☐ Impedance3 ☐ Impedance4 ☐ DC3 ☐ DC4 ☐ DCE3 ☐ DCE4

Logged in, device type Discovery

1. **Select Channels to Acquire Section** – Section where you can choose individual channels to either acquire, or not acquire from, or which Hardware you are utilizing.
2. **Special Data Section** – This section is for the Atlantis Data. It will allow you to choose special data for the Atlantis to use.
3. **Reference Section** – This section is used to define the type of reference you would like to use for the Acquisition. You can choose either LE (Linked Ears) or A1.
4. **Acquired Channels Section** – Section that displays the current channels that are being acquired from.
5. **Select All Button** – Click to select to acquire from all 24 Channels.
6. **Deselect All Button** – Click to De-select all channels being acquired.
7. **Atlantis Switch Section** – This section is for the Atlantis Data. It will allow you to choose to acquire the Switch* Outputs of the Atlantis Hardware
8. **ANI Settings Button** – Click to change the acquired channels into the ANI Channel order
9. **Standard Settings Button** – Click to change the acquired channels into the standard Discovery channel order.

**Atlantis Switch outputs do not come standard*

## Montage Info Menu

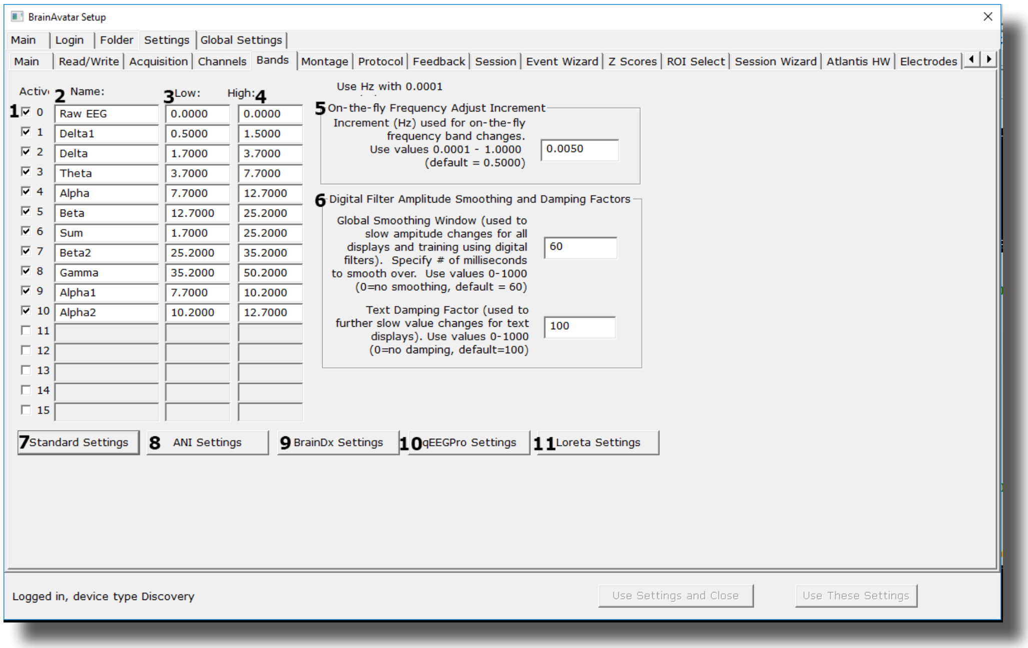

BrainAvatar Setup
Main | Login | Folder | Settings | Global Settings
Main | Read/Write | Acquisition | Channels | Bands | Montage | Protocol | Feedback | Session | Event Wizard | Z Scores | ROI Select | Session Wizard | Atlantis HW | Electrodes
1
2
3
4
5
6
7 Load Montage
8 Save Montage
9 Set From Acquired
10
Fp1
Fpz
Fp2
F7
F3
Fz
F4
F8
T7/T3
C3
Cz
C4
T8/T4
P7/T5
P3
Pz
P4
P8/T6
A1
O1
Oz
O2
A2
11 Description
Use Settings and Close
Use These Settings

| Ch | Act. | Eqn. | Active | Reference | User Label | Equation |
|---|---|---|---|---|---|---|
| 1 | ☑ | ☐ | F3 | LE | | F3-LE; |
| 2 | ☑ | ☐ | F4 | LE | | F4-LE; |
| 3 | ☑ | ☐ | P3 | LE | | P3-LE; |
| 4 | ☑ | ☐ | P4 | LE | | P4-LE; |
| 5 | ☐ | ☐ | | | | |
| 6 | ☐ | ☐ | | | | |
| 7 | ☐ | ☐ | | | | |
| 8 | ☐ | ☐ | | | | |
| 9 | ☐ | ☐ | | | | |
| 10 | ☐ | ☐ | | | | |
| 11 | ☐ | ☐ | | | | |
| 12 | ☐ | ☐ | | | | |
| 13 | ☐ | ☐ | | | | |
| 14 | ☐ | ☐ | | | | |
| 15 | ☐ | ☐ | | | | |
| 16 | ☐ | ☐ | | | | |
| 17 | ☐ | ☐ | | | | |
| 18 | ☐ | ☐ | | | | |
| 19 | ☐ | ☐ | | | | |
| 20 | ☐ | ☐ | | | | |
| 21 | ☐ | ☐ | | | | |
| 22 | ☐ | ☐ | | | | |

Logged in, device type Discovery

1. **Channel Check Boxes** – Check boxes to control what channels will be trained. *****PLEASE NOTE:** These settings can also be adjusted in the Data Channels Menu.
2. **Equation Check Boxes** – Allows you to toggle between Channel combinations defined by the Active and reference site boxes or the Equation Box for the Channel. *****PLEASE NOTE:** These settings can also be adjusted in the Data Channels Menu.
3. **Active Site Boxes** – Boxes where you can choose the active site location. *****PLEASE NOTE:** These settings can also be adjusted in the Data Channels Menu.
4. **Reference Site Boxes** – Boxes where you can choose the reference site location. *****PLEASE NOTE:** These settings can also be adjusted in the Montage Info Menu.
5. **User Label Box** – Allows you to give a name to the Channel, as opposed to being displayed as the Channel Combination or Equation. *****PLEASE NOTE:** These settings can also be adjusted in the Data Channels Menu.
6. **Equation Box** – Allows you to define the channel, through an equation, rather than just a Active and Reference Electrode. *****PLEASE NOTE:** These settings can also be adjusted in the Data Channels Menu.
7. **Load Montage Button** – Click to load a pre-existing montage(.bmm).
8. **Save Montage Button** – Click to save your created montage for future use as a .bmm.
9. **Set From Acquired Button** – Click to load the electrode placements from the Acquisition screen.
10. **Electrode Selection Display** – Section that displays the electrodes that have been selected in either the Active or Reference section of the Montage Screen.
11. **Description Box** – This box displays the Description given to a saved Montage when loaded into the system. This will be blank if a Montage has not been loaded.

## Frequency Bands Menu


BrainAvatar Setup
Main
Login
Folder
Settings
Global Settings
Main
Read/Write
Acquisition
Channels
Bands
Montage
Protocol
Feedback
Session
Event Wizard
Z Scores
ROI Select
Session Wizard
Atlantis HW
Electrodes
1
2
3
4
5
6
7 Standard Settings
8 ANI Settings
9 BrainDx Settings
10 qEEGPro Settings
11 Loreta Settings
Use Settings and Close
Use These Settings

Use Hz with 0.0001

| Activ |  | Name: | Low: | High: |
|---|---|---|---|---|
| ☑ | 0 | Raw EEG | 0.0000 | 0.0000 |
| ☑ | 1 | Delta1 | 0.5000 | 1.5000 |
| ☑ | 2 | Delta | 1.7000 | 3.7000 |
| ☑ | 3 | Theta | 3.7000 | 7.7000 |
| ☑ | 4 | Alpha | 7.7000 | 12.7000 |
| ☑ | 5 | Beta | 12.7000 | 25.2000 |
| ☑ | 6 | Sum | 1.7000 | 25.2000 |
| ☑ | 7 | Beta2 | 25.2000 | 35.2000 |
| ☑ | 8 | Gamma | 35.2000 | 50.2000 |
| ☑ | 9 | Alpha1 | 7.7000 | 10.2000 |
| ☑ | 10 | Alpha2 | 10.2000 | 12.7000 |
| ☐ | 11 |  |  |  |
| ☐ | 12 |  |  |  |
| ☐ | 13 |  |  |  |
| ☐ | 14 |  |  |  |
| ☐ | 15 |  |  |  |

On-the-fly Frequency Adjust Increment

Increment (Hz) used for on-the-fly frequency band changes. Use values 0.0001 - 1.0000 (default = 0.5000): 0.0050

Digital Filter Amplitude Smoothing and Damping Factors

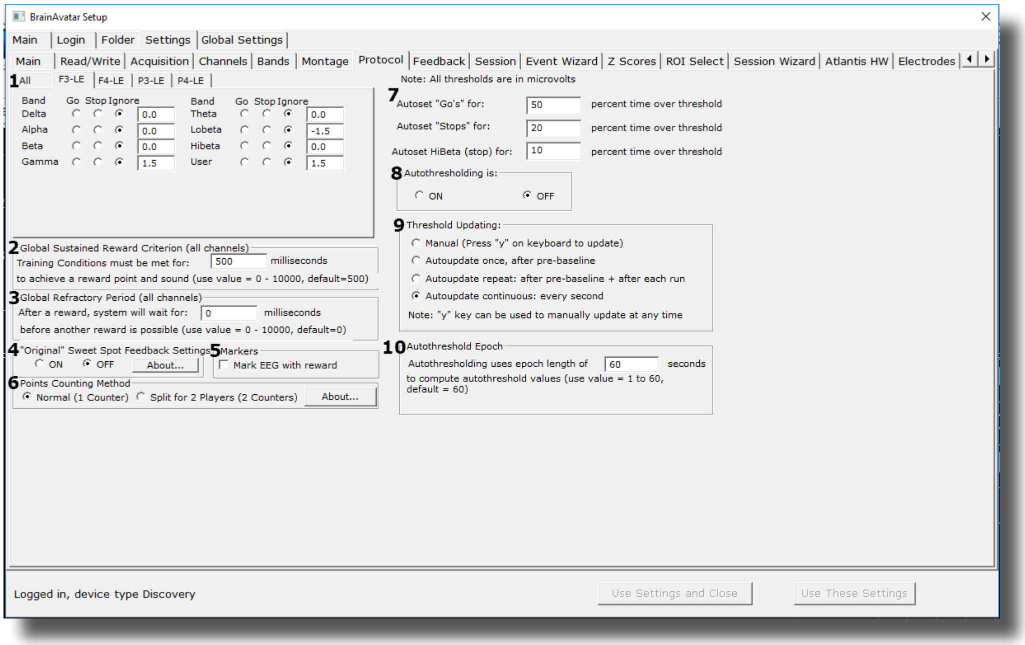
Global Smoothing Window (used to slow amplitude changes for all displays and training using digital filters). Specify # of milliseconds to smooth over. Use values 0-1000 (0=no smoothing, default = 60): 60

Text Damping Factor (used to further slow value changes for text displays). Use values 0-1000 (0=no damping, default=100): 100

Logged in, device type Discovery

1. **Frequency Band Check Boxes** – Check Boxes to control what frequency bands are active.
2. **Name Boxes** – Boxes where you can name/rename any frequency bands.
3. **Low Boxes** – Boxes that you set the Low Hz of the Frequency Band.
4. **High Boxes** – Boxes that you set the High Hz of the Frequency Band.
5. **On-the-fly Frequency Adjustment Increment Section** – Section where the increment of the On-the-fly frequency adjustment can be adjusted. On-the-fly Frequency Adjustment is performed during training. While training is occurring, simply click the Tab button, then click the button letter associated for the band to be adjusted (d=Delta, t=Theta, a=Alpha, l=Lobeta, b=Beta, h=High Beta, g-Gamma, u=User).
6. **Digital Filter Amplitude Smoothing and Damping Factors Section** – Section where Global Smoothing Window and Text Damping Factor can be adjusted.
7. **Standard Settings Button** – Click to adjust all frequency bands to the default settings.
8. **ANI Settings Button** – Click to adjust all frequency bands to the standard LORETA settings.
9. **BrainDX Settings Button** – Click to adjust all frequency bands to the BrainDX Settings.
10. **qEEGPro Settings Button** – Click to adjust all frequency bands to the Default qEEGPro Settings.
11. **Loreta Settings Button** – Click to adjust all frequency bands to the ANI Settings.

## Training Protocol Menu


BrainAvatar Setup
Main | Login | Folder | Settings | Global Settings
Main | Read/Write | Acquisition | Channels | Bands | Montage | Protocol | Feedback | Session | Event Wizard | Z Scores | ROI Select | Session Wizard | Atlantis HW | Electrodes
1
All | F3-LE | F4-LE | P3-LE | P4-LE
2
3
4
5
6
7
8
9
10
About...
About...
Use Settings and Close
Use These Settings

Note: All thresholds are in microvolts

| Band | Go | Stop | Ignore | | Band | Go | Stop | Ignore | |
|---|---|---|---|---|---|---|---|---|---|
| Delta | ○ | ○ | ● | 0.0 | Theta | ○ | ○ | ● | 0.0 |
| Alpha | ○ | ○ | ● | 0.0 | Lobeta | ○ | ○ | ● | -1.5 |
| Beta | ○ | ○ | ● | 0.0 | Hibeta | ○ | ○ | ● | 0.0 |
| Gamma | ○ | ○ | ● | 1.5 | User | ○ | ○ | ● | 1.5 |

Global Sustained Reward Criterion (all channels)
Training Conditions must be met for: 500 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: 0 milliseconds
before another reward is possible (use value = 0 - 10000, default=0)

"Original" Sweet Spot Feedback Settings
○ ON ● OFF

Markers
☐ Mark EEG with reward

Points Counting Method
● Normal (1 Counter) ○ Split for 2 Players (2 Counters)

Autoset "Go's" for: 50 percent time over threshold
Autoset "Stops" for: 20 percent time over threshold
Autoset HiBeta (stop) for: 10 percent time over threshold

Autothresholding is:
○ ON ● OFF

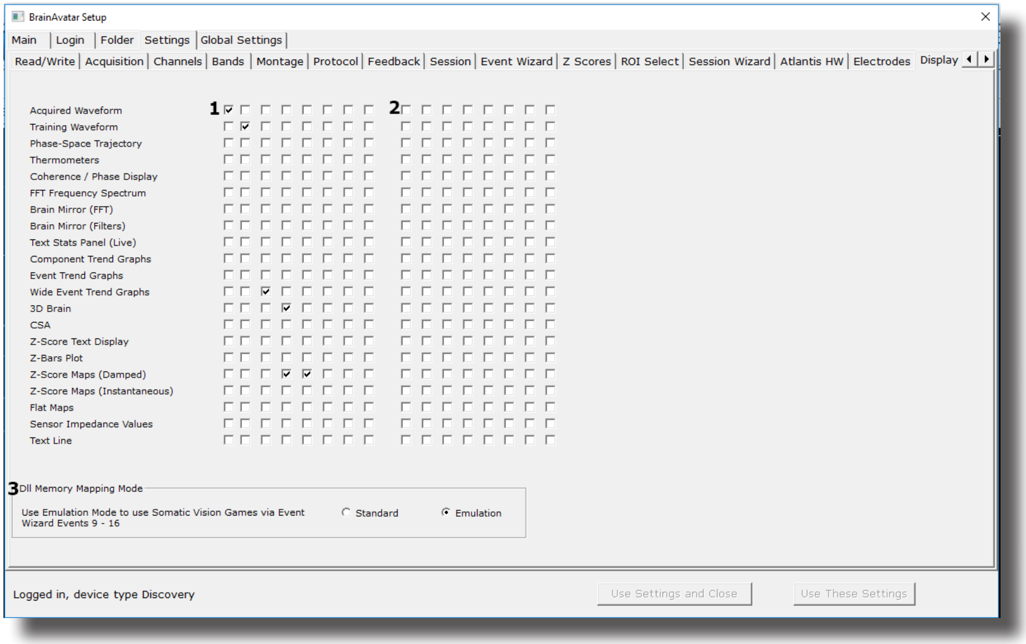
Threshold Updating:
○ Manual (Press "y" on keyboard to update)
○ Autoupdate once, after pre-baseline
○ Autoupdate repeat: after pre-baseline + after each run
● Autoupdate continuous: every second
Note: "y" key can be used to manually update at any time

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

Logged in, device type Discovery

1. **Frequency Training Section** – Section where you can set the training thresholds and type of training for all defined bands from the Frequency Bands Menu, for each of the defined Training Bands defined on either the Data Channels or Montage Info Menu. *****PLEASE NOTE:** If you use the "All Tab, this will define the training for that band on all defined Training Channels.
2. **Global Sustained Rewards Criterion Section** – Section to adjust the time where training conditions length must be met for a reward point and sound.
3. **Global Refractory Period Section** – Section to adjust the time the system will wait before another reward point can be rewarded.
4. **"Original" Sweet Spot Feedback Settings Section** – Section to turn on and off the "Original" Sweet Spot Feedback Settings. For more information, on the "Original" Sweet Spot Feedback Settings, click the About... Button.
5. **Markers Check Box** – Check Box that allows you to choose whether or not you would like to Mark the EEG whenever a reward is given.
6. **Points Counting Method Section** – Section to change between one or two counters for training. Visit www.brainm.com/kb/entry/111 for more information.
7. **Autoset Percent Section** – Section to set the percent time over threshold settings for the Go's, Stops and HiBeta(stop).
8. **Autothresholding Is: Section** – Section to turn on or off Autothresholding.
9. **Threshold Updating: Section** – Section where you can set the threshold updating options.
10. **Autothreshold Epoch Section** – Section where you can adjust the epoch to compute the autothreshold value.

## Display Options Menu


BrainAvatar Setup
Main
Login
Folder
Settings
Global Settings
Read/Write
Acquisition
Channels
Bands
Montage
Protocol
Feedback
Session
Event Wizard
Z Scores
ROI Select
Session Wizard
Atlantis HW
Electrodes
Display
Use Settings and Close
Use These Settings

| | 1 | | | | | | | | 2 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Acquired Waveform | ☑ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Training Waveform | ☐ | ☑ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Phase-Space Trajectory | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Thermometers | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Coherence / Phase Display | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| FFT Frequency Spectrum | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Brain Mirror (FFT) | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Brain Mirror (Filters) | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Text Stats Panel (Live) | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Component Trend Graphs | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Event Trend Graphs | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Wide Event Trend Graphs | ☐ | ☐ | ☑ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 3D Brain | ☐ | ☐ | ☐ | ☑ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| CSA | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Z-Score Text Display | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Z-Bars Plot | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Z-Score Maps (Damped) | ☐ | ☐ | ☐ | ☑ | ☑ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Z-Score Maps (Instantaneous) | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Flat Maps | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Sensor Impedance Values | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Text Line | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

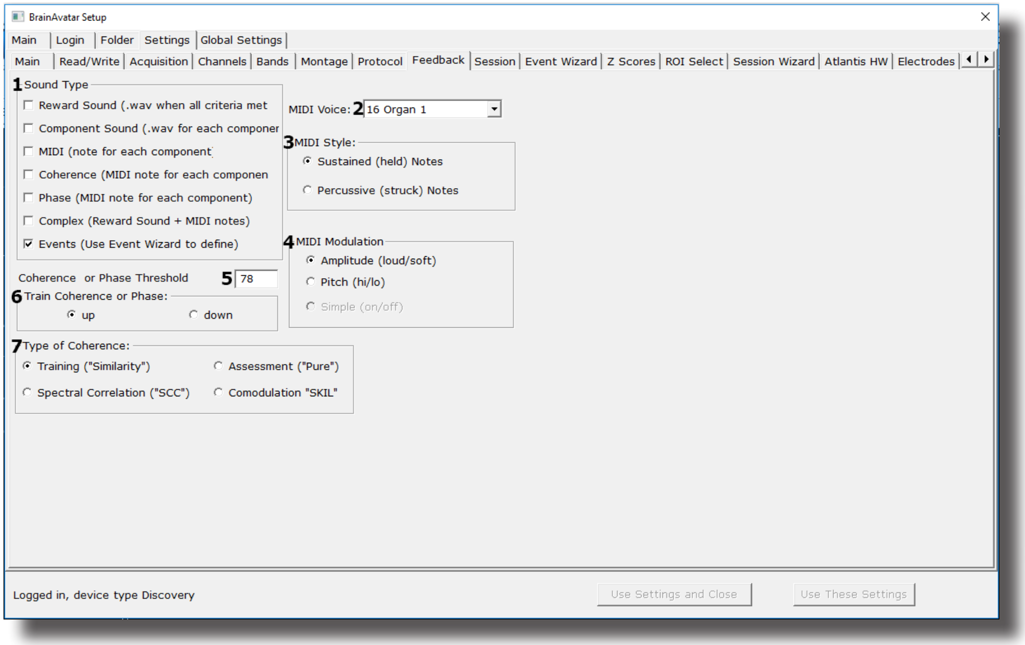
3 Dll Memory Mapping Mode

Use Emulation Mode to use Somatic Vision Games via Event Wizard Events 9 - 16 ○ Standard ● Emulation

Logged in, device type Discovery

1. **Trainer Check Boxes** – Checkboxes to control what displays are active on each individual tab for the Training/Control Screen.
2. **Client Check Boxes** – Checkboxes to control what displays are active on each individual tab for the Client Screen.
3. **DLL Memory Mapping Mode Section** – Section where you can choose the DLL Memory Mapping Mode you are using.

## Feedback Control Menu


BrainAvatar Setup
Main | Login | Folder | Settings | Global Settings
Main | Read/Write | Acquisition | Channels | Bands | Montage | Protocol | Feedback | Session | Event Wizard | Z Scores | ROI Select | Session Wizard | Atlantis HW | Electrodes
1
2
3
4
5
6
7
Use Settings and Close
Use These Settings

Sound Type
☐ Reward Sound (.wav when all criteria met
☐ Component Sound (.wav for each componer
☐ MIDI (note for each component
☐ Coherence (MIDI note for each componen
☐ Phase (MIDI note for each component)
☐ Complex (Reward Sound + MIDI notes)
☑ Events (Use Event Wizard to define)

MIDI Voice: 16 Organ 1

MIDI Style:
● Sustained (held) Notes
○ Percussive (struck) Notes

MIDI Modulation
● Amplitude (loud/soft)
○ Pitch (hi/lo)
○ Simple (on/off)

Coherence or Phase Threshold 78

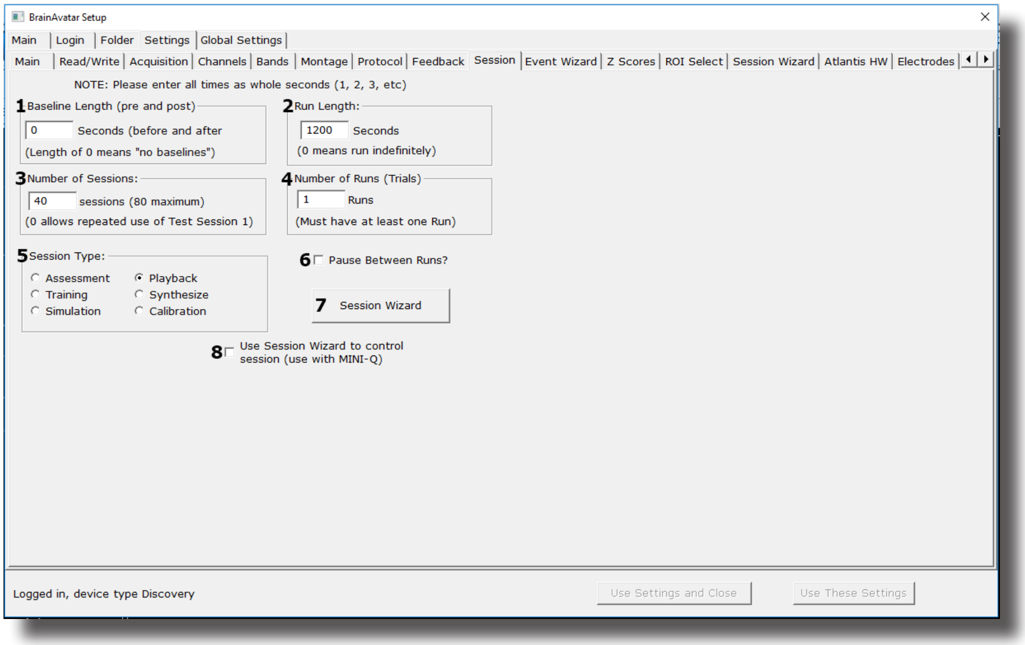
Train Coherence or Phase:
● up ○ down

Type of Coherence:
● Training ("Similarity") ○ Assessment ("Pure")
○ Spectral Correlation ("SCC") ○ Comodulation "SKIL"

Logged in, device type Discovery

1. **Sound Type Section** – Section where you can choose the sound type for training *****PLEASE NOTE:** All Sounds can also either be turned on or off by clicking the Sound Tab of the Training/Control Screen.
2. **Midi Voice Section** – Section where you can choose the type of MIDI sound for feedback that utilizes MIDI Playback.
3. **MIDI Style Section** – Section where you can choose the MIDI Style for feedback that utilizes MIDI Playback.
4. **MIDI Modulation Section** – Section where you can choose the MIDI Modulation for feedback that utilizes MIDI Playback.
5. **Coherence or Phase Threshold Section** – Section where you can adjust the threshold for either Coherence or Phase training.
6. **Train Coherence or Phase Section** – Section where you can adjust the method of training for either Coherence or Phase training.
7. **Type of Coherence Section** – Section where you can choose the type of Coherence training.

## Session Control Menu


BrainAvatar Setup
Main | Login | Folder | Settings | Global Settings
Main | Read/Write | Acquisition | Channels | Bands | Montage | Protocol | Feedback | Session | Event Wizard | Z Scores | ROI Select | Session Wizard | Atlantis HW | Electrodes
1
2
3
4
5
6
7
8
Session Wizard
Use Settings and Close
Use These Settings

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

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

Run Length:
1200 Seconds
(0 means run indefinitely)

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

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

Session Type:
○ Assessment ● Playback
○ Training ○ Synthesize
○ Simulation ○ Calibration

☐ Pause Between Runs?

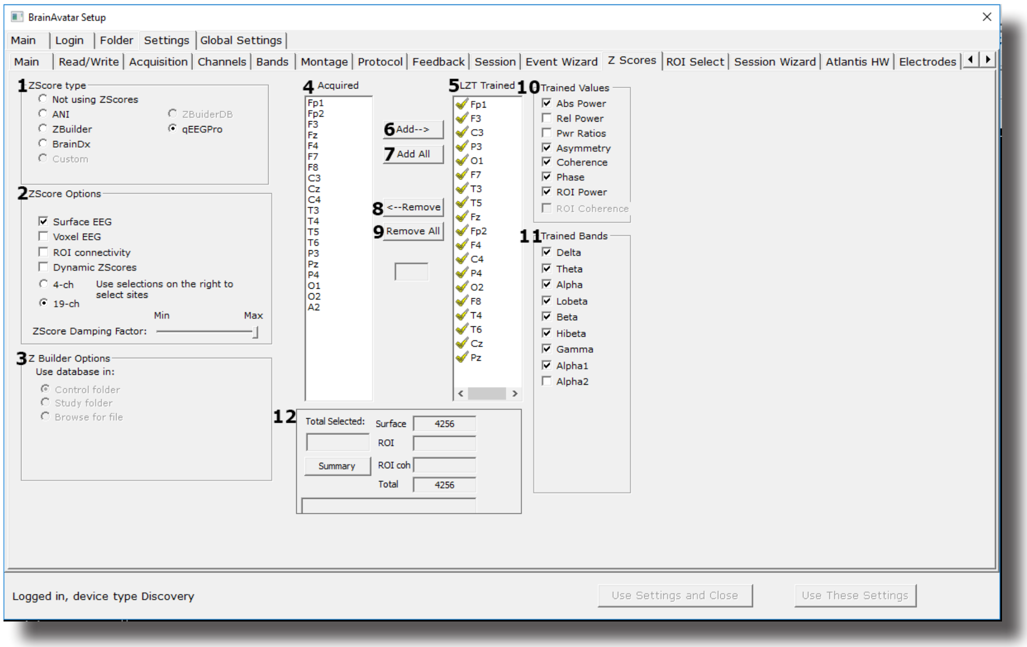
☐ Use Session Wizard to control session (use with MINI-Q)

Logged in, device type Discovery

1. **Baseline Length Section** – Section where you can adjust the length of the pre and post Baseline.
2. **Run Length Section** – Section where you can adjust the length of the runs for the training session.
3. **Number of Sessions Section** – Section where you can adjust the amount of Sessions a particular training can be used for.
4. **Number of Runs Section** – Section where you can adjust the amount of runs for the training session.
5. **Session Type Section** – Section where you can change the type of session that is being used.
6. **Pause Between Runs? Check Box** – Click to choose whether or not you would like the training to pause at the end of a run.
7. **Session Wizard Button** – Click to enter the Session Wizard* Controls.
8. **Session Wizard to control session Check Box** – Used to control whether or not Session Wizard* is used for the training/assessment.

**Session Wizard is an optional purchase*

## Z-Score Training Menu


BrainAvatar Setup
Main
Login
Folder
Settings
Global Settings
Main
Read/Write
Acquisition
Channels
Bands
Montage
Protocol
Feedback
Session
Event Wizard
Z Scores
ROI Select
Session Wizard
Atlantis HW
Electrodes
1
2
3
4
5
6
7
8
9
10
11
12
Add-->
Add All
<--Remove
Remove All
Summary
Use Settings and Close
Use These Settings

ZScore type
○ Not using ZScores
○ ANI
○ ZBuilder
○ BrainDx
○ Custom
○ ZBuiderDB
● qEEGPro

ZScore Options
☑ Surface EEG
☐ Voxel EEG
☐ ROI connectivity
☐ Dynamic ZScores
○ 4-ch
● 19-ch
Use selections on the right to select sites
ZScore Damping Factor: Min Max

Z Builder Options
Use database in:
● Control folder
○ Study folder
○ Browse for file

Acquired: Fp1 Fp2 F3 Fz F4 F7 F8 C3 Cz C4 T3 T4 T5 T6 P3 Pz P4 O1 O2 A2

LZT Trained: ✓ Fp1 ✓ F3 ✓ C3 ✓ P3 ✓ O1 ✓ F7 ✓ T3 ✓ T5 ✓ Fz ✓ Fp2 ✓ F4 ✓ C4 ✓ P4 ✓ O2 ✓ F8 ✓ T4 ✓ T6 ✓ Cz ✓ Pz

Trained Values
☑ Abs Power
☐ Rel Power
☐ Pwr Ratios
☑ Asymmetry
☑ Coherence
☑ Phase
☑ ROI Power
☐ ROI Coherence

Trained Bands
☑ Delta
☑ Theta
☑ Alpha
☑ Lobeta
☑ Beta
☑ Hibeta
☑ Gamma
☑ Alpha1
☐ Alpha2

Total Selected:
Surface 4256
ROI
ROI coh
Total 4256

Logged in, device type Discovery

1. **Z-Score* Type Section** – Section where you can choose the type of Z-Score* Training.
2. **Z-Score* Options Section** – Section where you can choose what type of Z-Score processing you would like to do, the damping factor on the Z-Score displays.
3. **Z Builder Options Section** – Section where you set up your information if you are using BrainMaster Z-Scores. This is where you would choose which Z-Builder file you use, as well as the settings for it.
4. **Acquired Section** – Section that displays what is being acquired from the Acquisition screen.
5. **LZT* Section** – Section where you set the sites to be LZT* Trained.
6. **Add⇨ Button** – Click to add the highlighted position from the Acquired Section.
7. **Add All Button** – Click to add all positions from the Acquired Section.
8. **⇦Remove Button** – Click to remove the highlighted position from the LZT* Section.
9. **Remove All Button** – Click to remove all positions from the LZT* Section.
10. **Trained Values Section** – Section that you can choose the trained values for the positions selected in the LZT section.
11. **Trained Bands Section** – Section that you can choose the trained bands for the positions selected in the LZT section.
12. **Summary Section** – Section where you can see the Total Number of Z-Scores being trained, as well as a detailed summary of all trained channels, bands cross frequencies, and ROI's

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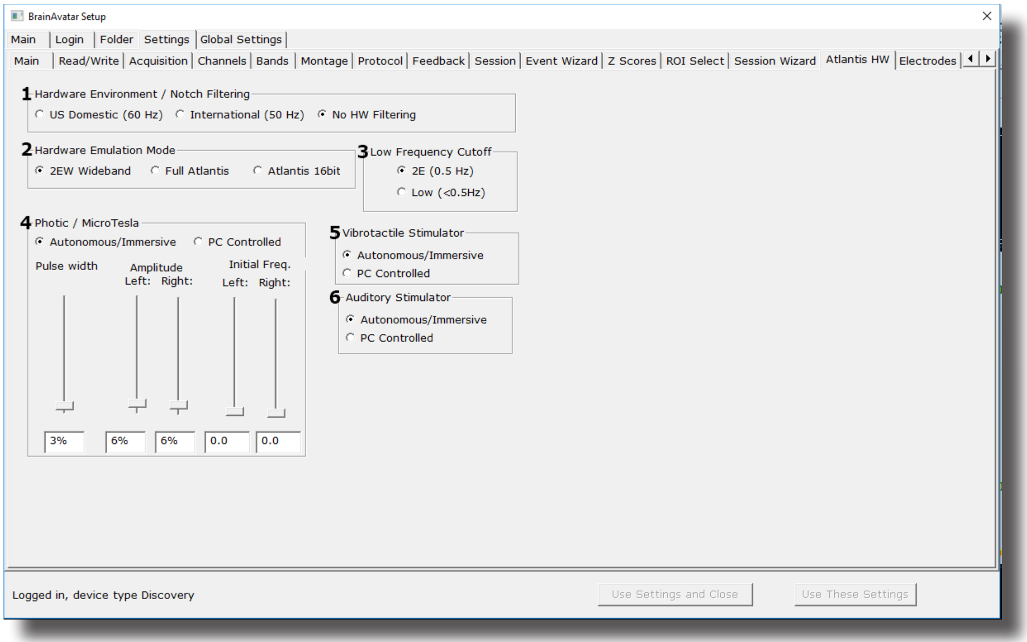
**Z-Score is an optional purchase*

## Atlantis Hardware Control Menu


BrainAvatar Setup
Main | Login | Folder | Settings | Global Settings
Main | Read/Write | Acquisition | Channels | Bands | Montage | Protocol | Feedback | Session | Event Wizard | Z Scores | ROI Select | Session Wizard | Atlantis HW | Electrodes
1
2
3
4
5
6
Use Settings and Close
Use These Settings

Hardware Environment / Notch Filtering
○ US Domestic (60 Hz) ○ International (50 Hz) ● No HW Filtering

Hardware Emulation Mode
● 2EW Wideband ○ Full Atlantis ○ Atlantis 16bit

Low Frequency Cutoff
● 2E (0.5 Hz)
○ Low (<0.5Hz)

Photic / MicroTesla
● Autonomous/Immersive ○ PC Controlled
Pulse width: 3%
Amplitude Left: 6% Right: 6%
Initial Freq. Left: 0.0 Right: 0.0

Vibrotactile Stimulator
● Autonomous/Immersive
○ PC Controlled

Auditory Stimulator
● Autonomous/Immersive
○ PC Controlled

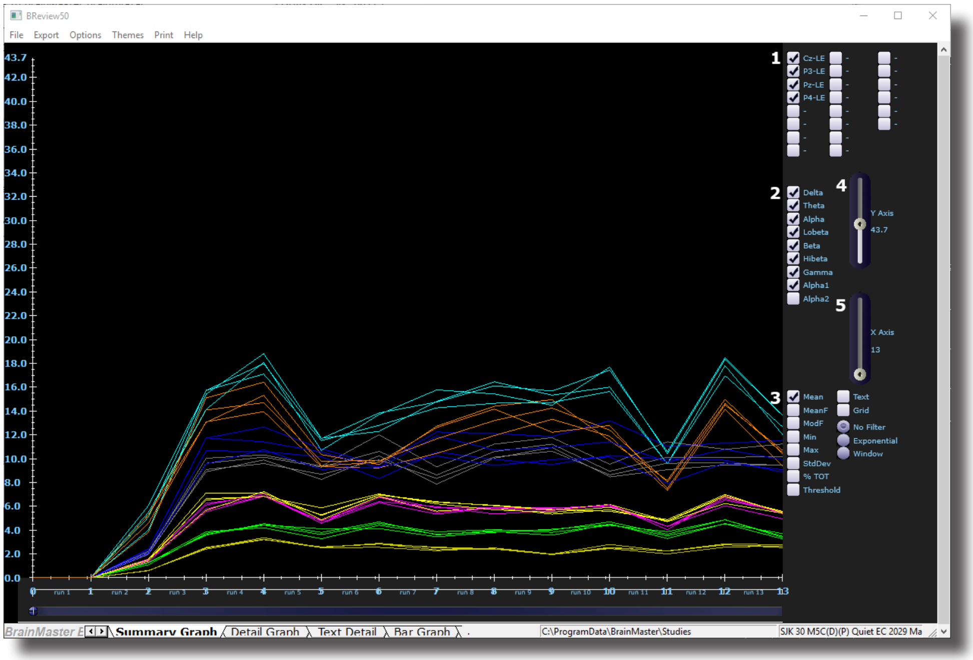
Logged in, device type Discovery

1. **Hardware Environment/Notch Filtering Section** – Section where you can adjust the Hardware Environment.
2. **Hardware Emulation Mode Section** – Section to adjust the Hardware Emulation.
3. **Low Frequency Cutoff Section** – Section to adjust the low frequency cutoff.
4. **Photic Stimulator* Section** – Section where you can adjust Photic/MicroTesla feedback.
5. **Auditory Stimulator Section** – Section where you can adjust auditory feedback.
6. **Vibrotactile Stimulator** Section** – Section where you can adjust vibrotactile feedback.

*PC Controlled Photic requires StimFlash. StimFlash is an optional purchase.*

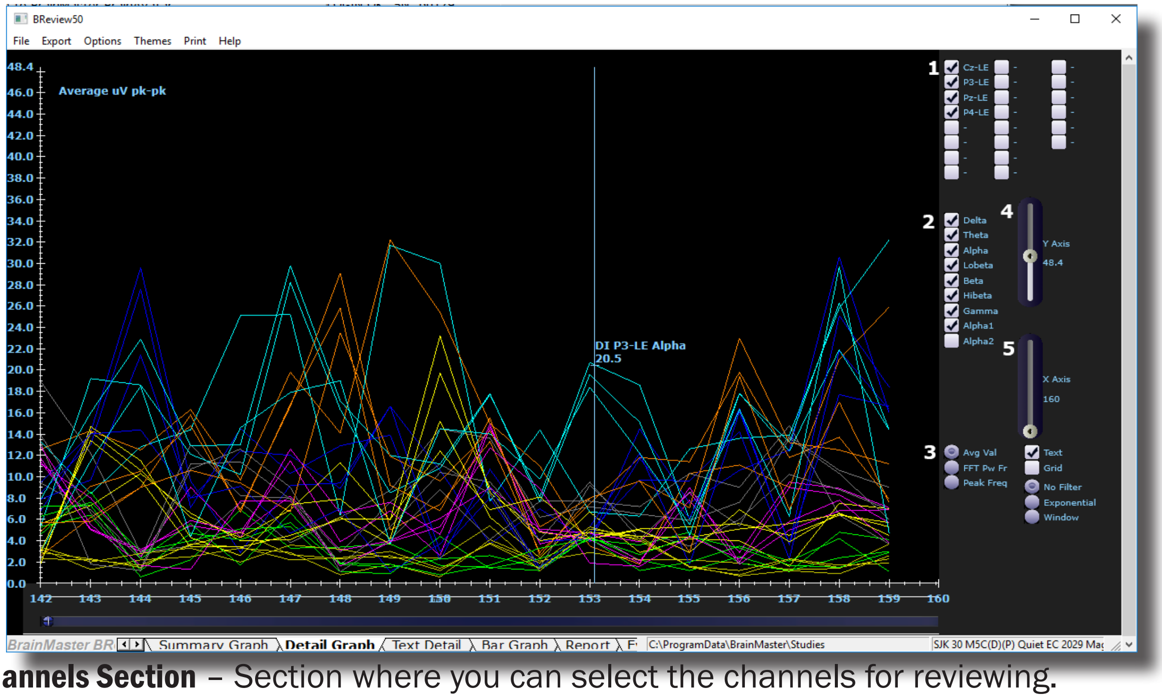
***PC Controlled Vibrotactile Stimulation requires InterActor software. InterActor software is an optional purchase.*

## Review Session Results - Summary Graph


BReview50
File Export Options Themes Print Help
43.7
42.0
40.0
38.0
36.0
34.0
32.0
30.0
28.0
26.0
24.0
22.0
20.0
18.0
16.0
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
0 run 1 1 run 2 2 run 3 3 run 4 4 run 5 5 run 6 6 run 7 7 run 8 8 run 9 9 run 10 10 run 11 11 run 12 12 run 13 13
1
☑ Cz-LE
☑ P3-LE
☑ Pz-LE
☑ P4-LE
2
☑ Delta
☑ Theta
☑ Alpha
☑ Lobeta
☑ Beta
☑ Hibeta
☑ Gamma
☑ Alpha1
☐ Alpha2
4
Y Axis
43.7
5
X Axis
13
3
☑ Mean
☐ MeanF
☐ ModF
☐ Min
☐ Max
☐ StdDev
☐ % TOT
☐ Threshold
☐ Text
☐ Grid
● No Filter
○ Exponential
○ Window
BrainMaster E
Summary Graph
Detail Graph
Text Detail
Bar Graph
C:\ProgramData\BrainMaster\Studies
SJK 30 MSC(D)(P) Quiet EC 2029 Ma

1. **Channels Section** – Section where you can select the channels for reviewing.
2. **Bands Section** – Section where you can select the bands for reviewing.
3. **Metrics Section** – Section where you can select different metrics for viewing, as well as addtional viewing options on the graph itself.
4. **Y-Axis Control** – Control that allows you to adjust how much data is viewed on the Y-Axis of the graph.
5. **X-Axis Control** – Control that allows you to adjust how much data is viewed on the X-Axis of the graph.

## Review Session Results - Detail Graph


BReview50
File Export Options Themes Print Help
Average uV pk-pk
DI P3-LE Alpha
20.5
1
Cz-LE
P3-LE
Pz-LE
P4-LE
2
Delta
Theta
Alpha
Lobeta
Beta
Hibeta
Gamma
Alpha1
Alpha2
4
Y Axis
48.4
5
X Axis
160
3
Avg Val
FFT Pw Fr
Peak Freq
Text
Grid
No Filter
Exponential
Window
48.4
46.0
44.0
42.0
40.0
38.0
36.0
34.0
32.0
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24.0
22.0
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18.0
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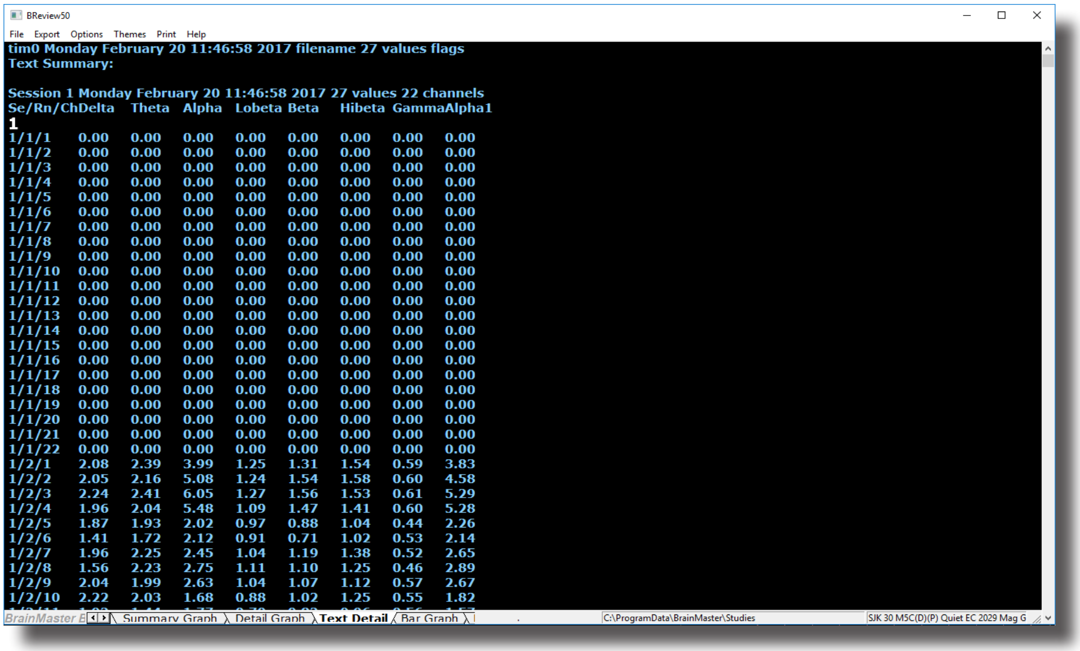
142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160
BrainMaster BR
Summary Graph
Detail Graph
Text Detail
Bar Graph
Report
C:\ProgramData\BrainMaster\Studies
SJK 30 M5C(D)(P) Quiet EC 2029 Mag

1. **Channels Section** – Section where you can select the channels for reviewing.
2. **Bands Section** – Section where you can select the bands for reviewing.
3. **Metrics Section** – Section where you can select different metrics for viewing, as well as addtional viewing options on the graph itself.
4. **Y-Axis Control** – Control that allows you to adjust how much data is viewed on the Y-Axis of the graph.
5. **X-Axis Control** – Control that allows you to adjust how much data is viewed on the X-Axis of the graph.

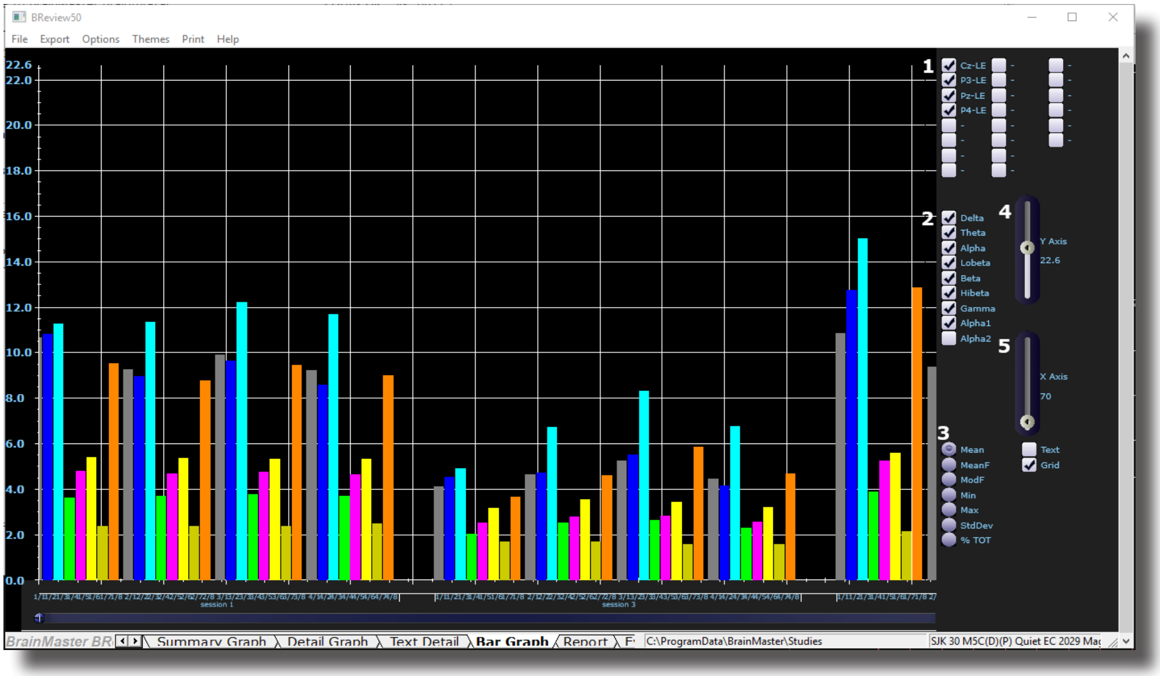
## Review Session Results - Text Detail


BReview50
File
Export
Options
Themes
Print
Help
BrainMaster E
Summary Graph
Detail Graph
Text Detail
Bar Graph
C:\ProgramData\BrainMaster\Studies
SJK 30 M5C(D)(P) Quiet EC 2029 Mag G

```
tim0 Monday February 20 11:46:58 2017 filename 27 values flags
Text Summary:

Session 1 Monday February 20 11:46:58 2017 27 values 22 channels
Se/Rn/ChDelta   Theta  Alpha  Lobeta Beta   Hibeta GammaAlpha1
1
1/1/1    0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00
1/1/2    0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00
1/1/3    0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00
1/1/4    0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00
1/1/5    0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00
1/1/6    0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00
1/1/7    0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00
1/1/8    0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00
1/1/9    0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00
1/1/10   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00
1/1/11   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00
1/1/12   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00
1/1/13   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00
1/1/14   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00
1/1/15   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00
1/1/16   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00
1/1/17   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00
1/1/18   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00
1/1/19   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00
1/1/20   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00
1/1/21   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00
1/1/22   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00
1/2/1    2.08   2.39   3.99   1.25   1.31   1.54   0.59   3.83
1/2/2    2.05   2.16   5.08   1.24   1.54   1.58   0.60   4.58
1/2/3    2.24   2.41   6.05   1.27   1.56   1.53   0.61   5.29
1/2/4    1.96   2.04   5.48   1.09   1.47   1.41   0.60   5.28
1/2/5    1.87   1.93   2.02   0.97   0.88   1.04   0.44   2.26
1/2/6    1.41   1.72   2.12   0.91   0.71   1.02   0.53   2.14
1/2/7    1.96   2.25   2.45   1.04   1.19   1.38   0.52   2.65
1/2/8    1.56   2.23   2.75   1.11   1.10   1.25   0.46   2.89
1/2/9    2.04   1.99   2.63   1.04   1.07   1.12   0.57   2.67
1/2/10   2.22   2.03   1.68   0.88   1.02   1.25   0.55   1.82
```

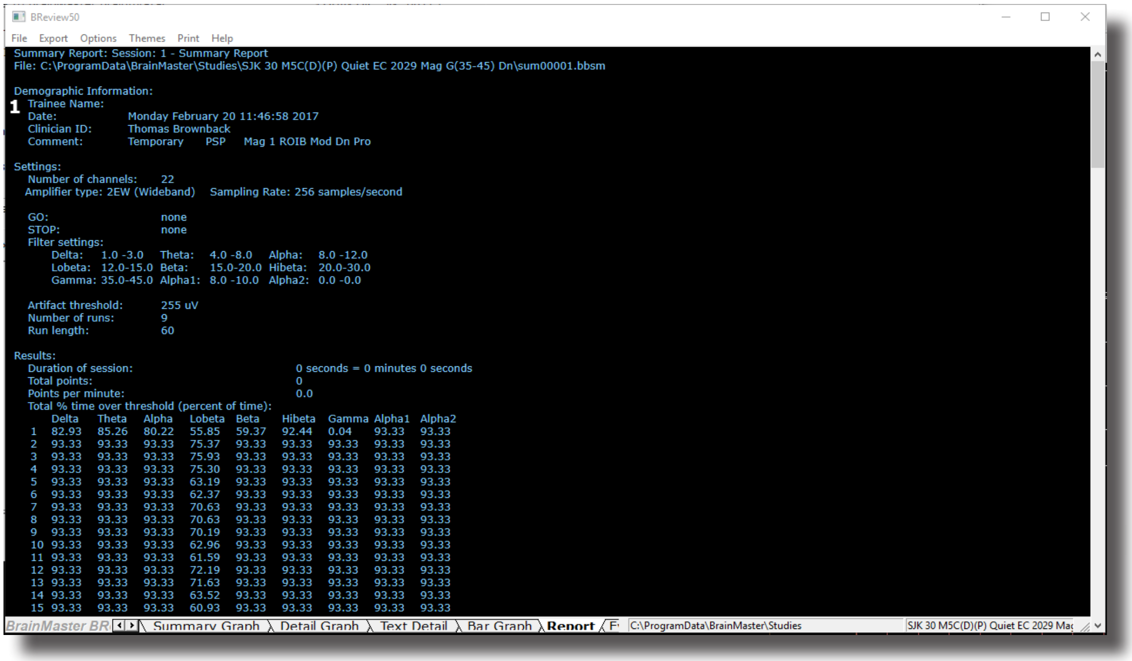
1. **Data Section** – Section that lists out the Average Amplitude separated by sessions, runs, and channels

## Review Session Results - Bar Graph


BReview50
File Export Options Themes Print Help
22.6
22.0
20.0
18.0
16.0
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
session 1
session 3
1
Cz-LE
P3-LE
Pz-LE
P4-LE
2
Delta
Theta
Alpha
Lobeta
Beta
Hibeta
Gamma
Alpha1
Alpha2
3
Mean
MeanF
ModF
Min
Max
StdDev
% TOT
4
Y Axis
22.6
5
X Axis
70
Text
Grid
BrainMaster BR
Summary Graph
Detail Graph
Text Detail
Bar Graph
Report
C:\ProgramData\BrainMaster\Studies
SJK 30 M5C(D)(P) Quiet EC 2029 Ma

1. **Channels Section** – Section where you can select the channels for reviewing.
2. **Bands Section** – Section where you can select the bands for reviewing.
3. **Metrics Section** – Section where you can select different metrics for viewing, as well as addtional viewing options on the graph itself.
4. **Y-Axis Control** – Control that allows you to adjust how much data is viewed on the Y-Axis of the graph.
5. **X-Axis Control** – Control that allows you to adjust how much data is viewed on the X-Axis of the graph.

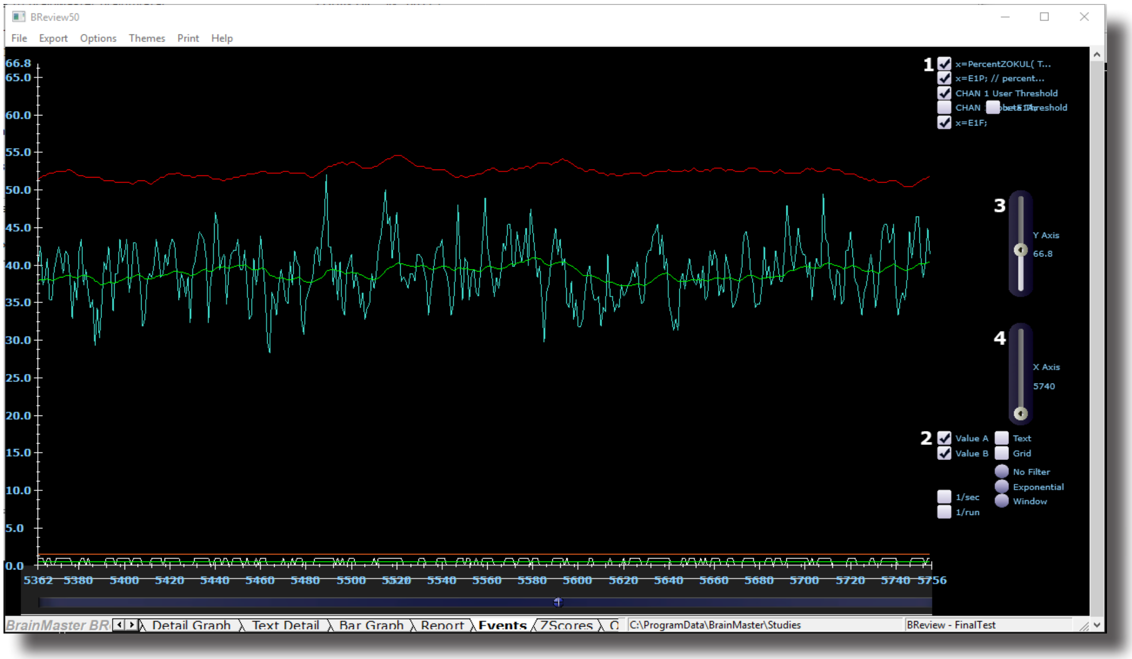
## Review Session Results - Report


BReview50
File Export Options Themes Print Help
1
BrainMaster BR
Summary Graph
Detail Graph
Text Detail
Bar Graph
Report
C:\ProgramData\BrainMaster\Studies
SJK 30 M5C(D)(P) Quiet EC 2029 Mag

```
Summary Report: Session: 1 - Summary Report
File: C:\ProgramData\BrainMaster\Studies\SJK 30 M5C(D)(P) Quiet EC 2029 Mag G(35-45) Dn\sum00001.bbsm

Demographic Information:
   Trainee Name:
   Date:              Monday February 20 11:46:58 2017
   Clinician ID:      Thomas Brownback
   Comment:           Temporary     PSP    Mag 1 ROIB Mod Dn Pro

Settings:
   Number of channels:     22
  Amplifier type: 2EW (Wideband)   Sampling Rate: 256 samples/second

   GO:                     none
   STOP:                   none
   Filter settings:
       Delta:    1.0 -3.0   Theta:    4.0 -8.0    Alpha:    8.0 -12.0
       Lobeta:  12.0-15.0  Beta:     15.0-20.0   Hibeta:   20.0-30.0
       Gamma: 35.0-45.0  Alpha1:   8.0 -10.0   Alpha2:   0.0 -0.0

   Artifact threshold:     255 uV
   Number of runs:         9
   Run length:             60

Results:
   Duration of session:                           0 seconds = 0 minutes 0 seconds
   Total points:                                  0
   Points per minute:                             0.0
   Total % time over threshold (percent of time):
       Delta    Theta    Alpha    Lobeta   Beta     Hibeta   Gamma   Alpha1   Alpha2
    1  82.93    85.26    80.22    55.85    59.37    92.44    0.04    93.33    93.33
    2  93.33    93.33    93.33    75.37    93.33    93.33    93.33   93.33    93.33
    3  93.33    93.33    93.33    75.93    93.33    93.33    93.33   93.33    93.33
    4  93.33    93.33    93.33    75.30    93.33    93.33    93.33   93.33    93.33
    5  93.33    93.33    93.33    63.19    93.33    93.33    93.33   93.33    93.33
    6  93.33    93.33    93.33    62.37    93.33    93.33    93.33   93.33    93.33
    7  93.33    93.33    93.33    70.63    93.33    93.33    93.33   93.33    93.33
    8  93.33    93.33    93.33    70.63    93.33    93.33    93.33   93.33    93.33
    9  93.33    93.33    93.33    70.19    93.33    93.33    93.33   93.33    93.33
   10  93.33    93.33    93.33    62.96    93.33    93.33    93.33   93.33    93.33
   11  93.33    93.33    93.33    61.59    93.33    93.33    93.33   93.33    93.33
   12  93.33    93.33    93.33    72.19    93.33    93.33    93.33   93.33    93.33
   13  93.33    93.33    93.33    71.63    93.33    93.33    93.33   93.33    93.33
   14  93.33    93.33    93.33    63.52    93.33    93.33    93.33   93.33    93.33
   15  93.33    93.33    93.33    60.93    93.33    93.33    93.33   93.33    93.33
```

1. **Overview Section** – Section that gives an overview of the patient folder including date used, band information, basic training information, and average microvoltage of the bands

## Review Session Results - Event Graph

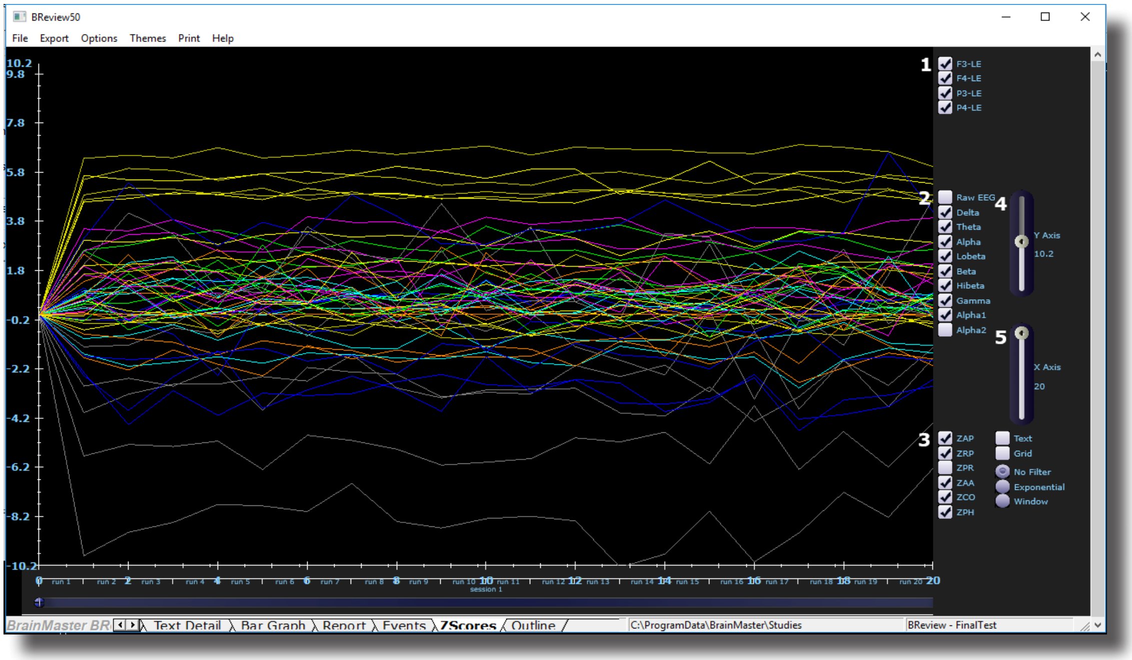

BReview50
File
Export
Options
Themes
Print
Help
66.8
65.0
60.0
55.0
50.0
45.0
40.0
35.0
30.0
25.0
20.0
15.0
10.0
5.0
0.0
5362
5380
5400
5420
5440
5460
5480
5500
5520
5540
5560
5580
5600
5620
5640
5660
5680
5700
5720
5740
5756
1
2
3
4
Y Axis
66.8
X Axis
5740
BrainMaster BR
Detail Graph
Text Detail
Bar Graph
Report
Events
ZScores
C:\ProgramData\BrainMaster\Studies
BReview - FinalTest

☑ x=PercentZOKUL( T...
☑ x=E1P; // percent...
☑ CHAN 1 User Threshold
☐ CHAN 1 User Threshold
☑ x=E1F;

☑ Value A
☑ Value B
☐ Text
☐ Grid
○ No Filter
○ Exponential
○ Window
☐ 1/sec
☐ 1/run

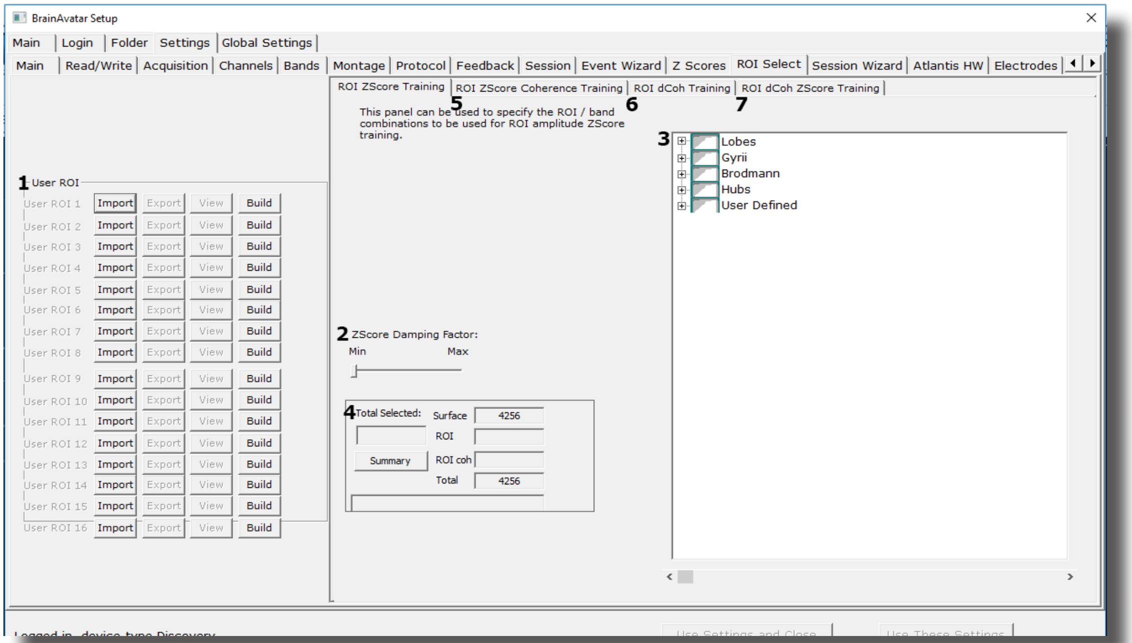
1. **Events Section** – Section where you can select the Events for reviewing.
2. **Metrics Section** – Section where you can select different metrics for viewing, as well as additional viewing options on the graph itself.
3. **Y-Axis Control** – Control that allows you to adjust how much data is viewed on the Y-Axis of the graph.
4. **X-Axis Control** – Control that allows you to adjust how much data is viewed on the X-Axis of the graph.

## Review Session Results - Z-Score Graph


BReview50
File
Export
Options
Themes
Print
Help
10.2
9.8
7.8
5.8
3.8
1.8
-0.2
-2.2
-4.2
-6.2
-8.2
-10.2
0
run 1
run 2
2
run 3
run 4
4
run 5
run 6
6
run 7
run 8
8
run 9
run 10
10
run 11
session 1
run 12
12
run 13
run 14
14
run 15
run 16
16
run 17
run 18
18
run 19
run 20
20
1
☑ F3-LE
☑ F4-LE
☑ P3-LE
☑ P4-LE
2
☐ Raw EEG
☑ Delta
☑ Theta
☑ Alpha
☑ Lobeta
☑ Beta
☑ Hibeta
☑ Gamma
☑ Alpha1
☐ Alpha2
4
Y Axis
10.2
5
X Axis
20
3
☑ ZAP
☑ ZRP
☐ ZPR
☑ ZAA
☑ ZCO
☑ ZPH
☐ Text
☐ Grid
● No Filter
○ Exponential
○ Window
BrainMaster BR
Text Detail
Bar Graph
Report
Events
ZScores
Outline
C:\ProgramData\BrainMaster\Studies
BReview - FinalTest

1. **Channels Section** – Section where you can select the channels for reviewing.
2. **Bands Section** – Section where you can select the bands for reviewing.
3. **Metrics Section** – Section where you can select different metrics for viewing, as well as addtional viewing options on the graph itself.
4. **Y-Axis Control** – Control that allows you to adjust how much data is viewed on the Y-Axis of the graph.
5. **X-Axis Control** – Control that allows you to adjust how much data is viewed on the X-Axis of the graph.

## ROI Select - ROI Amplitude Z-Scores

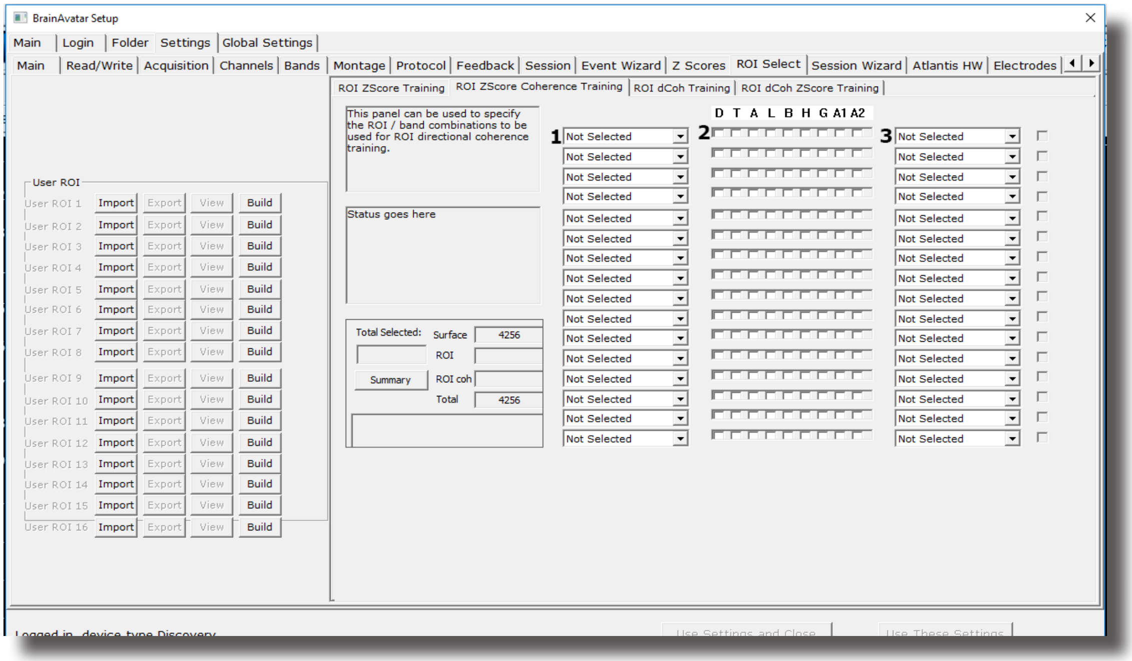

BrainAvatar Setup
Main | Login | Folder | Settings | Global Settings
Main | Read/Write | Acquisition | Channels | Bands | Montage | Protocol | Feedback | Session | Event Wizard | Z Scores | ROI Select | Session Wizard | Atlantis HW | Electrodes
ROI ZScore Training | ROI ZScore Coherence Training | ROI dCoh Training | ROI dCoh ZScore Training
5
6
7
1 User ROI
User ROI 1 Import Export View Build
User ROI 2 Import Export View Build
User ROI 3 Import Export View Build
User ROI 4 Import Export View Build
User ROI 5 Import Export View Build
User ROI 6 Import Export View Build
User ROI 7 Import Export View Build
User ROI 8 Import Export View Build
User ROI 9 Import Export View Build
User ROI 10 Import Export View Build
User ROI 11 Import Export View Build
User ROI 12 Import Export View Build
User ROI 13 Import Export View Build
User ROI 14 Import Export View Build
User ROI 15 Import Export View Build
User ROI 16 Import Export View Build
2 ZScore Damping Factor:
Min
Max
4 Total Selected:
Summary
3
Lobes
Gyrii
Brodmann
Hubs
User Defined
Logged in, device type Discovery
Use Settings and Close
Use These Settings

This panel can be used to specify the ROI / band combinations to be used for ROI amplitude ZScore training.

Surface 4256
ROI
ROI coh
Total 4256

1. **User ROI Section** – Section where you Build, view, import or export up to 16 User-defined ROI's.*****PLEASE NOTE:** This menu is available for use on all Sub-Menus of the ROI Select Tab.
2. **Z-Score Damping Factor Section** – Section where you can control the Damping Factor for the ROI Amplitude Z-Scores.
3. **ROI Selection Section** – Section where choose the ROI's and their components for training.
4. **Summary Section** – Section where you can see the Total Number of Z-Scores being trained, as well as a detailed summary of all trained channels, bands cross frequencies, and ROI's *****PLEASE NOTE:** This menu is available for use on the ROI Z-Score Coherence Tab as well.
5. **ROI Z-Score Coherence Tab** – Tab that opens up the ROI Z-Score Coherence Tab. *****PLEASE NOTE:** This menu is available for use on all Sub-Menus of the ROI Select Tab.
6. **ROI dCoh Training Tab** – Tab that opens up the ROI Directional Coherence Training Tab. *****PLEASE NOTE:** This menu is available for use on all Sub-Menus of the ROI Select Tab.
7. **ROI dCoh Z-Score Training Tab** – Tab that opens up the ROI Directional Coherence Z-Score Training Tab. *****PLEASE NOTE:** This menu is available for use on all Sub-Menus of the ROI Select Tab.

## ROI Select - ROI Coherence Z-Score


BrainAvatar Setup
Main | Login | Folder | Settings | Global Settings
Main | Read/Write | Acquisition | Channels | Bands | Montage | Protocol | Feedback | Session | Event Wizard | Z Scores | ROI Select | Session Wizard | Atlantis HW | Electrodes
ROI ZScore Training | ROI ZScore Coherence Training | ROI dCoh Training | ROI dCoh ZScore Training
User ROI
User ROI 1 Import Export View Build
User ROI 16 Import Export View Build
D T A L B H G A1 A2
1
2
3
Not Selected
Summary
Use Settings and Close
Use These Settings

This panel can be used to specify the ROI / band combinations to be used for ROI directional coherence training.

Status goes here

Total Selected: Surface 4256

ROI

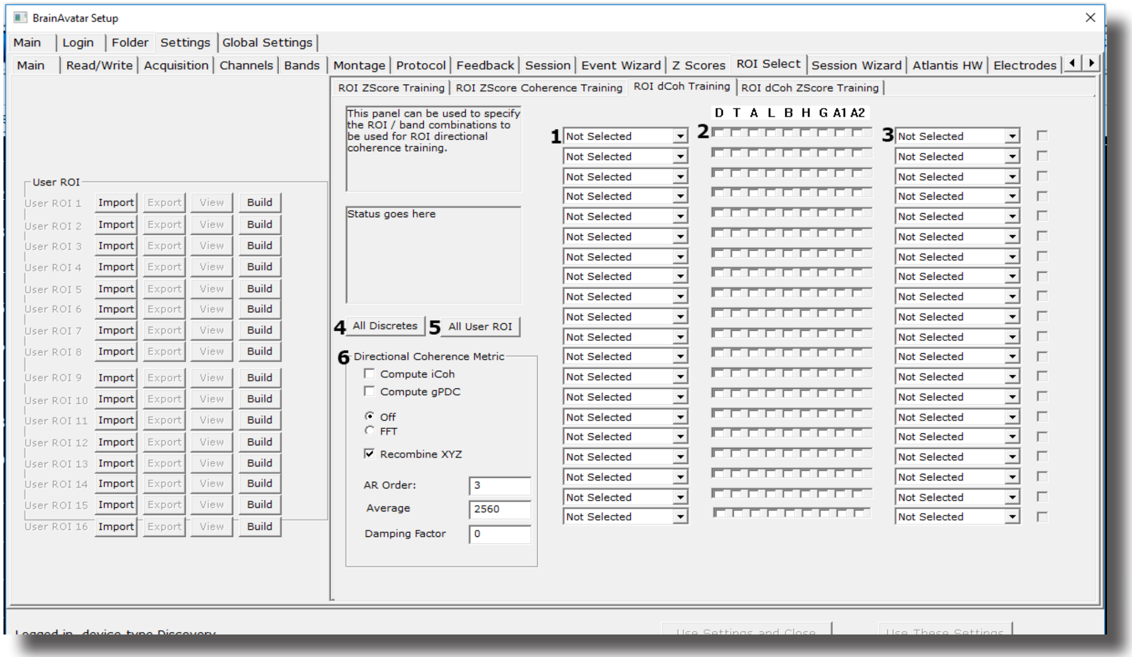
ROI coh

Total 4256

Logged in, device type Discovery

1. **ROI 1 Choice** – Drop-Down-List that allows you to choose the first ROI that you would like to use for Coherence
2. **Bands Check** – Check boxes to choose which bands to do training to
3. **ROI 2 Choice** – Drop-Down-List that allows you to choose the second ROI that you would like to use for Coherence

## ROI Select - Dirctional Coherence Training


BrainAvatar Setup
Main | Login | Folder | Settings | Global Settings
Main | Read/Write | Acquisition | Channels | Bands | Montage | Protocol | Feedback | Session | Event Wizard | Z Scores | ROI Select | Session Wizard | Atlantis HW | Electrodes
ROI ZScore Training | ROI ZScore Coherence Training | ROI dCoh Training | ROI dCoh ZScore Training
User ROI
User ROI 1 … User ROI 16
Import
Export
View
Build
4 All Discretes
5 All User ROI
6 Directional Coherence Metric
1
2
D T A L B H G A1 A2
3
Not Selected
Use Settings and Close
Use These Settings

This panel can be used to specify the ROI / band combinations to be used for ROI directional coherence training.

Status goes here

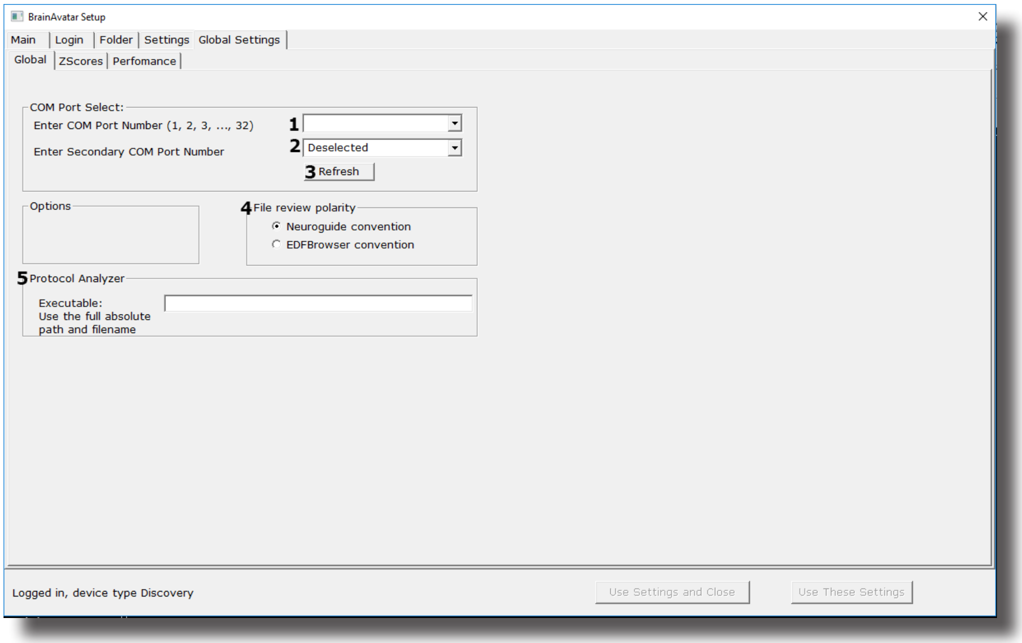
☐ Compute iCoh
☐ Compute gPDC
● Off
○ FFT
☑ Recombine XYZ

AR Order: 3
Average: 2560
Damping Factor: 0

Logged in, device type Discovery

1. **ROI 1 Choice** – Drop-Down-List that allows you to choose the first ROI that you would like to use for Coherence.
2. **Bands Check** – Check boxes to choose which bands to do training to
3. **ROI 2 Choice** – Drop-Down-List that allows you to choose the second ROI that you would like to use for Coherence.
4. **All Discretes Button** – Button that automatically chooses all Discrete (Surface Sites) to be used for Directional Coherence Training.
5. **All User ROIs Button** – Button that automatically chooses all User-Defined ROI’s that have been imported/Built to be used for Directional Coherence Training.
6. **Directional Coherence Metric Section** – Section to choose computation values for the Directional Coherence output.

## Global Settings Menu


BrainAvatar Setup
Main
Login
Folder
Settings
Global Settings
Global
ZScores
Perfomance
COM Port Select:
Enter COM Port Number (1, 2, 3, ..., 32)
1
Enter Secondary COM Port Number
2
3
Refresh
Options
4
File review polarity
5
Protocol Analyzer
Executable:
Use the full absolute
path and filename
Use Settings and Close
Use These Settings

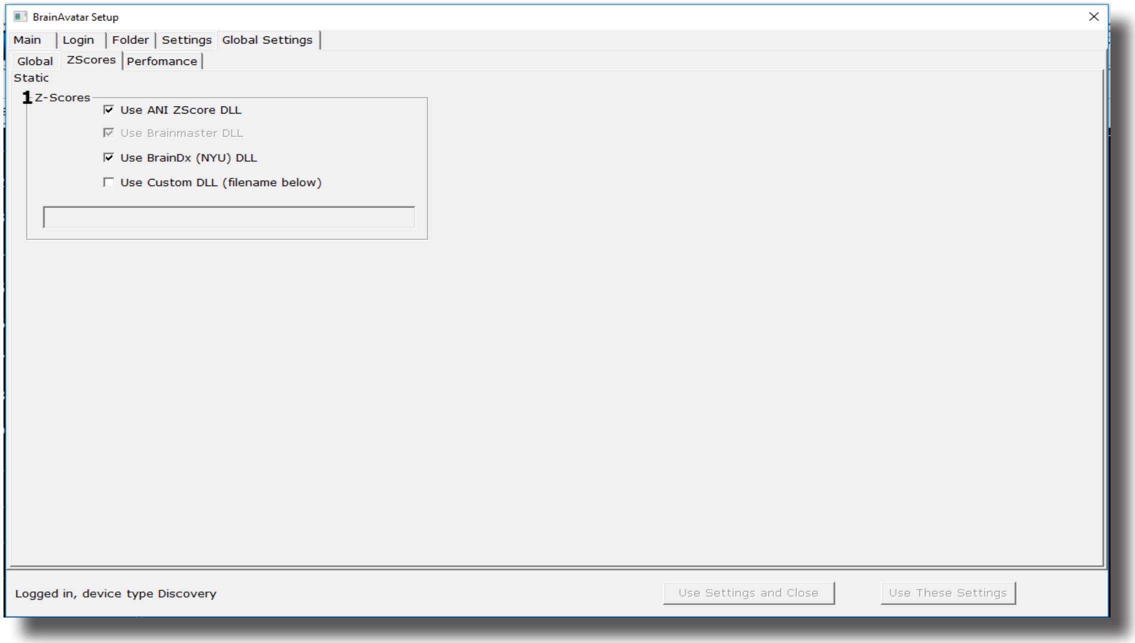
Enter Secondary COM Port Number: Deselected

File review polarity:
● Neuroguide convention
○ EDFBrowser convention

Logged in, device type Discovery

1. **Primary COM Port Select Dropdown** – Section in which you use the Drop-Down box to select the COM Port that your Main Device is on from a list of available open ports.
2. **Secondary COM Port Select Dropdown** – Section in which you use the Drop-Down box to select the COM Port that your Secondary Device is on from a list of available open ports. This is only used, if your Primary Device is a Discovery.
3. **Refresh Button** – Click refresh the available open ports. Use this, if you have changed the ports that are connected.
4. **File Review Polarity Options** – Choose to change the Polarity of displaying information on the Review Screen. The Default and recommended option is Neuroguide Convention

## Z-Scores* Global Settings Menu


BrainAvatar Setup
Main
Login
Folder
Settings
Global Settings
Global
ZScores
Perfomance
Static
1
Z-Scores
Use Settings and Close
Use These Settings

☑ Use ANI ZScore DLL
☑ Use Brainmaster DLL
☑ Use BrainDx (NYU) DLL
☐ Use Custom DLL (filename below)

Logged in, device type Discovery

1. **Z-Score* Section** – Section where you can choose which Z-Score DLL will be used.

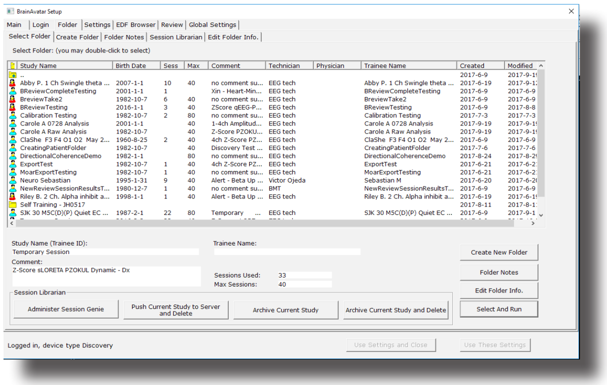
**Z-Score is an optional purchase*

# Classic (Setup Menu) Method

## Creating a Trainee Folder

*****PLEASE NOTE:** This process can only be done if you have purchased a BrainMaster Clinical License.

1. From the Main Tab, click the Folder Selection Button or the Folder Tab. This will bring you to the Select Folder screen. On this screen, click the Create New Folder Button or the Create Folder Tab to begin creating a new folder.


BrainAvatar Setup
Main
Login
Folder
Settings
EDF Browser
Review
Global Settings
Select Folder
Create Folder
Folder Notes
Session Librarian
Edit Folder Info.
Create New Folder
Folder Notes
Edit Folder Info.
Select And Run
Session Librarian
Administer Session Genie
Push Current Study to Server and Delete
Archive Current Study
Archive Current Study and Delete
Use Settings and Close
Use These Settings

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

| Study Name | Birth Date | Sess | Max | Comment | Technician | Physician | Trainee Name | Created | Modified |
|---|---|---|---|---|---|---|---|---|---|
| .. | | | | | | | | 2017-6-9 | 2017-9-1 |
| Abby P. 1 Ch Swingle theta ... | 2007-1-1 | 10 | 40 | no comment su... | EEG tech | | Abby P. 1 Ch Swingle theta ... | 2017-6-19 | 2017-9-1 |
| BReviewCompleteTesting | 2001-1-1 | 1 | | Xin - Heart-Min... | EEG tech | | BReviewCompleteTesting | 2017-6-9 | 2017-6-9 |
| BreviewTake2 | 1982-10-7 | 6 | 40 | no comment su... | EEG tech | | BreviewTake2 | 2017-6-9 | 2017-6-9 |
| BReviewTesting | 2016-1-1 | 3 | 40 | ZScore qEEG-P... | EEG tech | | BReviewTesting | 2017-6-9 | 2017-8-8 |
| Calibration Testing | 1982-10-7 | 2 | 80 | no comment su... | EEG tech | | Calibration Testing | 2017-7-3 | 2017-7-3 |
| Carole A 0728 Analysis | 2001-1-1 | | 40 | 1-4ch Amplitud... | EEG tech | | Carole A 0728 Analysis | 2017-9-19 | 2017-9-1 |
| Carole A Raw Analysis | 1982-10-7 | | 40 | Z-Score PZOKU... | EEG tech | | Carole A Raw Analysis | 2017-9-19 | 2017-9-1 |
| ClaShe F3 F4 O1 O2 May 2... | 1960-8-25 | 2 | 40 | 4ch Z-Score PZ... | EEG tech | | ClaShe F3 F4 O1 O2 May 2... | 2017-6-9 | 2017-6-9 |
| CreatingPatientFolder | 1982-10-7 | | 40 | Discovery Test ... | EEG tech | | CreatingPatientFolder | 2017-7-6 | 2017-7-6 |
| DirectionalCoherenceDemo | 1982-1-1 | | 80 | no comment su... | EEG tech | | DirectionalCoherenceDemo | 2017-8-24 | 2017-8-2 |
| ExportTest | 1982-10-7 | 1 | 40 | 4ch Z-Score PZ... | EEG tech | | ExportTest | 2017-6-21 | 2017-6-2 |
| MoarExportTesting | 1982-10-7 | 1 | 40 | no comment su... | EEG tech | | MoarExportTesting | 2017-6-21 | 2017-6-2 |
| Neuro Sebastian | 1995-1-31 | 9 | 40 | Alert - Beta Up ... | Victor Ojeda | | Sebastian M | 2017-6-20 | 2017-6-2 |
| NewReviewSessionResultsT... | 1980-12-7 | 1 | 40 | no comment su... | BMT | | NewReviewSessionResultsT... | 2017-6-9 | 2017-6-9 |
| Riley B. 2 Ch. Alpha inhibit a... | 1998-1-1 | 1 | 40 | Alert - Beta Up ... | EEG tech | | Riley B. 2 Ch. Alpha inhibit a... | 2017-6-19 | 2017-6-1 |
| Self Training - JH0517 | | | | | | | | 2017-8-11 | 2017-8-1 |
| SJK 30 M5C(D)(P) Quiet EC ... | 1987-2-1 | 22 | 80 | Temporary ... | EEG tech | | SJK 30 M5C(D)(P) Quiet EC ... | 2017-6-9 | 2017-9-1 |

Study Name (Trainee ID): Temporary Session

Trainee Name:

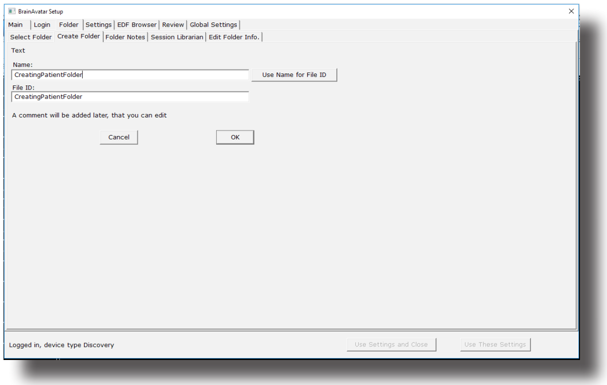
Comment: Z-Score sLORETA PZOKUL Dynamic - Dx

Sessions Used: 33

Max Sessions: 40

Logged in, device type Discovery

2. Type in the name that you would like, and the file ID for the folder in the proper fields. When naming the folder, please take HIPAA compliance into consideration. When you have entered the name and file ID, click OK to continue.


BrainAvatar Setup
Main
Login
Folder
Settings
EDF Browser
Review
Global Settings
Select Folder
Create Folder
Folder Notes
Session Librarian
Edit Folder Info.
Use Name for File ID
Cancel
OK
Use Settings and Close
Use These Settings

Text

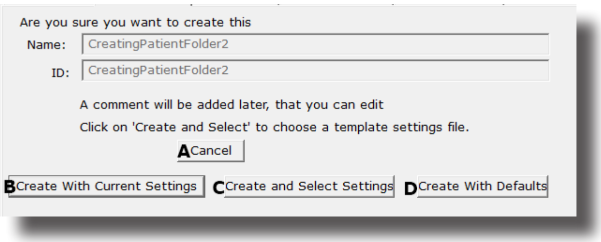
Name: CreatingPatientFolder

File ID: CreatingPatientFolder

A comment will be added later, that you can edit

Logged in, device type Discovery

3. Another screen will pop up to confirm the name of the folder. You have four options:


ACancel
BCreate With Current Settings
CCreate and Select Settings
DCreate With Defaults

Are you sure you want to create this

Name: CreatingPatientFolder2

ID: CreatingPatientFolder2

A comment will be added later, that you can edit

Click on 'Create and Select' to choose a template settings file.

A. **Cancel creating the folder** – This will cancel creating this folder, and return you to the Select Folder Tab.

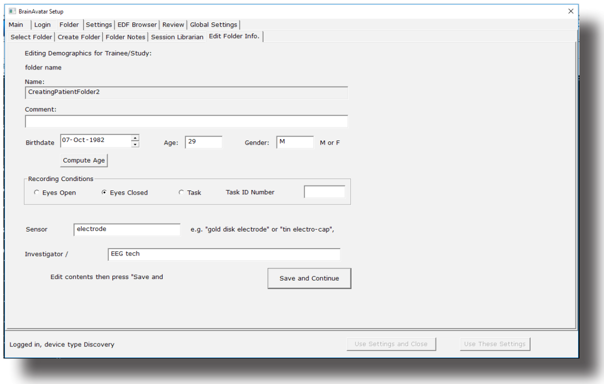
B. **Create the folder with the currently chosen settings** – This will load the last chosen settings file for this folder.

C. **Create the folder with default settings** – This option will use the default settings.

D. **Create the folder and select the settings** – This option allows you to choose either new settings(.bdb2) or old settings(.txt) If using this option, merely navigate to the setting file that you would like to use. ***PLEASE NOTE: You will have to specify between the different file formats.

Choose which option you would like to continue.

4. The Edit Folder Info Screen will open. Fill out all information, and then click the Save and Continue Button.


BrainAvatar Setup
Main
Login
Folder
Settings
EDF Browser
Review
Global Settings
Select Folder
Create Folder
Folder Notes
Session Librarian
Edit Folder Info.
Compute Age
Save and Continue
Use Settings and Close
Use These Settings

Editing Demographics for Trainee/Study:

folder name

Name: CreatingPatientFolder2

Comment:

Birthdate 07-Oct-1982 Age: 29 Gender: M M or F

Recording Conditions

○ Eyes Open ● Eyes Closed ○ Task Task ID Number

Sensor electrode e.g. "gold disk electrode" or "tin electro-cap",

Investigator / EEG tech

Edit contents then press "Save and

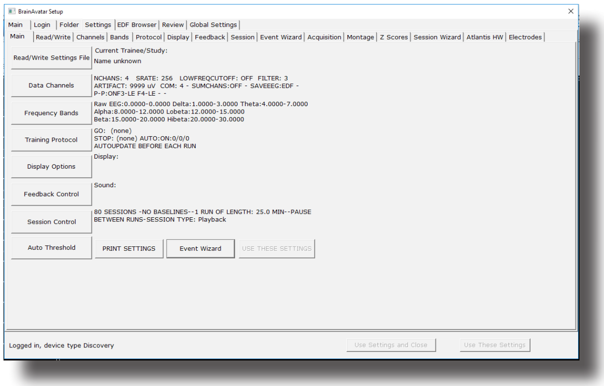
Logged in, device type Discovery

You have now created a folder for training.

## Changing to a new Settings Files

*****PLEASE NOTE:** This process can only be done if you have purchased a BrainMaster Clinical License.

1. From the Main Screen, click the View or Change Settings Button or the Settings Tab. On the Setup Options Menu, click Read/Write Settings File Button or the Read/Write Tab to continue.


BrainAvatar Setup
Main | Login | Folder | Settings | EDF Browser | Review | Global Settings
Main | Read/Write | Channels | Bands | Protocol | Display | Feedback | Session | Event Wizard | Acquisition | Montage | Z Scores | Session Wizard | Atlantis HW | Electrodes
Read/Write Settings File
Data Channels
Frequency Bands
Training Protocol
Display Options
Feedback Control
Session Control
Auto Threshold
PRINT SETTINGS
Event Wizard
USE THESE SETTINGS
Use Settings and Close
Use These Settings

Current Trainee/Study:
Name unknown

NCHANS: 4 SRATE: 256 LOWFREQCUTOFF: OFF FILTER: 3
ARTIFACT: 9999 uV COM: 4 - SUMCHANS:OFF - SAVEEEG:EDF -
P-P:ONF3-LE F4-LE - -

Raw EEG:0.0000-0.0000 Delta:1.0000-3.0000 Theta:4.0000-7.0000
Alpha:8.0000-12.0000 Lobeta:12.0000-15.0000
Beta:15.0000-20.0000 Hibeta:20.0000-30.0000

GO: (none)
STOP: (none) AUTO:ON:0/0/0
AUTOUPDATE BEFORE EACH RUN

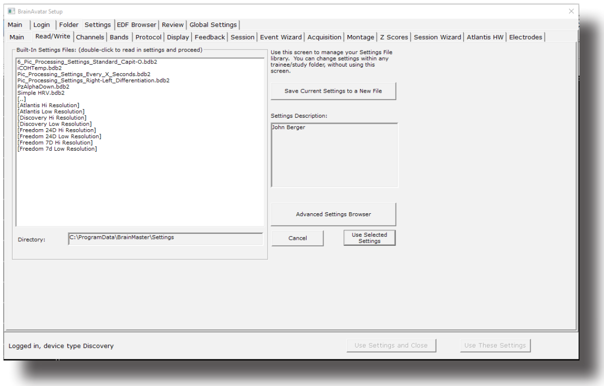
Display:

Sound:

80 SESSIONS -NO BASELINES--1 RUN OF LENGTH: 25.0 MIN--PAUSE
BETWEEN RUNS-SESSION TYPE: Playback

Logged in, device type Discovery

2. On the Read or Write Settings Menu, you can either utilize the menu, on the left. Or, you can click the Advanced Browser Button. If you use the menu, navigate through the folders (Identified with between []) to find the file that you would like to use, and click the Use Selected Button, the click Use Settings and Close Button. Or, if you click the Advanced Settings Browser Button, proceed to Step 3.


BrainAvatar Setup
Main | Login | Folder | Settings | EDF Browser | Review | Global Settings
Main | Read/Write | Channels | Bands | Protocol | Display | Feedback | Session | Event Wizard | Acquisition | Montage | Z Scores | Session Wizard | Atlantis HW | Electrodes
Save Current Settings to a New File
Advanced Settings Browser
Cancel
Use Selected Settings
Use Settings and Close
Use These Settings

Built-In Settings Files: (double-click to read in settings and proceed)

6_Pic_Processing_Settings_Standard_Capit-O.bdb2
iCOHTemp.bdb2
Pic_Processing_Settings_Every_X_Seconds.bdb2
Pic_Processing_Settings_Right-Left_Differentiation.bdb2
PzAlphaDown.bdb2
Simple HRV.bdb2
[..]
[Atlantis Hi Resolution]
[Atlantis Low Resolution]
[Discovery Hi Resolution]
[Discovery Low Resolution]
[Freedom 24D Hi Resolution]
[Freedom 24D Low Resolution]
[Freedom 7D Hi Resolution]
[Freedom 7d Low Resolution]

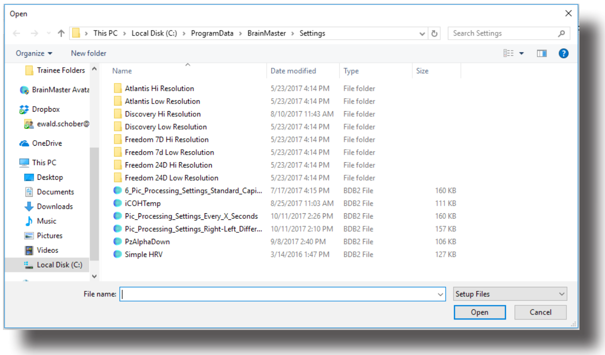
Directory: C:\ProgramData\BrainMaster\Settings

Use this screen to manage your Settings File library. You can change settings within any trainee/study folder, without using this screen.

Settings Description: John Berger

Logged in, device type Discovery

3. The following will open, so that you can find the BrainMaster Setting file(new or old) you would like.  Highlight the Setting file that you would like to use, and click open to continue. After you have returned to the menu, click the Use Settings and Close Button. *****PLEASE NOTE:** You will have to specify between the different file formats(bdb2 or txt).


Open
Search Settings
Organize
New folder
Trainee Folders
BrainMaster Avata
Dropbox
ewald.schober@
OneDrive
This PC
Desktop
Documents
Downloads
Music
Pictures
Videos
Local Disk (C:)
Open
Cancel

This PC › Local Disk (C:) › ProgramData › BrainMaster › Settings

| Name | Date modified | Type | Size |
|---|---|---|---|
| Atlantis Hi Resolution | 5/23/2017 4:14 PM | File folder | |
| Atlantis Low Resolution | 5/23/2017 4:14 PM | File folder | |
| Discovery Hi Resolution | 8/10/2017 11:43 AM | File folder | |
| Discovery Low Resolution | 5/23/2017 4:14 PM | File folder | |
| Freedom 7D Hi Resolution | 5/23/2017 4:14 PM | File folder | |
| Freedom 7d Low Resolution | 5/23/2017 4:14 PM | File folder | |
| Freedom 24D Hi Resolution | 5/23/2017 4:14 PM | File folder | |
| Freedom 24D Low Resolution | 5/23/2017 4:14 PM | File folder | |
| 6_Pic_Processing_Settings_Standard_Capi... | 7/17/2017 4:15 PM | BDB2 File | 160 KB |
| iCOHTemp | 8/25/2017 11:03 AM | BDB2 File | 111 KB |
| Pic_Processing_Settings_Every_X_Seconds | 10/11/2017 2:26 PM | BDB2 File | 160 KB |
| Pic_Processing_Settings_Right-Left_Differ... | 10/11/2017 2:10 PM | BDB2 File | 157 KB |
| PzAlphaDown | 9/8/2017 2:40 PM | BDB2 File | 106 KB |
| Simple HRV | 3/14/2016 1:47 PM | BDB2 File | 127 KB |

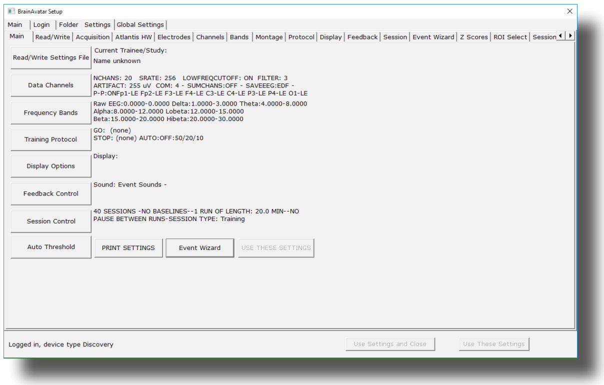
File name:
Setup Files

The settings for your Trainee folder have now been changed.

## Creating a new Setting or updating a Settings File from a Patient’s Settings Files

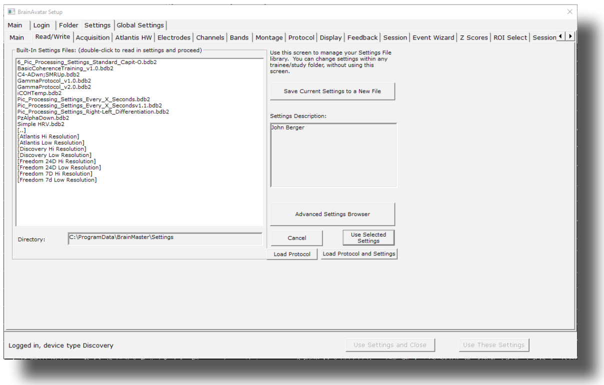
*****PLEASE NOTE:** This process can only be done if you have purchased a BrainMaster Clinical License.

1. From the Main Screen, click the View or Change Settings Button or the Settings Tab. On the Setup Options Menu, click Read/Write Settings File Button or the Read/Write Tab to continue.


BrainAvatar Setup
Main | Login | Folder | Settings | Global Settings
Main | Read/Write | Acquisition | Atlantis HW | Electrodes | Channels | Bands | Montage | Protocol | Display | Feedback | Session | Event Wizard | Z Scores | ROI Select | Session
Read/Write Settings File
Data Channels
Frequency Bands
Training Protocol
Display Options
Feedback Control
Session Control
Auto Threshold
PRINT SETTINGS
Event Wizard
USE THESE SETTINGS
Use Settings and Close
Use These Settings

```
Current Trainee/Study:
Name unknown

NCHANS: 20   SRATE: 256   LOWFREQCUTOFF: ON  FILTER: 3
ARTIFACT: 255 uV  COM: 4 - SUMCHANS:OFF - SAVEEEG:EDF -
P-P:ONFp1-LE Fp2-LE F3-LE F4-LE C3-LE C4-LE P3-LE P4-LE O1-LE

Raw EEG:0.0000-0.0000 Delta:1.0000-3.0000 Theta:4.0000-8.0000
Alpha:8.0000-12.0000 Lobeta:12.0000-15.0000
Beta:15.0000-20.0000 Hibeta:20.0000-30.0000

GO:  (none)
STOP: (none) AUTO:OFF:50/20/10

Display:

Sound: Event Sounds -

40 SESSIONS -NO BASELINES--1 RUN OF LENGTH: 20.0 MIN--NO
PAUSE BETWEEN RUNS-SESSION TYPE: Training

Logged in, device type Discovery
```

2. On the Read or Write Settings File Menu, click the click Save Current Settings to a New File Button to continue.


BrainAvatar Setup
Main | Login | Folder | Settings | Global Settings
Main | Read/Write | Acquisition | Atlantis HW | Electrodes | Channels | Bands | Montage | Protocol | Display | Feedback | Session | Event Wizard | Z Scores | ROI Select | Session
Save Current Settings to a New File
Advanced Settings Browser
Cancel
Use Selected Settings
Load Protocol
Load Protocol and Settings
Use Settings and Close
Use These Settings

Built-In Settings Files: (double-click to read in settings and proceed)

```
6_Pic_Processing_Settings_Standard_Capit-O.bdb2
BasicCoherenceTraining_v1.0.bdb2
C4-ADwn;SMRUp.bdb2
GammaProtocol_v1.0.bdb2
GammaProtocol_v2.0.bdb2
iCOHTemp.bdb2
Pic_Processing_Settings_Every_X_Seconds.bdb2
Pic_Processing_Settings_Every_X_Secondsv1.1.bdb2
Pic_Processing_Settings_Right-Left_Differentiation.bdb2
PzAlphaDown.bdb2
Simple HRV.bdb2
[..]
[Atlantis Hi Resolution]
[Atlantis Low Resolution]
[Discovery Hi Resolution]
[Discovery Low Resolution]
[Freedom 24D Hi Resolution]
[Freedom 24D Low Resolution]
[Freedom 7D Hi Resolution]
[Freedom 7d Low Resolution]
```

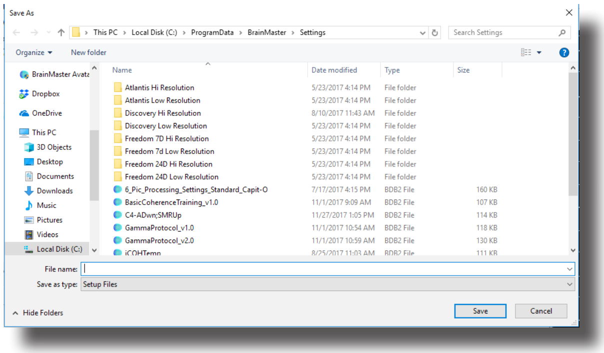
Directory: C:\ProgramData\BrainMaster\Settings

Use this screen to manage your Settings File library. You can change settings within any trainee/study folder, without using this screen.

Settings Description: John Berger

Logged in, device type Discovery

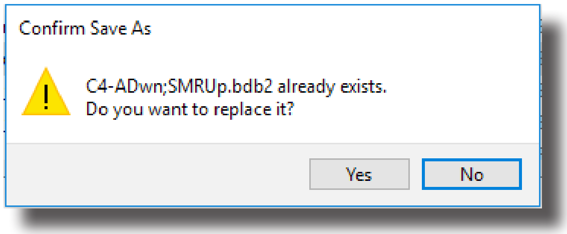
3. The following will open, so that you can find the BrainMaster Setting file you would like. Highlight the Setting file that you would like to change, or simply type in the File Name that you would like the Settings file to contain. Click the Save Button to continue.


Save As
This PC › Local Disk (C:) › ProgramData › BrainMaster › Settings
Search Settings
Organize
New folder
BrainMaster Avata
Dropbox
OneDrive
This PC
3D Objects
Desktop
Documents
Downloads
Music
Pictures
Videos
Local Disk (C:)
Hide Folders
Save
Cancel

| Name | Date modified | Type | Size |
|---|---|---|---|
| Atlantis Hi Resolution | 5/23/2017 4:14 PM | File folder | |
| Atlantis Low Resolution | 5/23/2017 4:14 PM | File folder | |
| Discovery Hi Resolution | 8/10/2017 11:43 AM | File folder | |
| Discovery Low Resolution | 5/23/2017 4:14 PM | File folder | |
| Freedom 7D Hi Resolution | 5/23/2017 4:14 PM | File folder | |
| Freedom 7d Low Resolution | 5/23/2017 4:14 PM | File folder | |
| Freedom 24D Hi Resolution | 5/23/2017 4:14 PM | File folder | |
| Freedom 24D Low Resolution | 5/23/2017 4:14 PM | File folder | |
| 6_Pic_Processing_Settings_Standard_Capit-O | 7/17/2017 4:15 PM | BDB2 File | 160 KB |
| BasicCoherenceTraining_v1.0 | 11/1/2017 9:09 AM | BDB2 File | 107 KB |
| C4-ADwn;SMRUp | 11/27/2017 1:05 PM | BDB2 File | 114 KB |
| GammaProtocol_v1.0 | 11/1/2017 10:54 AM | BDB2 File | 118 KB |
| GammaProtocol_v2.0 | 11/1/2017 10:59 AM | BDB2 File | 130 KB |
| iCOHTemp | 8/25/2017 11:03 AM | BDB2 File | 111 KB |

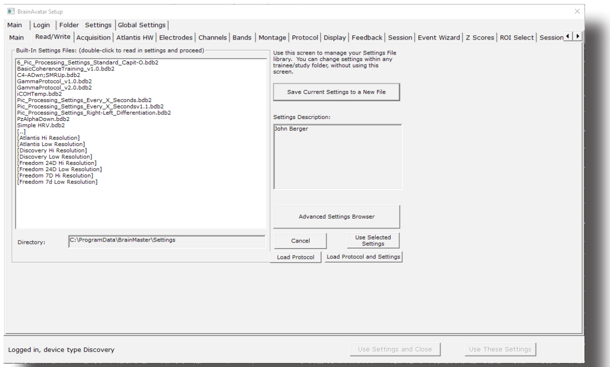
File name:
Save as type: Setup Files

4. If you are saving over an existing settings file, you will have to confirm the replacement of the file. Click the Yes Button to continue.


Confirm Save As
Yes
No

C4-ADwn;SMRUp.bdb2 already exists.
Do you want to replace it?

The settings have now been changed with the adjustments you have added, or a new settings file has been created with your settings.


BrainAvatar Setup
Main
Login
Folder
Settings
Global Settings
Main
Read/Write
Acquisition
Atlantis HW
Electrodes
Channels
Bands
Montage
Protocol
Display
Feedback
Session
Event Wizard
Z Scores
ROI Select
Session
Save Current Settings to a New File
Advanced Settings Browser
Cancel
Use Selected Settings
Load Protocol
Load Protocol and Settings
Use Settings and Close
Use These Settings

Built-In Settings Files: (double-click to read in settings and proceed)

6_Pic_Processing_Settings_Standard_Capit-O.bdb2
BasicCoherenceTraining_v1.0.bdb2
C4-ADwn;SMRUp.bdb2
GammaProtocol_v1.0.bdb2
GammaProtocol_v2.0.bdb2
iCOHTemp.bdb2
Pic_Processing_Settings_Every_X_Seconds.bdb2
Pic_Processing_Settings_Every_X_Secondsv1.1.bdb2
Pic_Processing_Settings_Right-Left_Differentiation.bdb2
PzAlphaDown.bdb2
Simple HRV.bdb2
[..]
[Atlantis Hi Resolution]
[Atlantis Low Resolution]
[Discovery Hi Resolution]
[Discovery Low Resolution]
[Freedom 24D Hi Resolution]
[Freedom 24D Low Resolution]
[Freedom 7D Hi Resolution]
[Freedom 7d Low Resolution]

Directory: C:\ProgramData\BrainMaster\Settings

Use this screen to manage your Settings File library. You can change settings within any trainee/study folder, without using this screen.

Settings Description: John Berger

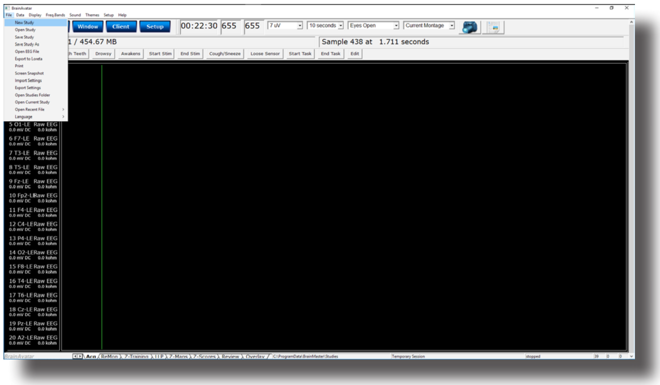
Logged in, device type Discovery

## Training Screen Method

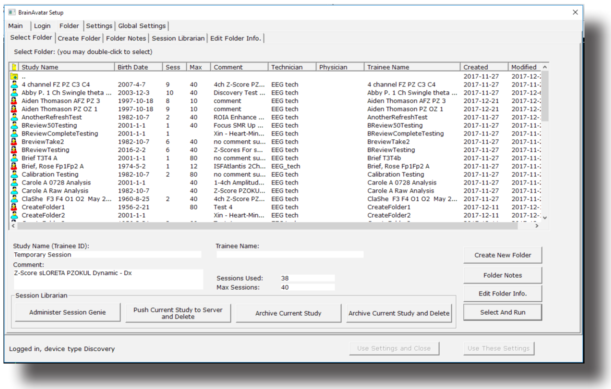
### Creating a Trainee Folder

*****PLEASE NOTE:** This process can only be done if you have purchased a BrainMaster Clinical License.

1. From the Training Screen, Click the File Tab, then New Study.


BrainAvatar
File
Data
Display
Freq.Bands
Sound
Themes
Setup
Help
New Study
Open Study
Save Study
Save Study As
Open EEG File
Export to Loreta
Print
Screen Snapshot
Import Settings
Export Settings
Open Studies Folder
Open Current Study
Open Recent File
Language
Window
Client
Setup
00:22:30
655
655
7 uV
10 seconds
Eyes Open
Current Montage
1 / 454.67 MB
Sample 438 at 1.711 seconds
h Teeth
Drowsy
Awakens
Start Stim
End Stim
Cough/Sneeze
Loose Sensor
Start Task
End Task
Edit
5 O1-LE Raw EEG
6 F7-LE Raw EEG
7 T3-LE Raw EEG
8 T5-LE Raw EEG
9 Fz-LE Raw EEG
10 Fp2-LERaw EEG
11 F4-LE Raw EEG
12 C4-LERaw EEG
13 P4-LE Raw EEG
14 O2-LERaw EEG
15 F8-LE Raw EEG
16 T4-LE Raw EEG
17 T6-LE Raw EEG
18 Cz-LE Raw EEG
19 Pz-LE Raw EEG
20 A2-LERaw EEG

2. This will bring you to the Select Folder screen. On this screen, click the Create New Folder Button or the Create Folder Tab to begin creating a new folder.


BrainAvatar Setup
Main
Login
Folder
Settings
Global Settings
Select Folder
Create Folder
Folder Notes
Session Librarian
Edit Folder Info.
Create New Folder
Folder Notes
Edit Folder Info.
Select And Run
Session Librarian
Administer Session Genie
Push Current Study to Server and Delete
Archive Current Study
Archive Current Study and Delete
Use Settings and Close
Use These Settings

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

| Study Name | Birth Date | Sess | Max | Comment | Technician | Physician | Trainee Name | Created | Modified |
|---|---|---|---|---|---|---|---|---|---|
| .. | | | | | | | | 2017-11-27 | 2017-12- |
| 4 channel FZ PZ C3 C4 | 2007-4-7 | 9 | 40 | 4ch Z-Score PZ... | EEG tech | | 4 channel FZ PZ C3 C4 | 2017-11-27 | 2017-11- |
| Abby P. 1 Ch Swingle theta ... | 2003-12-3 | 10 | 40 | Discovery Test ... | EEG tech | | Abby P. 1 Ch Swingle theta ... | 2017-11-27 | 2017-12- |
| Aiden Thomason AFZ PZ 3 | 1997-10-18 | 8 | 10 | comment | EEG tech | | Aiden Thomason AFZ PZ 3 | 2017-12-21 | 2017-12- |
| Aiden Thomason PZ OZ 1 | 1997-10-18 | 9 | 10 | comment | EEG tech | | Aiden Thomason PZ OZ 1 | 2017-12-21 | 2017-12- |
| AnotherRefreshTest | 1982-10-7 | 2 | 40 | ROIA Enhance ... | EEG tech | | AnotherRefreshTest | 2017-11-27 | 2017-12- |
| BReview50Testing | 2001-1-1 | 1 | 40 | Focus SMR Up ... | EEG tech | | BReview50Testing | 2017-11-27 | 2017-11- |
| BReviewCompleteTesting | 2001-1-1 | 1 | | Xin - Heart-Min... | EEG tech | | BReviewCompleteTesting | 2017-11-27 | 2017-11- |
| BreviewTake2 | 1982-10-7 | 6 | 40 | no comment su... | EEG tech | | BreviewTake2 | 2017-11-27 | 2017-11- |
| BReviewTesting | 2016-2-2 | 6 | 40 | Z-Scores For s... | EEG tech | | BReviewTesting | 2017-11-27 | 2017-11- |
| Brief T3T4 A | 2001-1-1 | 1 | 80 | no comment su... | EEG tech | | Brief T3T4b | 2017-11-27 | 2017-11- |
| Brief, Rose Fp1Fp2 A | 1974-5-2 | 1 | 12 | ISFAtlantis 2Ch... | EEG_tech | | Brief, Rose Fp1Fp2 A | 2017-11-27 | 2017-11- |
| Calibration Testing | 1982-10-7 | 2 | 80 | no comment su... | EEG tech | | Calibration Testing | 2017-11-27 | 2017-11- |
| Carole A 0728 Analysis | 2001-1-1 | | 40 | 1-4ch Amplitud... | EEG tech | | Carole A 0728 Analysis | 2017-11-27 | 2017-11- |
| Carole A Raw Analysis | 1982-10-7 | | 40 | Z-Score PZOKU... | EEG tech | | Carole A Raw Analysis | 2017-11-27 | 2017-11- |
| ClaShe F3 F4 O1 O2 May 2... | 1960-8-25 | 2 | 40 | 4ch Z-Score PZ... | EEG tech | | ClaShe F3 F4 O1 O2 May 2... | 2017-11-27 | 2017-11- |
| CreateFolder1 | 1956-2-21 | | 80 | Test 4 | EEG tech | | CreateFolder1 | 2017-12-11 | 2017-12- |
| CreateFolder2 | 2001-1-1 | | | Xin - Heart-Min... | EEG tech | | CreateFolder2 | 2017-12-11 | 2017-12- |

Study Name (Trainee ID): Temporary Session

Trainee Name:

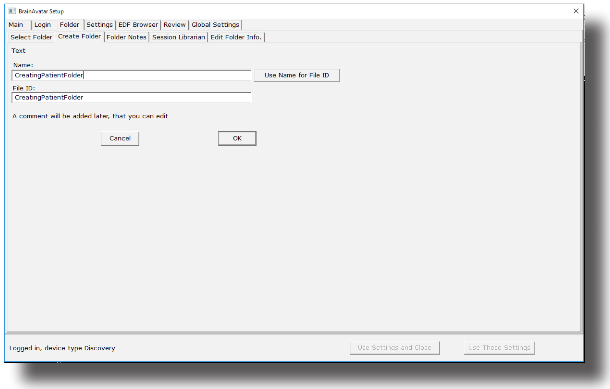
Comment: Z-Score sLORETA PZOKUL Dynamic - Dx

Sessions Used: 38

Max Sessions: 40

Logged in, device type Discovery

3. Type in the name that you would like, and the file ID for the folder in the proper fields. When naming the folder, please take HIPAA compliance into consideration. When you have entered the name and file ID, click OK to continue.


BrainAvatar Setup
Main
Login
Folder
Settings
EDF Browser
Review
Global Settings
Select Folder
Create Folder
Folder Notes
Session Librarian
Edit Folder Info.
Use Name for File ID
Cancel
OK
Use Settings and Close
Use These Settings

Text

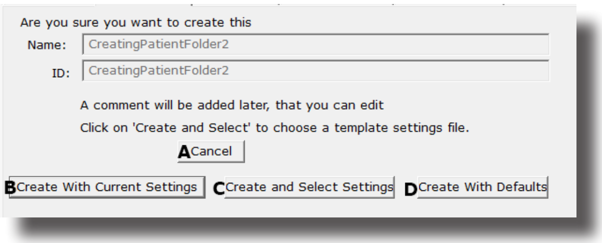
Name: CreatingPatientFolder

File ID: CreatingPatientFolder

A comment will be added later, that you can edit

Logged in, device type Discovery

4. Another screen will pop up to confirm the name of the folder. You have four options:


A
Cancel
B
Create With Current Settings
C
Create and Select Settings
D
Create With Defaults

Are you sure you want to create this

Name: CreatingPatientFolder2

ID: CreatingPatientFolder2

A comment will be added later, that you can edit

Click on 'Create and Select' to choose a template settings file.

A. **Cancel creating the folder** – This will cancel creating this folder, and return you to the Select Folder Tab.

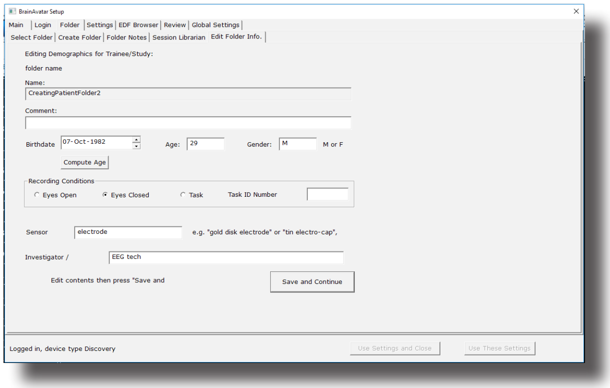
B. **Create the folder with the currently chosen settings** – This will load the last chosen settings file for this folder.

C. **Create the folder with default settings** – This option will use the default settings.

D. **Create the folder and select the settings** – This option allows you to choose either new settings(.bdb2) or old settings(.txt) If using this option, merely navigate to the setting file that you would like to use. ***PLEASE NOTE: You will have to specify between the different file formats.

Choose which option you would like to continue.

5. The Edit Folder Info Screen will open. Fill out all information, and then click the Save and Continue Button.


BrainAvatar Setup
Main
Login
Folder
Settings
EDF Browser
Review
Global Settings
Select Folder
Create Folder
Folder Notes
Session Librarian
Edit Folder Info.
Compute Age
Save and Continue
Use Settings and Close
Use These Settings

Editing Demographics for Trainee/Study:

folder name

Name: CreatingPatientFolder2

Comment:

Birthdate 07-Oct-1982

Age: 29

Gender: M

M or F

Recording Conditions

○ Eyes Open ● Eyes Closed ○ Task

Task ID Number

Sensor electrode

e.g. "gold disk electrode" or "tin electro-cap",

Investigator / EEG tech

Edit contents then press "Save and

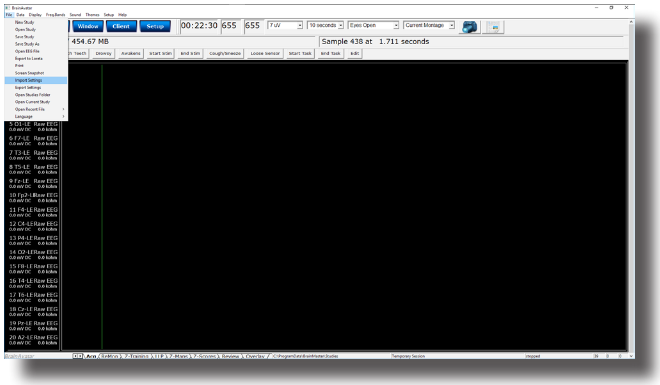
Logged in, device type Discovery

You have now created a folder for training.

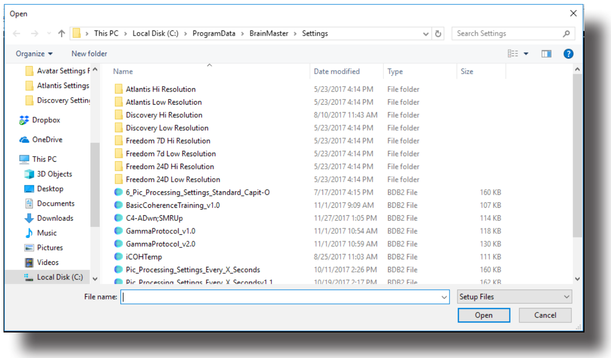
## Changing to a new Settings Files

*****PLEASE NOTE:** This process can only be done if you have purchased a BrainMaster Clinical License.

1. From the Training Screen, click the File Tab and then click Import Settings.



2. The following will open, so that you can find the BrainMaster Setting file(new or old) you would like. Highlight the Setting file that you would like to use, and click open to continue. *****PLEASE NOTE:** You will have to specify between the different file formats(bdb2 or txt).



This PC › Local Disk (C:) › ProgramData › BrainMaster › Settings

| Name | Date modified | Type | Size |
|---|---|---|---|
| Atlantis Hi Resolution | 5/23/2017 4:14 PM | File folder | |
| Atlantis Low Resolution | 5/23/2017 4:14 PM | File folder | |
| Discovery Hi Resolution | 8/10/2017 11:43 AM | File folder | |
| Discovery Low Resolution | 5/23/2017 4:14 PM | File folder | |
| Freedom 7D Hi Resolution | 5/23/2017 4:14 PM | File folder | |
| Freedom 7d Low Resolution | 5/23/2017 4:14 PM | File folder | |
| Freedom 24D Hi Resolution | 5/23/2017 4:14 PM | File folder | |
| Freedom 24D Low Resolution | 5/23/2017 4:14 PM | File folder | |
| 6_Pic_Processing_Settings_Standard_Capit-O | 7/17/2017 4:15 PM | BDB2 File | 160 KB |
| BasicCoherenceTraining_v1.0 | 11/1/2017 9:09 AM | BDB2 File | 107 KB |
| C4-ADwn;SMRUp | 11/27/2017 1:05 PM | BDB2 File | 114 KB |
| GammaProtocol_v1.0 | 11/1/2017 10:54 AM | BDB2 File | 118 KB |
| GammaProtocol_v2.0 | 11/1/2017 10:59 AM | BDB2 File | 130 KB |
| iCOHTemp | 8/25/2017 11:03 AM | BDB2 File | 111 KB |
| Pic_Processing_Settings_Every_X_Seconds | 10/11/2017 2:26 PM | BDB2 File | 160 KB |

File name:

Setup Files

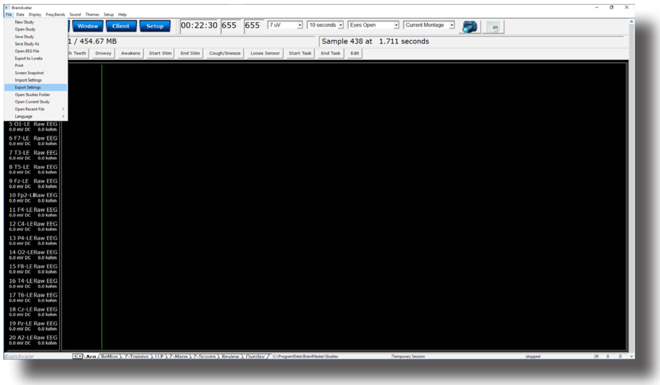
Open
Search Settings
Organize
New folder
Avatar Settings F
Atlantis Settings
Discovery Settin
Dropbox
OneDrive
This PC
3D Objects
Desktop
Documents
Downloads
Music
Pictures
Videos
Local Disk (C:)
Open
Cancel

The settings for your Trainee folder have now been changed.

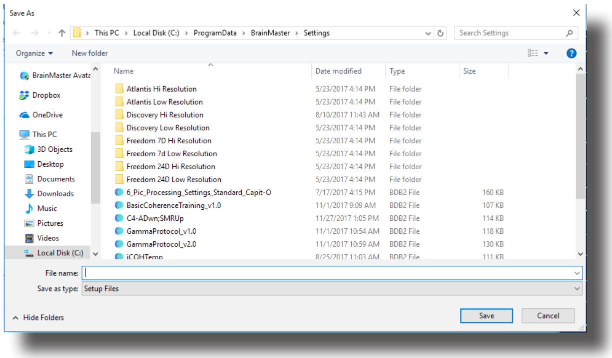
### Creating a new Setting or updating a Settings File from a Patient's Settings Files

***PLEASE NOTE:** This process can only be done if you have purchased a BrainMaster Clinical License.

1. From the Training Screen, click the File Tab and then click Export Settings.


BrainAvatar
File
Data
Display
Freq.Bands
Sound
Themes
Setup
Help
New Study
Open Study
Save Study
Save Study As
Open EEG File
Export to Loreta
Print
Screen Snapshot
Import Settings
Export Settings
Open Studies Folder
Open Current Study
Open Recent File
Language
Window
Client
Setup
00:22:30
655
655
7 uV
10 seconds
Eyes Open
Current Montage
1 / 454.67 MB
Sample 438 at 1.711 seconds
h Teeth
Drowsy
Awakens
Start Stim
End Stim
Cough/Sneeze
Loose Sensor
Start Task
End Task
Edit
5 O1-LE Raw EEG
6 F7-LE Raw EEG
7 T3-LE Raw EEG
8 T5-LE Raw EEG
9 Fz-LE Raw EEG
10 Fp2-LE Raw EEG
11 F4-LE Raw EEG
12 C4-LE Raw EEG
13 P4-LE Raw EEG
14 O2-LE Raw EEG
15 F8-LE Raw EEG
16 T4-LE Raw EEG
17 T6-LE Raw EEG
18 Cz-LE Raw EEG
19 Pz-LE Raw EEG
20 A2-LE Raw EEG

2. The following will open, so that you can find the BrainMaster Setting file you would like. Highlight the Setting file that you would like to change, or simply type in the File Name that you would like the Settings file to contain. Click the Save Button to continue.


Save As

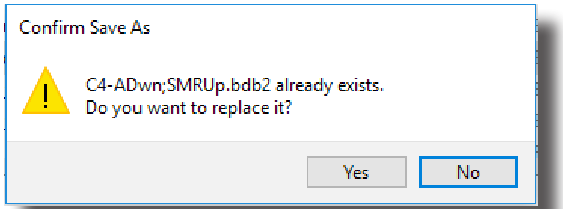
This PC › Local Disk (C:) › ProgramData › BrainMaster › Settings

| Name | Date modified | Type | Size |
|---|---|---|---|
| Atlantis Hi Resolution | 5/23/2017 4:14 PM | File folder | |
| Atlantis Low Resolution | 5/23/2017 4:14 PM | File folder | |
| Discovery Hi Resolution | 8/10/2017 11:43 AM | File folder | |
| Discovery Low Resolution | 5/23/2017 4:14 PM | File folder | |
| Freedom 7D Hi Resolution | 5/23/2017 4:14 PM | File folder | |
| Freedom 7d Low Resolution | 5/23/2017 4:14 PM | File folder | |
| Freedom 24D Hi Resolution | 5/23/2017 4:14 PM | File folder | |
| Freedom 24D Low Resolution | 5/23/2017 4:14 PM | File folder | |
| 6_Pic_Processing_Settings_Standard_Capit-O | 7/17/2017 4:15 PM | BDB2 File | 160 KB |
| BasicCoherenceTraining_v1.0 | 11/1/2017 9:09 AM | BDB2 File | 107 KB |
| C4-ADwn;SMRUp | 11/27/2017 1:05 PM | BDB2 File | 114 KB |
| GammaProtocol_v1.0 | 11/1/2017 10:54 AM | BDB2 File | 118 KB |
| GammaProtocol_v2.0 | 11/1/2017 10:59 AM | BDB2 File | 130 KB |
| iCOHTemp | 8/25/2017 11:03 AM | BDB2 File | 111 KB |

File name:
Save as type: Setup Files

Search Settings
Organize
New folder
BrainMaster Avata
Dropbox
OneDrive
This PC
3D Objects
Desktop
Documents
Downloads
Music
Pictures
Videos
Local Disk (C:)
Hide Folders
Save
Cancel

3. If you are saving over an existing settings file, you will have to confirm the replacement of the file. Click the Yes Button to continue.


Confirm Save As

C4-ADwn;SMRUp.bdb2 already exists.
Do you want to replace it?

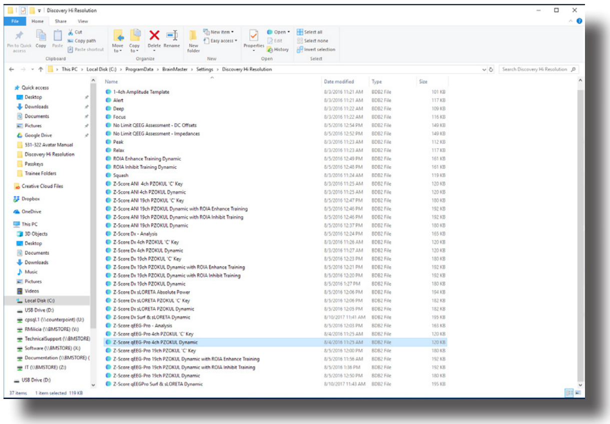
The settings have now been changed with the adjustments you have added.

# Outside of BrainAvatar Software (File Explorer)

## Creating a Trainee Folder

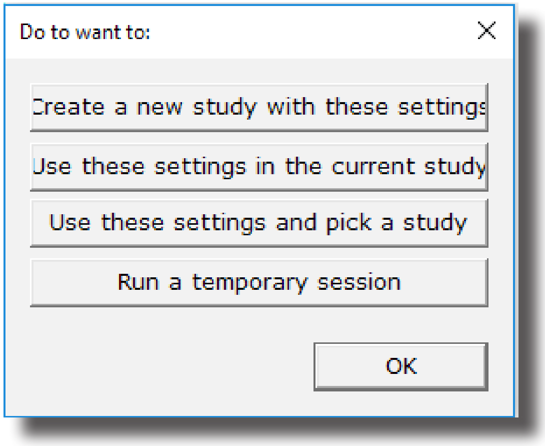
*****PLEASE NOTE:** This process can only be done if you have purchased a BrainMaster Clinical License.

1. Locate the .bdb2 file that you would like to use for your training. When you find this, file double-click.


Discovery Hi Resolution
File
Home
Share
View
Pin to Quick access
Copy
Paste
Cut
Copy path
Paste shortcut
Clipboard
Move to
Copy to
Delete
Rename
Organize
New folder
New item
Easy access
New
Properties
Open
Edit
History
Open
Select all
Select none
Invert selection
Select
This PC › Local Disk (C:) › ProgramData › BrainMaster › Settings › Discovery Hi Resolution
Search Discovery Hi Resolution
Quick access
Desktop
Downloads
Documents
Pictures
Google Drive
531-322 Avatar Manual
Discovery Hi Resolution
Passkeys
Trainee Folders
Creative Cloud Files
Dropbox
OneDrive
This PC
3D Objects
Desktop
Documents
Downloads
Music
Pictures
Videos
Local Disk (C:)
USB Drive (D:)
cpsql.1 (\\counterpoint) (U:)
RMilicia (\\BMSTORE) (V:)
TechnicalSupport (\\BMSTORE)
Software (\\BMSTORE) (X:)
Documentation (\\BMSTORE) (
IT (\\BMSTORE) (Z:)
USB Drive (D:)
37 items
1 item selected 119 KB

| Name | Date modified | Type | Size |
|---|---|---|---|
| 1-4ch Amplitude Template | 8/3/2016 11:21 AM | BDB2 File | 101 KB |
| Alert | 8/3/2016 11:21 AM | BDB2 File | 117 KB |
| Deep | 8/3/2016 11:22 AM | BDB2 File | 109 KB |
| Focus | 8/3/2016 11:22 AM | BDB2 File | 116 KB |
| No Limit QEEG Assessment - DC Offsets | 8/5/2016 12:54 PM | BDB2 File | 149 KB |
| No Limit QEEG Assessment - Impedances | 8/5/2016 12:52 PM | BDB2 File | 149 KB |
| Peak | 8/3/2016 11:23 AM | BDB2 File | 112 KB |
| Relax | 8/3/2016 11:23 AM | BDB2 File | 117 KB |
| ROIA Enhance Training Dynamic | 8/5/2016 12:49 PM | BDB2 File | 161 KB |
| ROIA Inhibit Training Dynamic | 8/5/2016 12:48 PM | BDB2 File | 161 KB |
| Squash | 8/3/2016 11:24 AM | BDB2 File | 119 KB |
| Z-Score ANI 4ch PZOKUL 'C' Key | 8/3/2016 11:25 AM | BDB2 File | 120 KB |
| Z-Score ANI 4ch PZOKUL Dynamic | 8/3/2016 11:25 AM | BDB2 File | 120 KB |
| Z-Score ANI 19ch PZOKUL 'C' Key | 8/5/2016 12:47 PM | BDB2 File | 180 KB |
| Z-Score ANI 19ch PZOKUL Dynamic with ROIA Enhance Training | 8/5/2016 12:46 PM | BDB2 File | 192 KB |
| Z-Score ANI 19ch PZOKUL Dynamic with ROIA Inhibit Training | 8/5/2016 12:46 PM | BDB2 File | 192 KB |
| Z-Score ANI 19ch PZOKUL Dynamic | 8/5/2016 12:37 PM | BDB2 File | 180 KB |
| Z-Score Dx - Analysis | 8/5/2016 12:24 PM | BDB2 File | 165 KB |
| Z-Score Dx 4ch PZOKUL 'C' Key | 8/3/2016 11:26 AM | BDB2 File | 120 KB |
| Z-Score Dx 4ch PZOKUL Dynamic | 8/3/2016 11:27 AM | BDB2 File | 120 KB |
| Z-Score Dx 19ch PZOKUL 'C' Key | 8/5/2016 12:23 PM | BDB2 File | 180 KB |
| Z-Score Dx 19ch PZOKUL Dynamic with ROIA Enhance Training | 8/5/2016 12:21 PM | BDB2 File | 192 KB |
| Z-Score Dx 19ch PZOKUL Dynamic with ROIA Inhibit Training | 8/5/2016 12:20 PM | BDB2 File | 192 KB |
| Z-Score Dx 19ch PZOKUL Dynamic | 8/5/2016 1:27 PM | BDB2 File | 180 KB |
| Z-Score Dx sLORETA Absolute Power | 8/5/2016 12:06 PM | BDB2 File | 194 KB |
| Z-Score Dx sLORETA PZOKUL 'C' Key | 8/5/2016 12:06 PM | BDB2 File | 182 KB |
| Z-Score Dx sLORETA PZOKUL Dynamic | 8/5/2016 12:05 PM | BDB2 File | 182 KB |
| Z-Score Dx Surf & sLORETA Dynamic | 8/10/2017 11:41 AM | BDB2 File | 195 KB |
| Z-Score qEEG-Pro - Analysis | 8/5/2016 12:03 PM | BDB2 File | 163 KB |
| Z-Score qEEG-Pro 4ch PZOKUL 'C' Key | 8/4/2016 11:25 AM | BDB2 File | 120 KB |
| Z-Score qEEG-Pro 4ch PZOKUL Dynamic | 8/4/2016 11:25 AM | BDB2 File | 120 KB |
| Z-Score qEEG-Pro 19ch PZOKUL 'C' Key | 8/5/2016 12:00 PM | BDB2 File | 180 KB |
| Z-Score qEEG-Pro 19ch PZOKUL Dynamic with ROIA Enhance Training | 8/5/2016 11:56 AM | BDB2 File | 192 KB |
| Z-Score qEEG-Pro 19ch PZOKUL Dynamic with ROIA Inhibit Training | 8/5/2016 1:36 PM | BDB2 File | 192 KB |
| Z-Score qEEG-Pro 19ch PZOKUL Dynamic | 8/5/2016 12:50 PM | BDB2 File | 180 KB |
| Z-Score qEEGPro Surf & sLORETA Dynamic | 8/10/2017 11:43 AM | BDB2 File | 195 KB |

2. The following screen will appear, asking what you would like to do.  There are 4 options:


Do to want to:
Create a new study with these settings
Use these settings in the current study
Use these settings and pick a study
Run a temporary session
OK

   a. **Create a new study with these settings –** This will bring you to the Create Folder Tab, so that you can create a new folder.

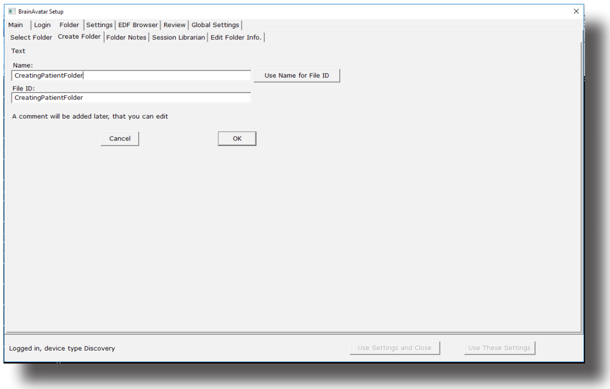
   b. **Use these settings in the current study –** This will automatically load these settings into the Study Folder that you last ran a session with, and will open the software to this Study Folder

   c. **Use these settings and pick a study –** This option will allow you to pick a Study folder that you would like to load this into.  After you have picked, it will open the software to this Study Folder.

   d. **Run a temporary session –** This will load the settings into a Study Folder named Temporary Session, and will open the software to this Study Folder.

To create a new folder, click Create a new study with these settings.

3. Type in the name that you would like, and the file ID for the folder in the proper fields. When naming the folder, please take HIPAA compliance into consideration. When you have entered the name and file ID, click OK to continue.


BrainAvatar Setup
Main
Login
Folder
Settings
EDF Browser
Review
Global Settings
Select Folder
Create Folder
Folder Notes
Session Librarian
Edit Folder Info.
Use Name for File ID
Cancel
OK
Use Settings and Close
Use These Settings

Text

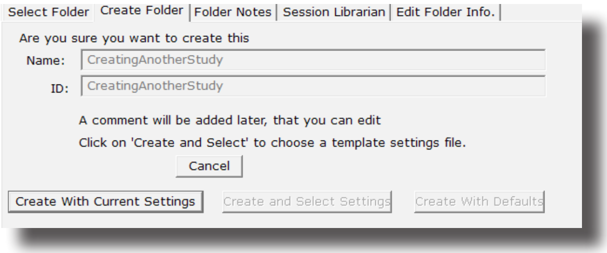
Name: CreatingPatientFolder

File ID: CreatingPatientFolder

A comment will be added later, that you can edit

Logged in, device type Discovery

4. The following screen will appear. This will be slightly different than if you created a folder inside of the software. As opposed to 4 options as normal, you will only have 2 options:


Select Folder
Create Folder
Folder Notes
Session Librarian
Edit Folder Info.
Cancel
Create With Current Settings
Create and Select Settings
Create With Defaults

Are you sure you want to create this

Name: CreatingAnotherStudy

ID: CreatingAnotherStudy

A comment will be added later, that you can edit

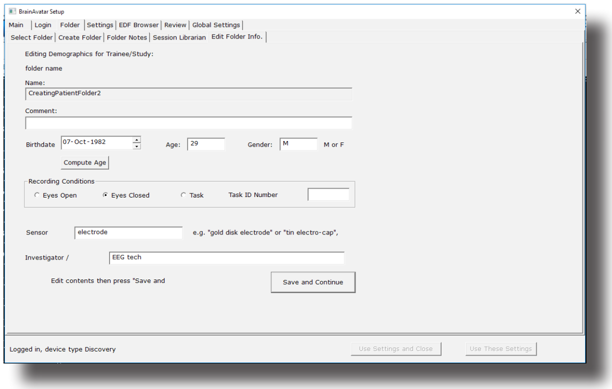
Click on 'Create and Select' to choose a template settings file.

   a. **Cancel creating the folder –** This will cancel creating this folder, and return you to the Select Folder Tab.

   b. **Create With Current Settings –** This will load the last chosen settings file for this folder. This is the only option available, as you have already chosen the Settings protocol that you would like to have loaded.

To continue, click option b.

5. The Edit Folder Info Screen will open. Fill out all information, and then click the Save and Continue Button.


BrainAvatar Setup
Main
Login
Folder
Settings
EDF Browser
Review
Global Settings
Select Folder
Create Folder
Folder Notes
Session Librarian
Edit Folder Info.
Compute Age
Save and Continue
Use Settings and Close
Use These Settings

Editing Demographics for Trainee/Study:

folder name

Name: CreatingPatientFolder2

Comment:

Birthdate 07-Oct-1982

Age: 29

Gender: M

M or F

Recording Conditions

○ Eyes Open

● Eyes Closed

○ Task

Task ID Number

Sensor electrode

e.g. "gold disk electrode" or "tin electro-cap",

Investigator / EEG tech

Edit contents then press "Save and

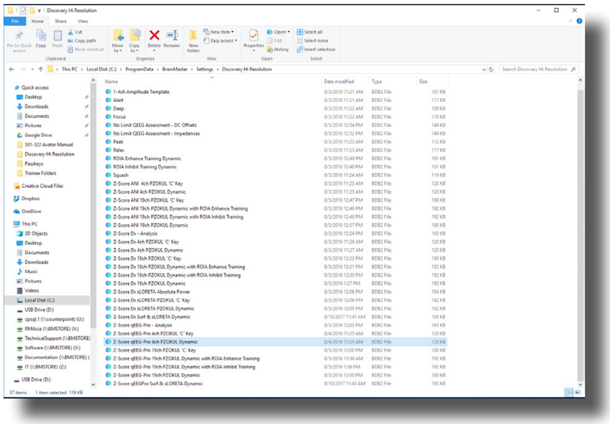
Logged in, device type Discovery

You have now created a folder for training.

## Changing to a new Settings Files

*****PLEASE NOTE:** This process can only be done if you have purchased a BrainMaster Clinical License.

1. Locate the .bdb2 file that you would like to use for your training. When you find this, file double-click.

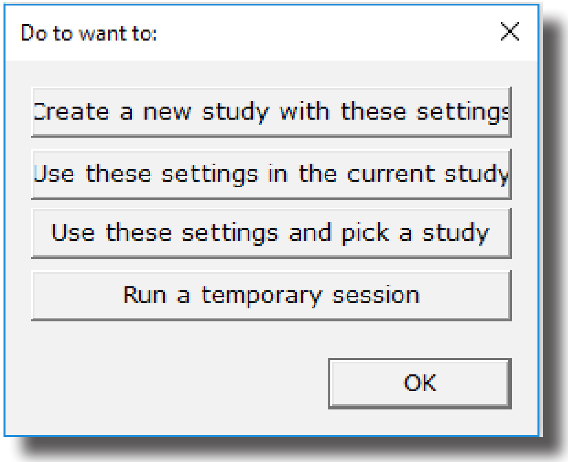

Discovery Hi Resolution
File
Home
Share
View
Pin to Quick access
Copy
Paste
Cut
Copy path
Paste shortcut
Clipboard
Move to
Copy to
Delete
Rename
Organize
New folder
New item
Easy access
New
Properties
Open
Edit
History
Open
Select all
Select none
Invert selection
Select
Quick access
Desktop
Downloads
Documents
Pictures
Google Drive
531-322 Avatar Manual
Discovery Hi Resolution
Passkeys
Trainee Folders
Creative Cloud Files
Dropbox
OneDrive
This PC
3D Objects
Desktop
Documents
Downloads
Music
Pictures
Videos
Local Disk (C:)
USB Drive (D:)
cpsql.1 (\\counterpoint) (U:)
RMilicia (\\BMSTORE) (V:)
TechnicalSupport (\\BMSTORE)
Software (\\BMSTORE) (X:)
Documentation (\\BMSTORE) (
IT (\\BMSTORE) (Z:)
USB Drive (D:)

This PC › Local Disk (C:) › ProgramData › BrainMaster › Settings › Discovery Hi Resolution

| Name | Date modified | Type | Size |
|---|---|---|---|
| 1-4ch Amplitude Template | 8/3/2016 11:21 AM | BDB2 File | 101 KB |
| Alert | 8/3/2016 11:21 AM | BDB2 File | 117 KB |
| Deep | 8/3/2016 11:22 AM | BDB2 File | 109 KB |
| Focus | 8/3/2016 11:22 AM | BDB2 File | 116 KB |
| No Limit QEEG Assessment - DC Offsets | 8/5/2016 12:54 PM | BDB2 File | 149 KB |
| No Limit QEEG Assessment - Impedances | 8/5/2016 12:52 PM | BDB2 File | 149 KB |
| Peak | 8/3/2016 11:23 AM | BDB2 File | 112 KB |
| Relax | 8/3/2016 11:23 AM | BDB2 File | 117 KB |
| ROIA Enhance Training Dynamic | 8/5/2016 12:49 PM | BDB2 File | 161 KB |
| ROIA Inhibit Training Dynamic | 8/5/2016 12:48 PM | BDB2 File | 161 KB |
| Squash | 8/3/2016 11:24 AM | BDB2 File | 119 KB |
| Z-Score ANI 4ch PZOKUL 'C' Key | 8/3/2016 11:25 AM | BDB2 File | 120 KB |
| Z-Score ANI 4ch PZOKUL Dynamic | 8/3/2016 11:25 AM | BDB2 File | 120 KB |
| Z-Score ANI 19ch PZOKUL 'C' Key | 8/5/2016 12:47 PM | BDB2 File | 180 KB |
| Z-Score ANI 19ch PZOKUL Dynamic with ROIA Enhance Training | 8/5/2016 12:46 PM | BDB2 File | 192 KB |
| Z-Score ANI 19ch PZOKUL Dynamic with ROIA Inhibit Training | 8/5/2016 12:46 PM | BDB2 File | 192 KB |
| Z-Score ANI 19ch PZOKUL Dynamic | 8/5/2016 12:37 PM | BDB2 File | 180 KB |
| Z-Score Dx - Analysis | 8/5/2016 12:24 PM | BDB2 File | 165 KB |
| Z-Score Dx 4ch PZOKUL 'C' Key | 8/3/2016 11:26 AM | BDB2 File | 120 KB |
| Z-Score Dx 4ch PZOKUL Dynamic | 8/3/2016 11:27 AM | BDB2 File | 120 KB |
| Z-Score Dx 19ch PZOKUL 'C' Key | 8/5/2016 12:23 PM | BDB2 File | 180 KB |
| Z-Score Dx 19ch PZOKUL Dynamic with ROIA Enhance Training | 8/5/2016 12:21 PM | BDB2 File | 192 KB |
| Z-Score Dx 19ch PZOKUL Dynamic with ROIA Inhibit Training | 8/5/2016 12:20 PM | BDB2 File | 192 KB |
| Z-Score Dx 19ch PZOKUL Dynamic | 8/5/2016 1:27 PM | BDB2 File | 180 KB |
| Z-Score Dx sLORETA Absolute Power | 8/5/2016 12:06 PM | BDB2 File | 194 KB |
| Z-Score Dx sLORETA PZOKUL 'C' Key | 8/5/2016 12:06 PM | BDB2 File | 182 KB |
| Z-Score Dx sLORETA PZOKUL Dynamic | 8/5/2016 12:05 PM | BDB2 File | 182 KB |
| Z-Score Dx Surf & sLORETA Dynamic | 8/10/2017 11:41 AM | BDB2 File | 195 KB |
| Z-Score qEEG-Pro - Analysis | 8/5/2016 12:03 PM | BDB2 File | 163 KB |
| Z-Score qEEG-Pro 4ch PZOKUL 'C' Key | 8/4/2016 11:25 AM | BDB2 File | 120 KB |
| Z-Score qEEG-Pro 4ch PZOKUL Dynamic | 8/4/2016 11:25 AM | BDB2 File | 120 KB |
| Z-Score qEEG-Pro 19ch PZOKUL 'C' Key | 8/5/2016 12:00 PM | BDB2 File | 180 KB |
| Z-Score qEEG-Pro 19ch PZOKUL Dynamic with ROIA Enhance Training | 8/5/2016 11:56 AM | BDB2 File | 192 KB |
| Z-Score qEEG-Pro 19ch PZOKUL Dynamic with ROIA Inhibit Training | 8/5/2016 1:36 PM | BDB2 File | 192 KB |
| Z-Score qEEG-Pro 19ch PZOKUL Dynamic | 8/5/2016 12:50 PM | BDB2 File | 180 KB |
| Z-Score qEEGPro Surf & sLORETA Dynamic | 8/10/2017 11:43 AM | BDB2 File | 195 KB |

37 items 1 item selected 119 KB

2. The following screen will appear, asking what you would like to do.  There are 4 options:


Do to want to:
Create a new study with these settings
Use these settings in the current study
Use these settings and pick a study
Run a temporary session
OK

a. **Create a new study with these settings –** This will bring you to the Create Folder Tab, so that you can create a new folder.

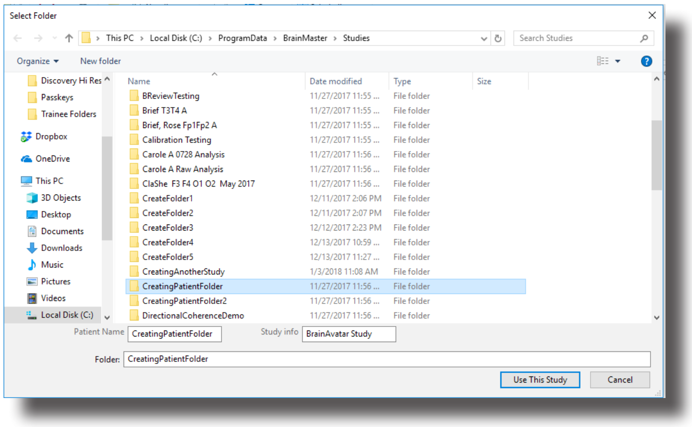
b. **Use these settings in the current study –** This will automatically load these settings into the Study Folder that you last ran a session with, and will open the software to this Study Folder

c. **Use these settings and pick a study –** This option will allow you to pick a Study folder that you would like to load this into.  After you have picked, it will open the software to this Study Folder.

d. **Run a temporary session –** This will load the settings into a Study Folder named Temporary Session, and will open the software to this Study Folder.

If you want to change the settings in the Patient Folder that the software is currently using, click Use thes settings in teh current Study.  If you want to change the settings of a specific folder, click Use these setttngs adn pick a study, and move to step 3.

3. Use the following screen to select the Patient Folder that you would like to load your settings into.  Highlight the Patient file, and click the Use This Study Button, or Double-click the folder to continue.


Select Folder
This PC › Local Disk (C:) › ProgramData › BrainMaster › Studies
Search Studies
Organize
New folder
Discovery Hi Res
Passkeys
Trainee Folders
Dropbox
OneDrive
This PC
3D Objects
Desktop
Documents
Downloads
Music
Pictures
Videos
Local Disk (C:)
Use This Study
Cancel

| Name | Date modified | Type | Size |
|---|---|---|---|
| BReviewTesting | 11/27/2017 11:55 ... | File folder | |
| Brief T3T4 A | 11/27/2017 11:55 ... | File folder | |
| Brief, Rose Fp1Fp2 A | 11/27/2017 11:55 ... | File folder | |
| Calibration Testing | 11/27/2017 11:55 ... | File folder | |
| Carole A 0728 Analysis | 11/27/2017 11:56 ... | File folder | |
| Carole A Raw Analysis | 11/27/2017 11:56 ... | File folder | |
| ClaShe  F3 F4 O1 O2  May 2017 | 11/27/2017 11:56 ... | File folder | |
| CreateFolder1 | 12/11/2017 2:06 PM | File folder | |
| CreateFolder2 | 12/11/2017 2:07 PM | File folder | |
| CreateFolder3 | 12/12/2017 2:23 PM | File folder | |
| CreateFolder4 | 12/13/2017 10:59 ... | File folder | |
| CreateFolder5 | 12/13/2017 11:27 ... | File folder | |
| CreatingAnotherStudy | 1/3/2018 11:08 AM | File folder | |
| CreatingPatientFolder | 11/27/2017 11:56 ... | File folder | |
| CreatingPatientFolder2 | 11/27/2017 11:56 ... | File folder | |
| DirectionalCoherenceDemo | 11/27/2017 11:56 ... | File folder | |

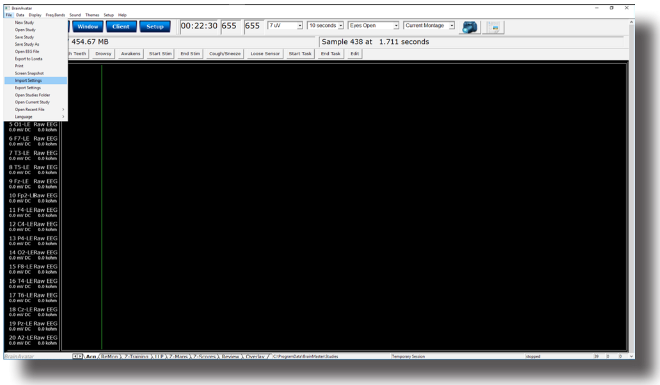
Patient Name: CreatingPatientFolder
Study info: BrainAvatar Study
Folder: CreatingPatientFolder

The settings file will now be loaded into the Study Folder that you have selected.

***PLEASE NOTE:**  You cannot change settings to a settings file outside of the BrainAvatar Software.

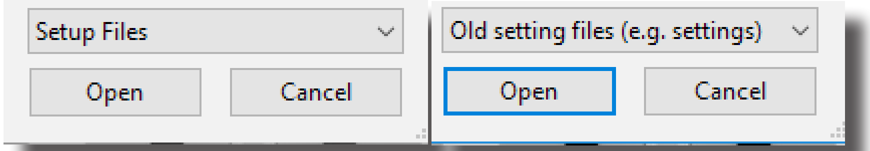
## Walkthrough Guide: How to convert a Settings File from either the BrainMaster 3.0 Series Software or Discovery Series Software into the BrainAvatar 4.0 Series Software

1. From the Training Screen, Click the File Tab, then Import Settings.

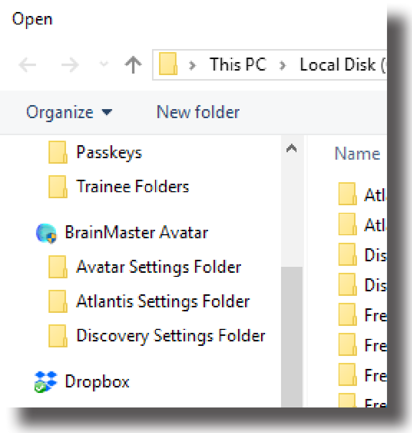


2. You will have to do two things from here:

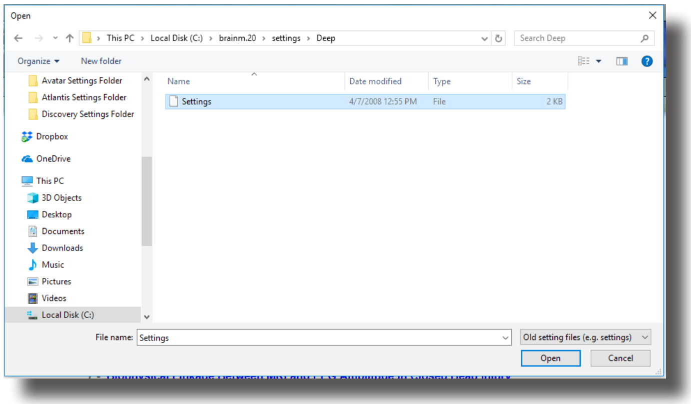
   A. First, you will have to switch the type of files that you are looking for from “Setup Files”, to “Old settings file (e.g. settings)”.


Setup Files
Open
Cancel
Old setting files (e.g. settings)
Open
Cancel

   B. Next, you will have to direct yourself to the original BrainMaster Settings Directory that you would like to move the settings from. This can be done by using the scroll bar on the left to move to the top of the extras bar, and choose the BrainMaster Settings Directory that best suits your needs.


Open
This PC
Local Disk (
Organize
New folder
Passkeys
Trainee Folders
BrainMaster Avatar
Avatar Settings Folder
Atlantis Settings Folder
Discovery Settings Folder
Dropbox
Name
Atl
Atl
Dis
Dis
Fre
Fre
Fre
Fre

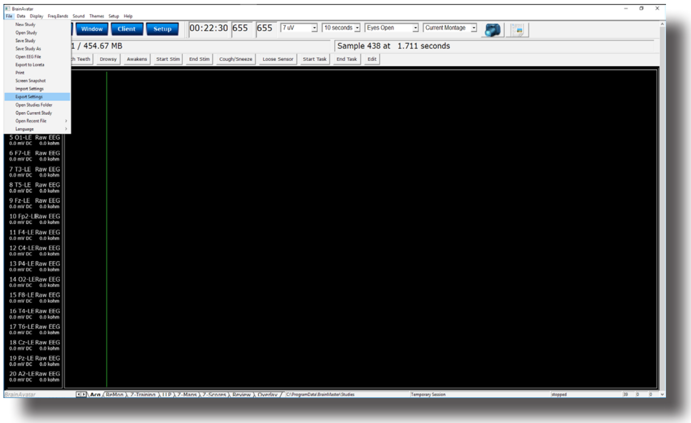
C. After directing yourself to the directory that you would like to choose for your settings file, from the directory on your right, find the protocol folder that best suits your needs, and choose this by double-clicking on it. Then, double-click on the "settings" file that appears next.


Open
This PC › Local Disk (C:) › brainm.20 › settings › Deep
Search Deep
Organize
New folder
Avatar Settings Folder
Atlantis Settings Folder
Discovery Settings Folder
Dropbox
OneDrive
This PC
3D Objects
Desktop
Documents
Downloads
Music
Pictures
Videos
Local Disk (C:)
Name
Date modified
Type
Size
Settings
4/7/2008 12:55 PM
File
2 KB
Old setting files (e.g. settings)
Open
Cancel

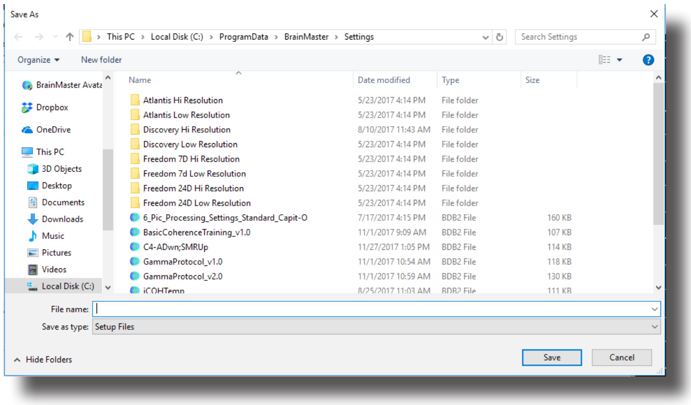
File name: Settings

*****PLEASE NOTE:** You have now imported the Settings file to be used for **THIS STUDY FOLDER ONLY! IF YOU WANT TO CONVERT THE PROTOCOL TO BE USED EASILY FOR FUTURE STUDIES:**

3. From the Training Screen, Click the File Tab, then Export Settings.


BrainAvatar
File
Data
Display
Freq.Bands
Sound
Themes
Setup
Help
New Study
Open Study
Save Study
Save Study As
Open EEG File
Export to Loreta
Print
Screen Snapshot
Import Settings
Export Settings
Open Studies Folder
Open Current Study
Open Recent File
Language
Window
Client
Setup
00:22:30
655
655
7 uV
10 seconds
Eyes Open
Current Montage
1 / 454.67 MB
Sample 438 at 1.711 seconds
Teeth
Drowsy
Awakens
Start Stim
End Stim
Cough/Sneeze
Loose Sensor
Start Task
End Task
Edit
5 O1-LE Raw EEG
6 F7-LE Raw EEG
7 T3-LE Raw EEG
8 T5-LE Raw EEG
9 Fz-LE Raw EEG
10 Fp2-LE Raw EEG
11 F4-LE Raw EEG
12 C4-LE Raw EEG
13 P4-LE Raw EEG
14 O2-LE Raw EEG
15 F8-LE Raw EEG
16 T4-LE Raw EEG
17 T6-LE Raw EEG
18 Cz-LE Raw EEG
19 Pz-LE Raw EEG
20 A2-LE Raw EEG

4. When you save the file you can either save this over an existing file.  Or, you can name it as a new file.  Once this is completed, click the Save Button in the bottom-right hand corner of this screen.


Save As
This PC > Local Disk (C:) > ProgramData > BrainMaster > Settings
Search Settings
Organize
New folder
BrainMaster Avata
Dropbox
OneDrive
This PC
3D Objects
Desktop
Documents
Downloads
Music
Pictures
Videos
Local Disk (C:)
Hide Folders
Save
Cancel

| Name | Date modified | Type | Size |
|---|---|---|---|
| Atlantis Hi Resolution | 5/23/2017 4:14 PM | File folder | |
| Atlantis Low Resolution | 5/23/2017 4:14 PM | File folder | |
| Discovery Hi Resolution | 8/10/2017 11:43 AM | File folder | |
| Discovery Low Resolution | 5/23/2017 4:14 PM | File folder | |
| Freedom 7D Hi Resolution | 5/23/2017 4:14 PM | File folder | |
| Freedom 7d Low Resolution | 5/23/2017 4:14 PM | File folder | |
| Freedom 24D Hi Resolution | 5/23/2017 4:14 PM | File folder | |
| Freedom 24D Low Resolution | 5/23/2017 4:14 PM | File folder | |
| 6_Pic_Processing_Settings_Standard_Capit-O | 7/17/2017 4:15 PM | BDB2 File | 160 KB |
| BasicCoherenceTraining_v1.0 | 11/1/2017 9:09 AM | BDB2 File | 107 KB |
| C4-ADwn;SMRUp | 11/27/2017 1:05 PM | BDB2 File | 114 KB |
| GammaProtocol_v1.0 | 11/1/2017 10:54 AM | BDB2 File | 118 KB |
| GammaProtocol_v2.0 | 11/1/2017 10:59 AM | BDB2 File | 130 KB |
| iCOHTemp | 8/25/2017 11:03 AM | BDB2 File | 111 KB |

File name:

Save as type: Setup Files

You have now converted a BrainMaster 2.5, 3.0, or Discovery Settings file to be used as a Setting File for the BrainAvatar Software.  You will be able to tell this, as this will now be listed in your BrainAvatar Settings files.

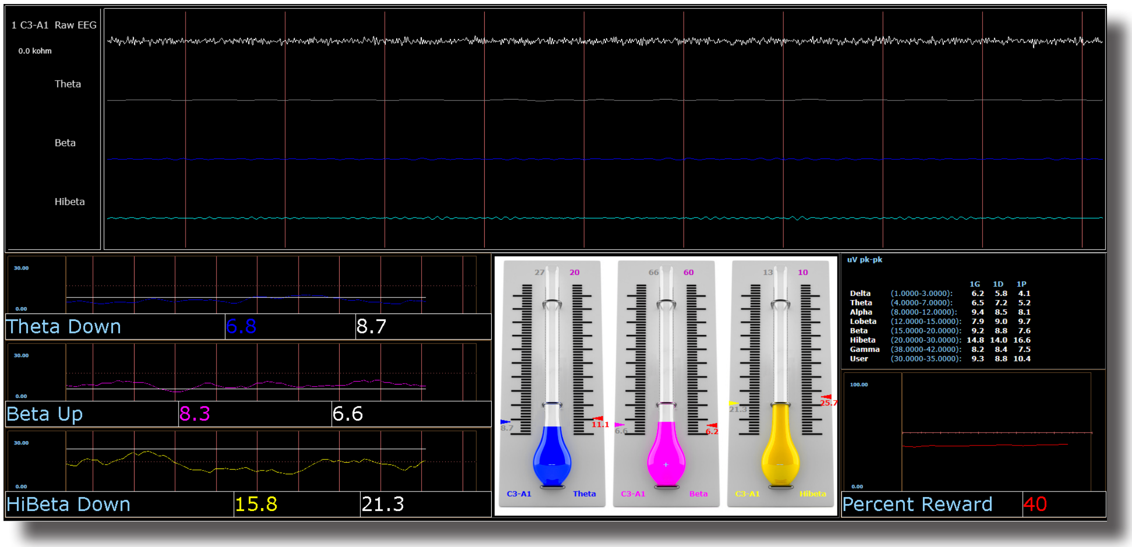
***PLEASE NOTE:** This protocol will have very little displays on the screen.  To learn more about customizing displays, please see in the Panel Wizard Section.

## Basic Settings Protocols Information

| Protocol | Training | Default Location(s) |
|---|---|---|
| Alert | Theta & Hibeta Inhibited, Beta Rewarded with a reward tone when all criteria is met | C3 |
| Deep | Alpha & Theta with Reward each band with its own reward tone | Pz |
| Focus | Theta & Hibeta Inhibited, Lobeta Rewarded with a reward tone when all criteria is met | C4 |
| Peak | Alpha Coherence Training to reward with a MIDI tone when the coherence is above the threshold | O1, O2 |
| Relax | Theta & Hibeta Inhibited, Alpha Rewarded with a MIDI reward tone when all criteria is met | C4 |
| Squash | Wideband Single inibit that rewards with a MIDI tone when the criteria is met | Cz |
| ROI Training Only Head Select Enhance | Single Band Reward based on the band and location selected using the 3D Head Map with a reward tone when the criteria is met | All 10/20 Sites |
| ROI Training Only Head Select Inhibit | Single Band Inhibit based on the band and location selected using the 3D Head Map with a reward tone when the criteria is met | All 10/20 Sites |
| Z-Score PZOK 4ch | Trains the percentage of Z-Scores that are falling between +/- your defined range, rewards with a MIDI tone when above your defined Threshold | C3, C4, P3, P4 |
| Z-Score PZOKUL 4ch | Trains the percentage of Z-Scores that are falling between your upper and lower range, rewards with a MIDI tone when above your defined Threshold | C3, C4, P3, P4 |
| Z-Score PZOKUL 4ch Dynamic | Trains the percentage of Z-Scores that are falling between your upper and lower range, rewards with a MIDI tone when above the Dynamic Threshold | C3, C4, P3, P4 |
| Z-Score PZOK 19ch | Trains the percentage of Z-Scores that are falling between +/- your defined range, rewards with a MIDI tone when above your defined Threshold | All 10/20 Sites |
| Z-Score PZOKUL 19ch | Trains the percentage of Z-Scores that are falling between your upper and lower range, rewards with a MIDI tone when above your defined Threshold | All 10/20 Sites |
| Z-Score PZOKUL 19ch Dynamic | Trains the percentage of Z-Scores that are falling between your upper and lower range, rewards with a MIDI tone when above the Dynamic Threshold | All 10/20 Sites |
| Z-Score Using sLORETA Z Absolute Power | Single Band sLORETA Z-Score Absolute Power based on the band and location selected using the 3D Head Map with a MIDI tone when the value falls between the upper and lower range | All 10/20 Sites |
| Z-Score Using sLORETA PZOKUL | Trains the percentage of Z-Scores that are falling between your upper and lower range, rewards with a MIDI tone when above your defined Threshold | All ROI's All Bands |
| Z-Score Using sLORETA PZOKUL Dynamic | Trains the percentage of Z-Scores that are falling between your upper and lower range, rewards with a MIDI tone when above the Dynamic Threshold | All ROI's All Bands |

# Basic Settings Protocols Crib Notes

## Alert – Beta Up Theta and Hibeta Down


1 C3-A1 Raw EEG
0.0 kohm
Theta
Beta
Hibeta
30.00
0.00
Theta Down
6.8
8.7
Beta Up
8.3
6.6
HiBeta Down
15.8
21.3
27
20
66
60
13
10
11.1
6.2
25.7
C3-A1
Theta
C3-A1
Beta
C3-A1
Hibeta
100.00
0.00
Percent Reward
40

```
uV pk-pk

                                 1G    1D    1P
Delta    (1.0000-3.0000):        6.2   5.8   4.1
Theta    (4.0000-7.0000):        6.5   7.2   5.2
Alpha    (8.0000-12.0000):       9.4   8.5   8.1
Lobeta   (12.0000-15.0000):      7.9   9.0   9.7
Beta     (15.0000-20.0000):      9.2   8.8   7.6
Hibeta   (20.0000-30.0000):     14.8  14.0  16.6
Gamma    (38.0000-42.0000):      8.2   8.4   7.5
User     (30.0000-35.0000):      9.3   8.8  10.4
```

### Basic Overview

Alert is known more generally as beta training. It consists of a reward on increasing beta, with inhibits placed on theta and hibeta. This protocol is generally applied at C3. When all criteria are met for 500 milliseconds the trainee will get a reward tone (.wav)

### Default Settings

Threshold Updating is set to autoupdate repeat: after pre-baseline and after each run. This protocol is set to update 10 times, every 120 seconds (20 minute session).

### Percent Time over Threshold Hot Keys

‘t’ increase Theta – ‘Shift T’ to decrease Theta

‘b’ increase Beta – ‘Shift B’ to decrease Beta

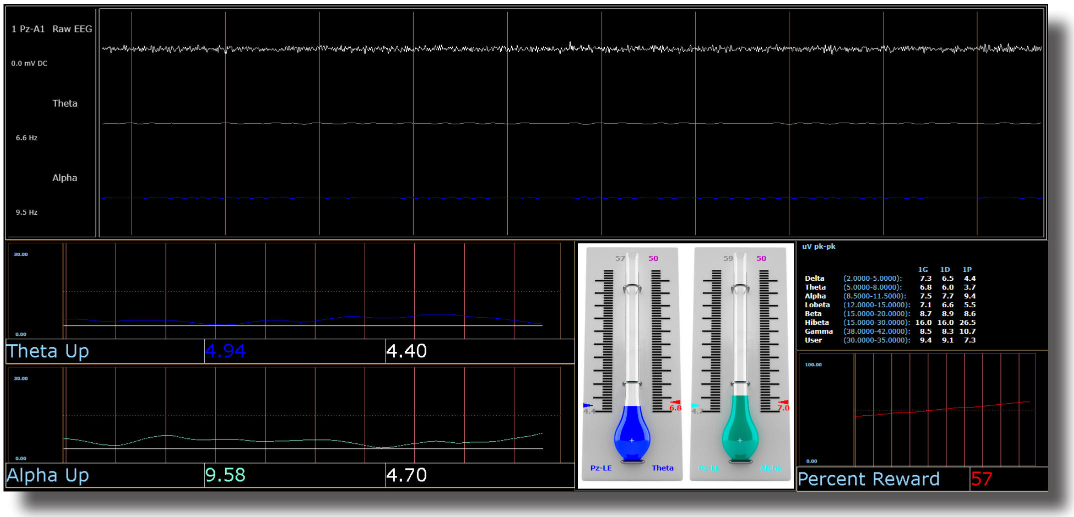
‘h’ increase Hibeta – ‘Shift H’ to decrease Hibeta

**Note: ‘y’ key can be used to manually update at any time**

This protocol is set up to work with the
BrainMaster DVD player, Flash Player, Dimmer, Multi Media Player, and third party games
(e.g. InnerTube, Particle Editor, Zukor)

*****PLEASE NOTE:** All designs provided by BrainMaster, are for demonstration and illustration purposes only. It is the clinician’s responsibility to ensure that any designs used provide the intended feedback.

## Deep – Theta Alpha Up


1 Pz-A1 Raw EEG
0.0 mV DC
Theta
6.6 Hz
Alpha
9.5 Hz
30.00
0.00
Theta Up
4.94
4.40
30.00
0.00
Alpha Up
9.58
4.70
57
50
4.4
6.8
Pz-LE
Theta
59
50
4.7
7.0
Pz-LE
Alpha
100.00
0.00
Percent Reward
57

uV pk-pk

| | | 1G | 1D | 1P |
|---|---|---|---|---|
| Delta | (2.0000-5.0000): | 7.3 | 6.5 | 4.4 |
| Theta | (5.0000-8.0000): | 6.8 | 6.0 | 3.7 |
| Alpha | (8.5000-11.5000): | 7.5 | 7.7 | 9.4 |
| Lobeta | (12.0000-15.0000): | 7.1 | 6.6 | 5.5 |
| Beta | (15.0000-20.0000): | 8.7 | 8.9 | 8.6 |
| Hibeta | (15.0000-30.0000): | 16.0 | 16.0 | 26.5 |
| Gamma | (38.0000-42.0000): | 8.5 | 8.3 | 10.7 |
| User | (30.0000-35.0000): | 9.4 | 9.1 | 7.3 |

### Basic Overview

Deep is known as alpha/theta trainng. It consists of a reward on increasing alpha and theta. This protocol is generally applied at Pz. When each band criteria is met for 500 milliseconds the trainee will get a reward tone for each band.

### Default Settings

Threshold Updating is set to autoupdate repeat: after pre-baseline and after each run. This protocol is set to update 10 times every 180 seconds (30 minute session).

### Percent Time over Threshold Hot Keys

‘t’ increase Theta – ‘Shift T’ to decrease Theta

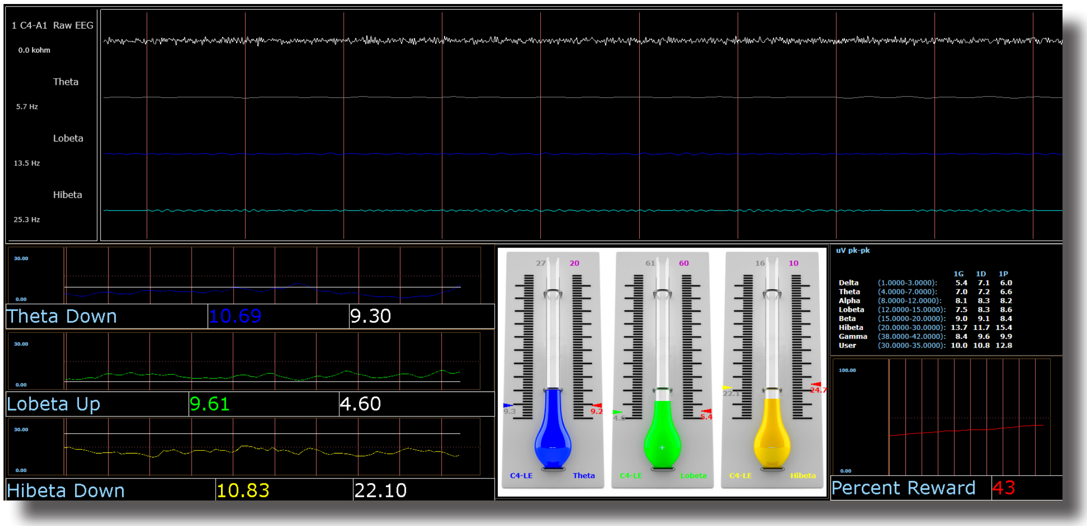
‘a’ increase Alpha – ‘Shift A’ to decrease Alpha

**Note: ‘y’ key can be used to manually update at any time**

This protocol is set up to work with
EEG Audio, BrainMaster DVD player, Flash Player, Dimmer, Multi Media Player, and third party games
(e.g. InnerTube, Particle Editor, Zukor)

*****PLEASE NOTE:** All designs provided by BrainMaster, are for demonstration and illustration purposes only. It is the clinician’s responsibility to ensure that any designs used provide the intended feedback.

### Focus – Lobeta Up Theta and Hibeta Down



Theta Down 10.69 9.30

Lobeta Up 9.61 4.60

Hibeta Down 10.83 22.10

Percent Reward 43

uV pk-pk

| | | 1G | 1D | 1P |
|---|---|---|---|---|
| Delta | (1.0000-3.0000): | 5.4 | 7.1 | 6.0 |
| Theta | (4.0000-7.0000): | 7.0 | 7.2 | 6.6 |
| Alpha | (8.0000-12.0000): | 8.1 | 8.3 | 8.2 |
| Lobeta | (12.0000-15.0000): | 7.5 | 8.3 | 8.6 |
| Beta | (15.0000-20.0000): | 9.0 | 9.1 | 8.4 |
| Hibeta | (20.0000-30.0000): | 13.7 | 11.7 | 15.4 |
| Gamma | (38.0000-42.0000): | 8.4 | 9.6 | 9.9 |
| User | (30.0000-35.0000): | 10.0 | 10.8 | 12.8 |

### Basic Overview

Focus is known more generally as beta training. It consists of a reward on increasing lobeta, with inhibits placed on theta and hibeta. This protocol is generally applied at C4. When all criteria are met for 500 milliseconds the trainee will get a reward tone (.wav)

### Default Settings

Threshold Updating is set to autoupdate repeat: after pre-baseline and after each run. This protocol is set to update 10 times every 120 seconds (20 minute session).

### Percent Time over Threshold Hot Keys

‘t’ increase Theta – ‘Shift T’ to decrease Theta

‘l’ increase Lobeta – ‘Shift L’ to decrease Lobeta

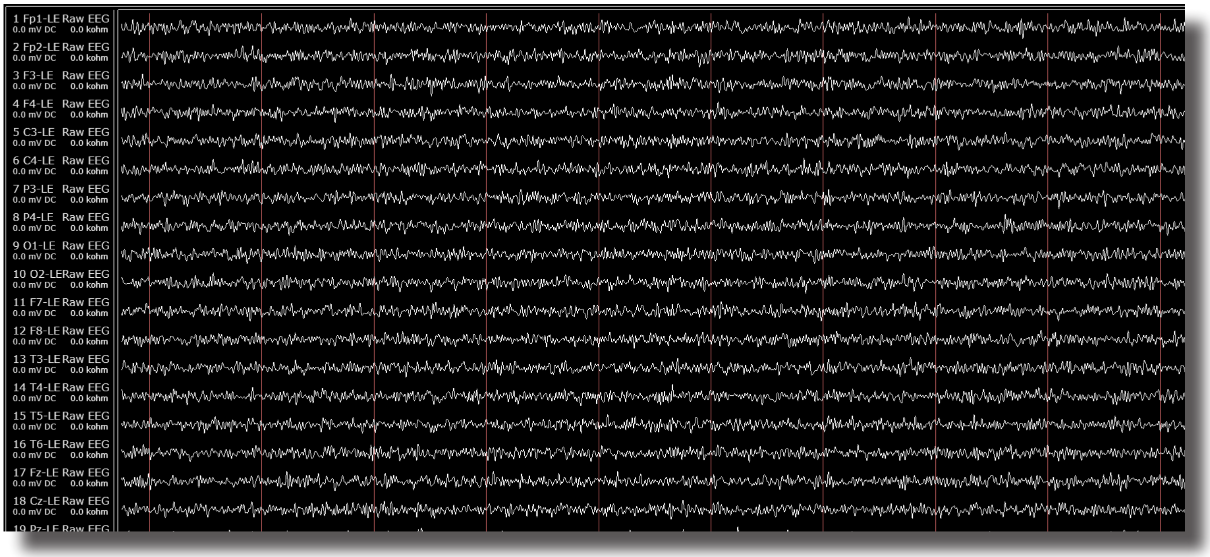
‘h’ increase Hibeta – ‘Shift H’ to decrease Hibeta

**Note: ‘y’ key can be used to manually update at any time**

This protocol is set up to work with the
BrainMaster DVD player, Flash Player, Dimmer, Multi Media Player, and third party games
(e.g. InnerTube, Particle Editor, Zukor)

**PLEASE NOTE:** All designs provided by BrainMaster, are for demonstration and illustration purposes only. It is the clinician’s responsibility to ensure that any designs used provide the intended feedback.

## No Limit QEEG Assessment


1 Fp1-LE Raw EEG 0.0 mV DC 0.0 kohm
2 Fp2-LE Raw EEG 0.0 mV DC 0.0 kohm
3 F3-LE Raw EEG 0.0 mV DC 0.0 kohm
4 F4-LE Raw EEG 0.0 mV DC 0.0 kohm
5 C3-LE Raw EEG 0.0 mV DC 0.0 kohm
6 C4-LE Raw EEG 0.0 mV DC 0.0 kohm
7 P3-LE Raw EEG 0.0 mV DC 0.0 kohm
8 P4-LE Raw EEG 0.0 mV DC 0.0 kohm
9 O1-LE Raw EEG 0.0 mV DC 0.0 kohm
10 O2-LERaw EEG 0.0 mV DC 0.0 kohm
11 F7-LE Raw EEG 0.0 mV DC 0.0 kohm
12 F8-LE Raw EEG 0.0 mV DC 0.0 kohm
13 T3-LE Raw EEG 0.0 mV DC 0.0 kohm
14 T4-LE Raw EEG 0.0 mV DC 0.0 kohm
15 T5-LE Raw EEG 0.0 mV DC 0.0 kohm
16 T6-LE Raw EEG 0.0 mV DC 0.0 kohm
17 Fz-LE Raw EEG 0.0 mV DC 0.0 kohm
18 Cz-LE Raw EEG 0.0 mV DC 0.0 kohm
19 Pz-LE Raw EEG

### Basic Overview

The No Limit QEEG Assessment file is acquiring the standard sensor positions defined by the 10-20 system. The recording condition can be changed on the fly from the condition drop down menu at the top of the BrainAvatar window. Each time the condition is changed from the drop down menu a new EDF is created.

The observed offset values on the acquisition screen in BrainAvatar software is generally useful for assessing sensor connection quality

### Recommended DC Offsets Values

Gold - 50 Millivolts
Tin - 30 Millivolts
Silver/ Silver Chloride - 10 Millivolts

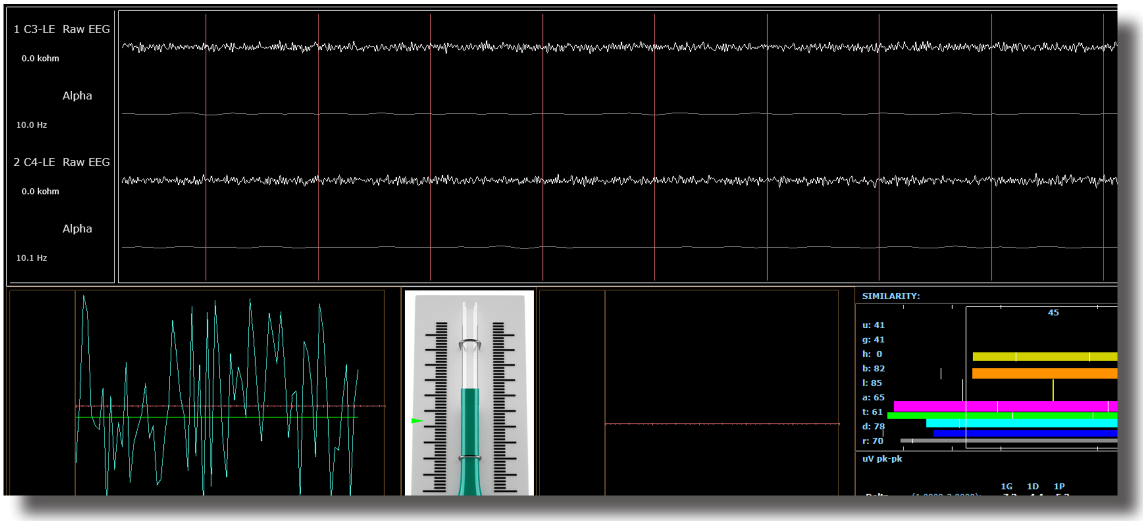
---

### Recommended Impedance Values (Optional add-on)

0-5 kohm – White
5-10 kohms – Green
10-15 kohm – Yellow
15> kohm – Red

**PLEASE NOTE:** All designs provided by BrainMaster, are for demonstration and illustration purposes only. It is the clinician’s responsibility to ensure that any designs used provide the intended feedback.

## Peak – Alpha Coherence Up


1 C3-LE Raw EEG
0.0 kohm
Alpha
10.0 Hz
2 C4-LE Raw EEG
0.0 kohm
Alpha
10.1 Hz
SIMILARITY:
45
u: 41
g: 41
h: 0
b: 82
l: 85
a: 65
t: 61
d: 78
r: 70
uV pk-pk
1G
1D
1P

### Basic Overview

Peak is a more specific type of alpha training. Peak's goal is achieving a coherent state between the left and right hemispheres in the alpha band (8-12 Hz). Eyes are generally closed when using the 'peak' protocol. This protocol is generally applied at C3 and C4. When the alpha coherence is above the training threshold the trainee will get an event sound (MIDI Tone).

### Default Settings

Protocol is **not** set to autothreshold, and session is set to run for 20 minutes.

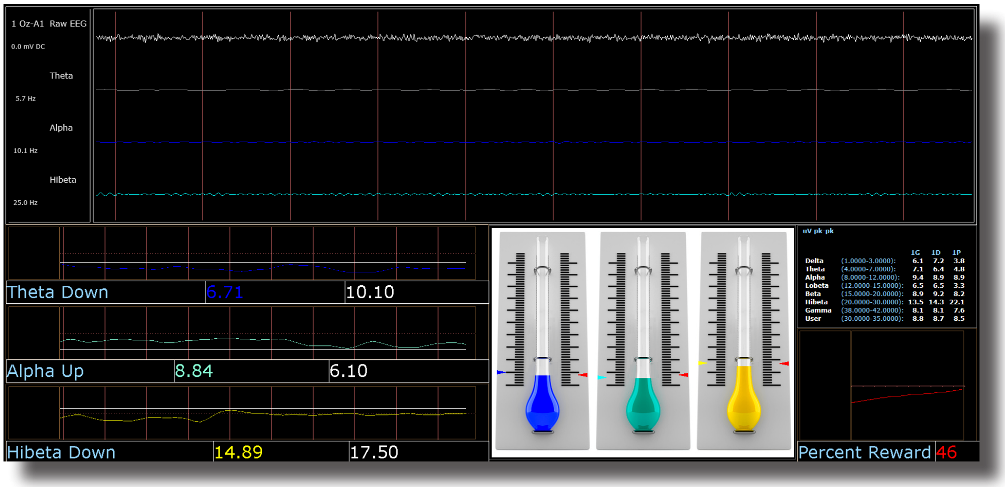
### Threshold Hot Keys

'c' increase Coherence Threshold – 'Shift C' to decrease Coherence Threshold

This protocol is set up to work with the
BrainMaster DVD player, Flash Player, Dimmer, Multi Media Player, and third party games
(e.g. InnerTube, Particle Editor, Zukor)

**Please Note:** All designs provided by BrainMaster, are for demonstration and illustration purposes only. It is the clinician's responsibility to ensure that any designs used provide the intended feedback.

## Relax – Alpha Up Theta Hibeta Down



Theta Down 6.71 10.10

Alpha Up 8.84 6.10

Hibeta Down 14.89 17.50

uV pk-pk

| | | 1G | 1D | 1P |
|---|---|---|---|---|
| Delta | (1.0000-3.0000): | 6.1 | 7.2 | 3.8 |
| Theta | (4.0000-7.0000): | 7.1 | 6.4 | 4.8 |
| Alpha | (8.0000-12.0000): | 9.4 | 8.9 | 8.9 |
| Lobeta | (12.0000-15.0000): | 6.5 | 6.5 | 3.3 |
| Beta | (15.0000-20.0000): | 8.9 | 9.2 | 8.2 |
| Hibeta | (20.0000-30.0000): | 13.5 | 14.3 | 22.1 |
| Gamma | (38.0000-42.0000): | 8.1 | 8.1 | 7.6 |
| User | (30.0000-35.0000): | 8.8 | 8.7 | 8.5 |

Percent Reward 46

### Basic Overview

Relax is a classic alpha protocol. It consists of a reward on increasing alpha, with inhibits placed on theta and hibeta. This protocol is generally applied at Oz. When all criteria are met for 500 millisecond's the trainee will get a reward tone (.wav)

### Default Settings

Threshold Updating is set to autoupdate repeat: after pre-baseline and after each run. This protocol is set to update 10 times every 120 seconds (20 minute session).

### Percent Time over Threshold Hot Keys

'a' increase Alpha – 'Shift A' to decrease Alpha

't' increase Theta – 'Shift T' to decrease Theta

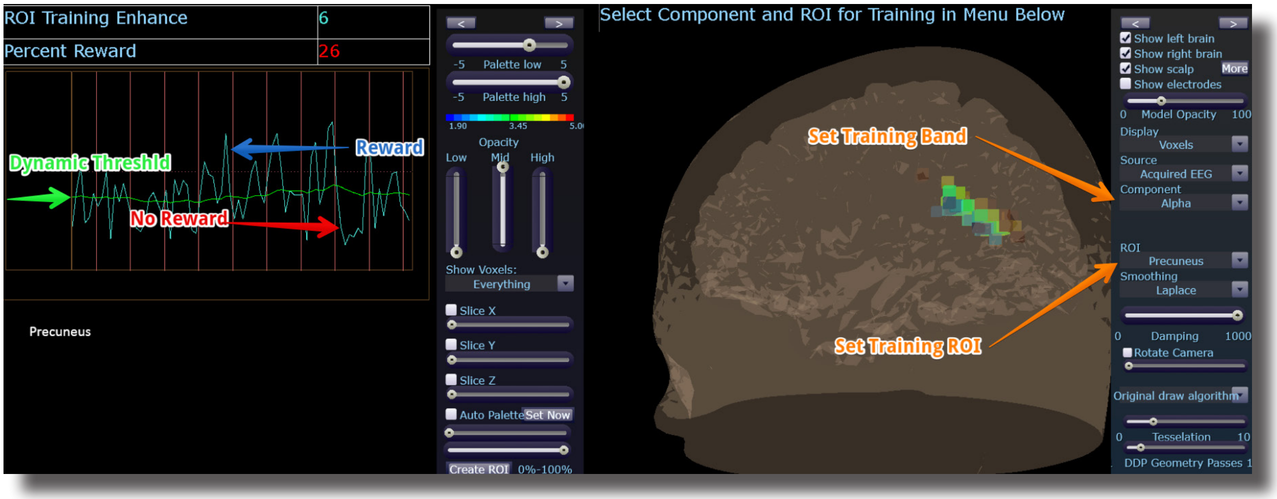
'h' increase Hibeta – 'Shift H' to decrease Hibeta

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

This protocol is set up to work with the
BrainMaster DVD player, Flash Player, Dimmer, Multi Media Player, and third party games
(e.g. InnerTube, Particle Editor, Zukor)

**Please Note:** All designs provided by BrainMaster, are for demonstration and illustration purposes only. It is the clinician's responsibility to ensure that any designs used provide the intended feedback.

## ROIA Enhance – Region of Interest Up Train



ROI Training Enhance 6

Percent Reward 26

Precuneus

Select Component and ROI for Training in Menu Below

☑ Show left brain
☑ Show right brain
☑ Show scalp
☐ Show electrodes

Display: Voxels
Source: Acquired EEG
Component: Alpha
ROI: Precuneus
Smoothing: Laplace

Show Voxels: Everything

☐ Slice X
☐ Slice Y
☐ Slice Z
☐ Auto Palette
☐ Rotate Camera

Dynamic Threshld
Reward
No Reward
Set Training Band
Set Training ROI
-5 Palette low 5
-5 Palette high 5
1.90
3.45
5.0
Opacity
Low
Mid
High
Set Now
Create ROI
0%-100%
More
0 Model Opacity 100
0 Damping 1000
Original draw algorithm
0 Tesselation 10
DDP Geometry Passes 1

### Basic Overview

ROIA Enhance is a protocol that requires the standard 10/20 sites acquired. This settings file is set to up train the band and region of interest defined in the component and ROI drop down menu in the 3D head display. When criteria is met for the trainee will get an event sound (MIDI Tone).

### Default Settings

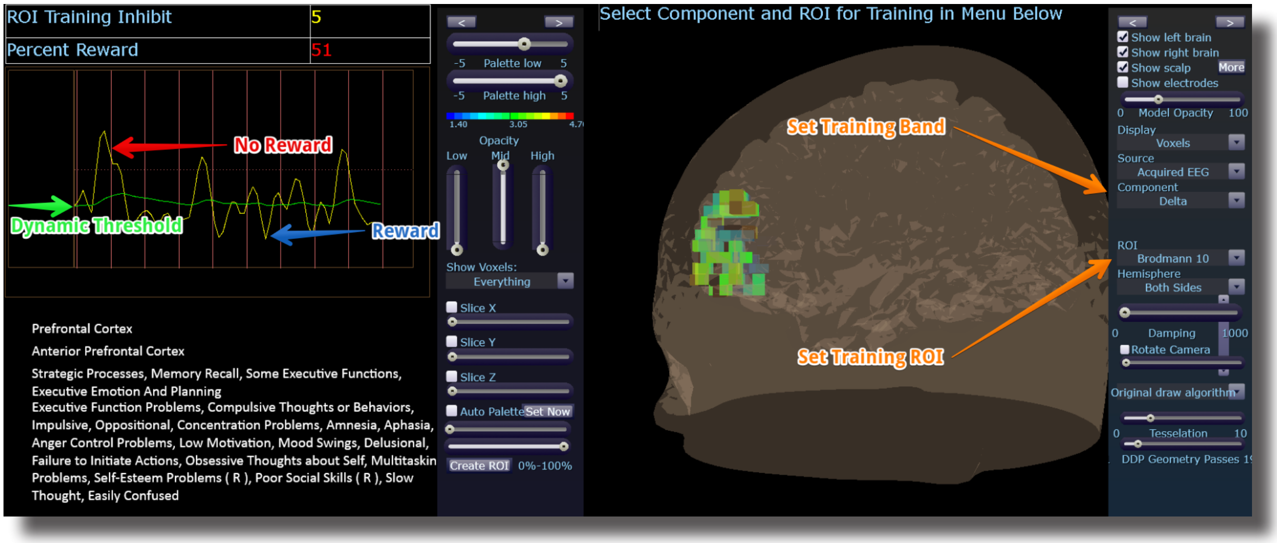
Threshold is set to dynamically adjust which will reward trainee about 50-60% throughout the training session. This settings file is set to run for 20 minutes

This protocol is set up to work with the
BrainMaster DVD player, Flash Player, Dimmer, Multi Media Player, and third party games
(e.g. InnerTube, Particle Editor, Zukor)

**Please Note:** The following on the fly adjustments DO NOT apply to all settings file designs training region of interest amplitude. The settings file explained above is designed to make on the fly adjustments from the drop down menu. The following equation in the Event Wizard is required in order to make these adjustments on the fly: x=LoretaROIA(SELECTROI,SELECTBAND);

**Please Note:** All designs provided by BrainMaster, are for demonstration and illustration purposes only. It is the clinician's responsibility to ensure that any designs used provide the intended feedback.

## ROIA Inhibit Training Dynamic



| | |
|---|---|
| ROI Training Inhibit | 5 |
| Percent Reward | 51 |

Select Component and ROI for Training in Menu Below

Prefrontal Cortex

Anterior Prefrontal Cortex

Strategic Processes, Memory Recall, Some Executive Functions, Executive Emotion And Planning

Executive Function Problems, Compulsive Thoughts or Behaviors, Impulsive, Oppositional, Concentration Problems, Amnesia, Aphasia, Anger Control Problems, Low Motivation, Mood Swings, Delusional, Failure to Initiate Actions, Obsessive Thoughts about Self, Multitaskin Problems, Self-Esteem Problems ( R ), Poor Social Skills ( R ), Slow Thought, Easily Confused

Show Voxels: Everything

☐ Slice X
☐ Slice Y
☐ Slice Z
☐ Auto Palette

☑ Show left brain
☑ Show right brain
☑ Show scalp
☐ Show electrodes

Display: Voxels
Source: Acquired EEG
Component: Delta
ROI: Brodmann 10
Hemisphere: Both Sides
☐ Rotate Camera

No Reward
Dynamic Threshold
Reward
Set Training Band
Set Training ROI
<
>
-5 Palette low 5
-5 Palette high 5
1.40
3.05
4.7
Opacity
Low
Mid
High
Set Now
Create ROI
0%-100%
More
0 Model Opacity 100
0 Damping 1000
Original draw algorithm
0 Tesselation 10
DDP Geometry Passes 1

### Basic Overview

ROIA Inhibit is a settings file that requires the standard 10/20 sites acquired. This settings file is set to up train the band and region of interest defined in the component and ROI drop down menu in the 3D head display. When criteria is met for the trainee will get an event sound (MIDI Tone).

### Default Settings

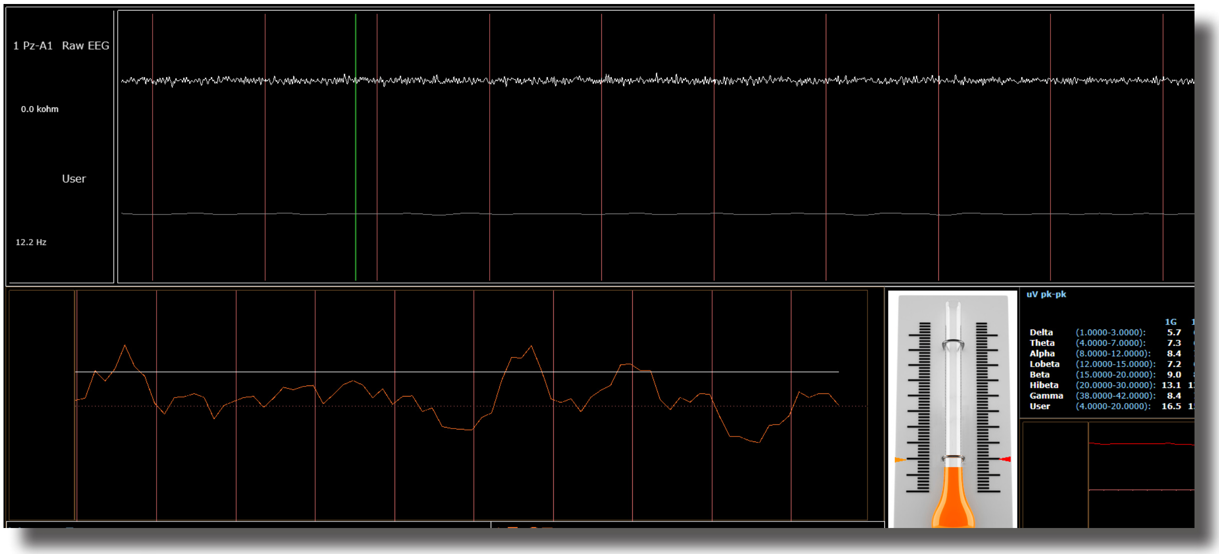
Threshold is set to dynamically adjust which will reward trainee about 50-60% throughout the training session. This settings file is set to run for 20 minutes

This protocol is set up to work with the
BrainMaster DVD player, Flash Player, Dimmer, Multi Media Player, and third party games
(e.g. InnerTube, Particle Editor, Zukor)

**Please Note:** The following on the fly adjustments DO NOT apply to all settings file designs training region of interest amplitude. The settings file explained above is designed to make on the fly adjustments from the drop down menu. The following equation in the Event Wizard is required in order to make these adjustments on the fly: x=LoretaROIA(SELECTROI,SELECTBAND);

**Please Note:** All designs provided by BrainMaster, are for demonstration and illustration purposes only. It is the clinician's responsibility to ensure that any designs used provide the intended feedback.

## Squash – Wideband Inhibit



```
uV pk-pk

                                1G
Delta    (1.0000-3.0000):      5.7
Theta    (4.0000-7.0000):      7.3
Alpha    (8.0000-12.0000):     8.4
Lobeta   (12.0000-15.0000):    7.2
Beta     (15.0000-20.0000):    9.0
Hibeta   (20.0000-30.0000):   13.1
Gamma    (38.0000-42.0000):    8.4
User     (4.0000-20.0000):    16.5
```

### Basic Overview

Squash is a protocol that consists of inhibits placed on four bands, spanning the range from 4-20 Hz. This protocol is generally applied at Cz. When criteria is met the trainee will get an event sound (MIDI Tone).

### Default Settings

Threshold Updating is set to autoupdate repeat: after pre-baseline and after each run. This protocol is set to update 10 times, every 120 seconds (20 minute session).

### Percent Time over Threshold Hot Keys

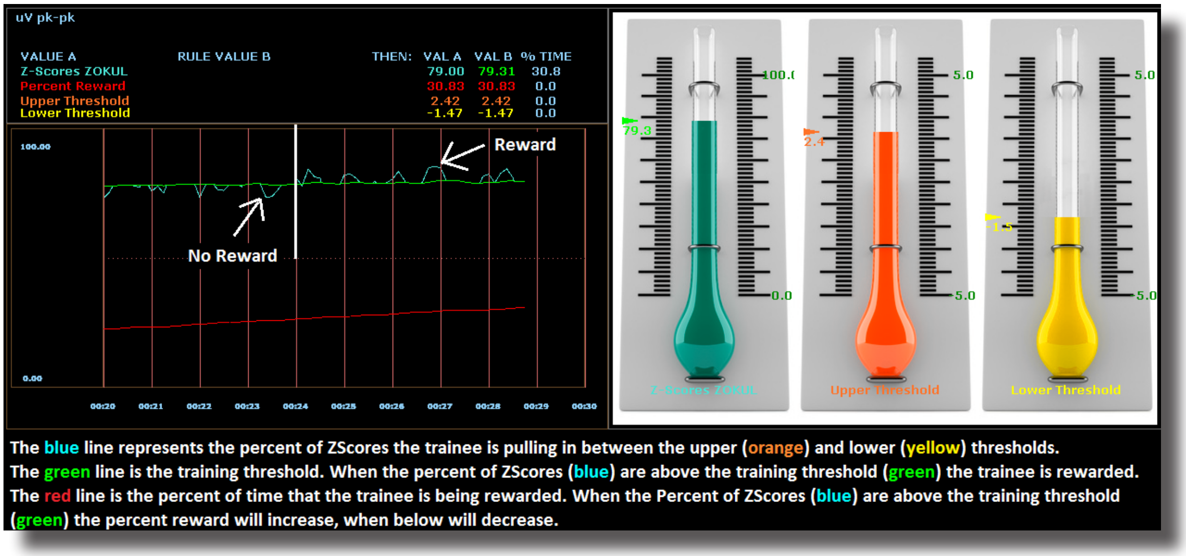
‘u’ increase User – ‘Shift U’ to decrease User

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

This protocol is set up to work with the
BrainMaster DVD player, Flash Player, Dimmer, Multi Media Player, and third party games
(e.g. InnerTube, Particle Editor, Zukor)

**Please Note:** All designs provided by BrainMaster, are for demonstration and illustration purposes only. It is the clinician’s responsibility to ensure that any designs used provide the intended feedback.

## Z-Score PZOKUL Dynamic and Z-Score PZOKUL 'C' Key



| VALUE A | RULE VALUE B | THEN: | VAL A | VAL B | % TIME |
|---|---|---|---|---|---|
| Z-Scores ZOKUL | | | 79.00 | 79.31 | 30.8 |
| Percent Reward | | | 30.83 | 30.83 | 0.0 |
| Upper Threshold | | | 2.42 | 2.42 | 0.0 |
| Lower Threshold | | | -1.47 | -1.47 | 0.0 |

The blue line represents the percent of ZScores the trainee is pulling in between the upper (orange) and lower (yellow) thresholds.
The green line is the training threshold. When the percent of ZScores (blue) are above the training threshold (green) the trainee is rewarded.
The red line is the percent of time that the trainee is being rewarded. When the Percent of ZScores (blue) are above the training threshold (green) the percent reward will increase, when below will decrease.

### Basic Overview

Z-Score training is a scientifically designed software approach which will analyze selected training; compare those sites with a normative database, and reward the Z-Scores that fit within the desired upper and lower limits (database e.g. ANI, BrainDx, qEEG Pro). Z-Score PZOKUL Dynamic protocol has a training threshold that will auto adjust based on the percent of Z-Scores the trainee is pulling in between the upper and lower limits. Z-Scores PZOKUL 'C' Key - is used when one wants to manually adjust the training threshold. When the trainee's percent of Z-Scores are above the training threshold the trainee will get a reward tone.

### Threshold Hot Keys

'u' increase Upper Threshold – 'Shift U' to decrease Upper Threshold

'l' increase Lower Threshold – 'Shift L' to decrease Lower Threshold

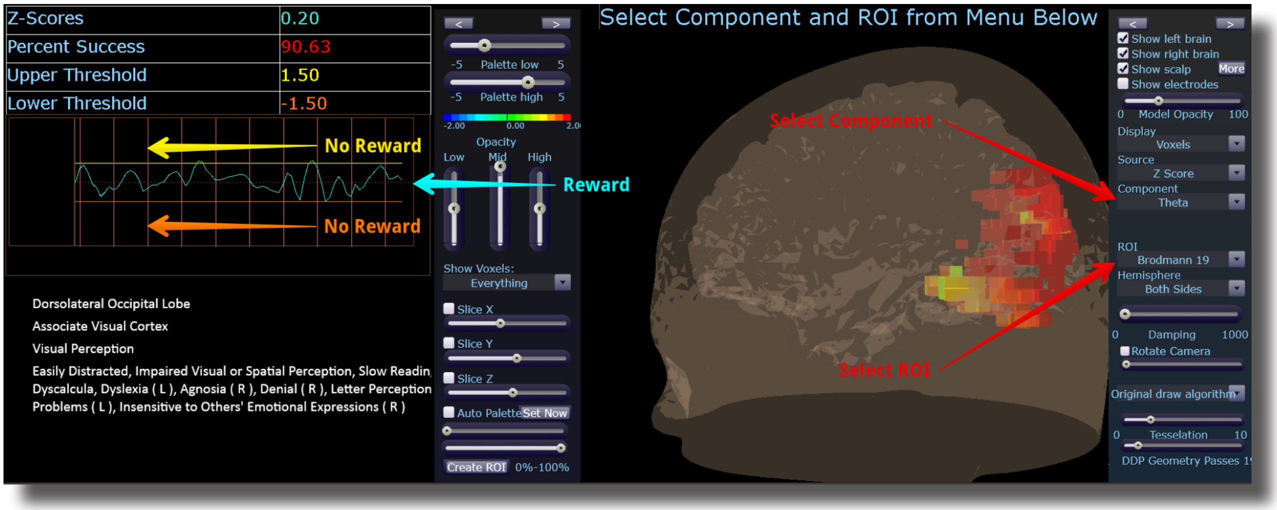
### Z-Scores PZOKUL 'C' Key - Threshold Hot Keys

'c' increase Controlled Threshold – 'Shift C' to decrease Controlled Threshold

This protocol is set up to work with the
BrainMaster DVD player, Flash Player, Dimmer, Multi Media Player, and third party games
(e.g. InnerTube, Particle Editor, Zukor)

**Please Note:** All designs provided by BrainMaster, are for demonstration and illustration purposes only. It is the clinician's responsibility to ensure that any designs used provide the intended feedback.

## Z-Score sLORETA Absolute Power – Training a single Region of Interest and a single band to a normative database



| | |
|---|---|
| Z-Scores | 0.20 |
| Percent Success | 90.63 |
| Upper Threshold | 1.50 |
| Lower Threshold | -1.50 |

Dorsolateral Occipital Lobe

Associate Visual Cortex

Visual Perception

Easily Distracted, Impaired Visual or Spatial Perception, Slow Readin, Dyscalcula, Dyslexia ( L ), Agnosia ( R ), Denial ( R ), Letter Perception Problems ( L ), Insensitive to Others' Emotional Expressions ( R )

Select Component and ROI from Menu Below

☑ Show left brain
☑ Show right brain
☑ Show scalp
☐ Show electrodes
Display: Voxels
Source: Z Score
Component: Theta
ROI: Brodmann 19
Hemisphere: Both Sides
☐ Rotate Camera
Show Voxels: Everything
☐ Slice X
☐ Slice Y
☐ Slice Z
☐ Auto Palette

### Basic Overview

Z-Score sLORETA Absolute Power training is a scientifically designed software approach which will analyze selected training compare those regions of interest with a normative database, and reward the Z-Scores that fit within the desired upper and lower limits (database e.g. BrainDx, qEEG Pro). This is a settings file that requires the standard 10/20 sites. Z-Score sLORETA Absolute Power settings file will reward the trainee when the selected training perimeter is in-between the upper and lower threshold. The region of interest and component are adjusted from the Live LORETA Projector drop down menu.

### Default Settings

Threshold is manually adjusted throughout the training session. This settings file is set to run for 20 minutes

### Threshold Hot Keys

‘u’ increase Upper Threshold – ‘Shift U’ to decrease Upper Threshold

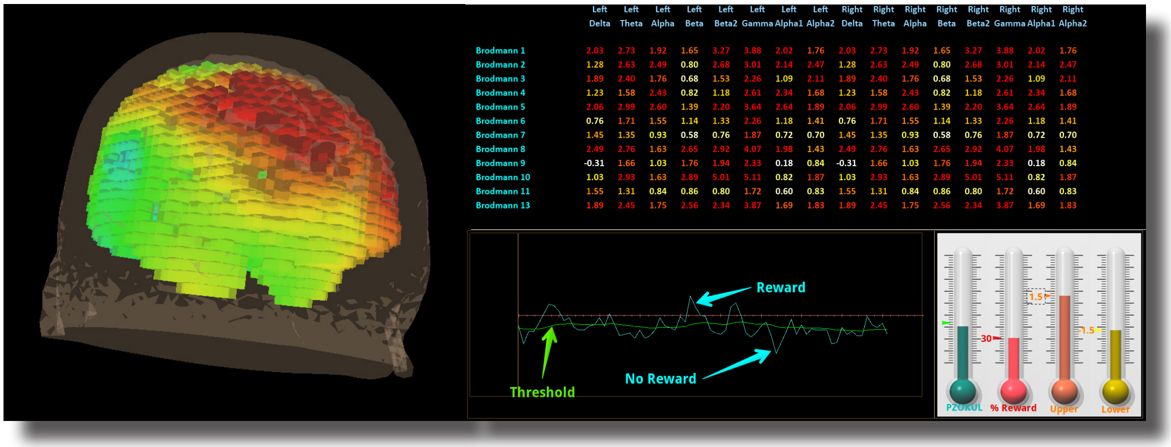
‘l’ increase Lower Threshold – ‘Shift L’ to decrease Lower Threshold

This protocol is set up to work with the
BrainMaster DVD player, Flash Player, Dimmer, Multi Media Player, and third party games
(e.g. InnerTube, Particle Editor, Zukor)

**Please Note:** The following on the fly adjustments DO NOT apply to all settings file designs training region of interest sLORETA Absolute Power. The settings file explained above is designed to make on the fly adjustments from the drop down menu. The following equation in the Event Wizard is required in order to make these adjustments on the fly: x=LoretaROIZAP(SELECTROI,SELECTBAND);

**Please Note:** All designs provided by BrainMaster, are for demonstration and illustration purposes only. It is the clinician’s responsibility to ensure that any designs used provide the intended feedback.

## Z-Score sLORETA PZOKUL Dynamic and Z-Score sLORETA PZOKUL ‘C’ Key – Training multiple regions of interest and multiple bands to a normative database



| | Left Delta | Left Theta | Left Alpha | Left Beta | Left Beta2 | Left Gamma | Left Alpha1 | Left Alpha2 | Right Delta | Right Theta | Right Alpha | Right Beta | Right Beta2 | Right Gamma | Right Alpha1 | Right Alpha2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Brodmann 1 | 2.03 | 2.73 | 1.92 | 1.65 | 3.27 | 3.88 | 2.02 | 1.76 | 2.03 | 2.73 | 1.92 | 1.65 | 3.27 | 3.88 | 2.02 | 1.76 |
| Brodmann 2 | 1.28 | 2.63 | 2.49 | 0.80 | 2.68 | 3.01 | 2.14 | 2.47 | 1.28 | 2.63 | 2.49 | 0.80 | 2.68 | 3.01 | 2.14 | 2.47 |
| Brodmann 3 | 1.89 | 2.40 | 1.76 | 0.68 | 1.53 | 2.26 | 1.09 | 2.11 | 1.89 | 2.40 | 1.76 | 0.68 | 1.53 | 2.26 | 1.09 | 2.11 |
| Brodmann 4 | 1.23 | 1.58 | 2.43 | 0.82 | 1.18 | 2.61 | 2.34 | 1.68 | 1.23 | 1.58 | 2.43 | 0.82 | 1.18 | 2.61 | 2.34 | 1.68 |
| Brodmann 5 | 2.06 | 2.99 | 2.60 | 1.39 | 2.20 | 3.64 | 2.64 | 1.89 | 2.06 | 2.99 | 2.60 | 1.39 | 2.20 | 3.64 | 2.64 | 1.89 |
| Brodmann 6 | 0.76 | 1.71 | 1.55 | 1.14 | 1.33 | 2.26 | 1.18 | 1.41 | 0.76 | 1.71 | 1.55 | 1.14 | 1.33 | 2.26 | 1.18 | 1.41 |
| Brodmann 7 | 1.45 | 1.35 | 0.93 | 0.58 | 0.76 | 1.87 | 0.72 | 0.70 | 1.45 | 1.35 | 0.93 | 0.58 | 0.76 | 1.87 | 0.72 | 0.70 |
| Brodmann 8 | 2.49 | 2.76 | 1.63 | 2.65 | 2.92 | 4.07 | 1.98 | 1.43 | 2.49 | 2.76 | 1.63 | 2.65 | 2.92 | 4.07 | 1.98 | 1.43 |
| Brodmann 9 | -0.31 | 1.66 | 1.03 | 1.76 | 1.94 | 2.33 | 0.18 | 0.84 | -0.31 | 1.66 | 1.03 | 1.76 | 1.94 | 2.33 | 0.18 | 0.84 |
| Brodmann 10 | 1.03 | 2.93 | 1.63 | 2.89 | 5.01 | 5.11 | 0.82 | 1.87 | 1.03 | 2.93 | 1.63 | 2.89 | 5.01 | 5.11 | 0.82 | 1.87 |
| Brodmann 11 | 1.55 | 1.31 | 0.84 | 0.86 | 0.80 | 1.72 | 0.60 | 0.83 | 1.55 | 1.31 | 0.84 | 0.86 | 0.80 | 1.72 | 0.60 | 0.83 |
| Brodmann 13 | 1.89 | 2.45 | 1.75 | 2.56 | 2.34 | 3.87 | 1.69 | 1.83 | 1.89 | 2.45 | 1.75 | 2.56 | 2.34 | 3.87 | 1.69 | 1.83 |

### Basic Overview

sLORETA Z-Score training is a scientifically designed software approach which will analyze selected training compare those regions of interest with a normative database, and reward the Z-Scores that fit within the desired upper and lower limits (database e.g. BrainDx, qEEG Pro). This is a settings file that requires the standard 10/20 sites. Z-Score PZOKUL Dynamic protocol has a training threshold that will auto adjust based on the percent of Z-Scores the trainee is pulling in between the upper and lower limits. Z-Scores PZOKUL ‘C’ Key - is used when one wants to manually adjust the training threshold. When the trainee’s percent of Z-Scores are above the training threshold the trainee will get a reward tone.
Training location are setup within the BrainAvatar Z-Score Setup. Left click on the regions to train, then right click over the regions to customize training bands.

### Threshold Hot Keys

‘u’ increase Upper Threshold – ‘Shift U’ to decrease Upper Threshold

‘l’ increase Lower Threshold – ‘Shift L’ to decrease Lower Threshold

Z-Scores PZOKUL ‘C’ Key - Threshold Hot Keys

‘c’ increase Controlled Threshold – ‘Shift C’ to decrease Controlled Threshold

This protocol is set up to work with the
BrainMaster DVD player, Flash Player, Dimmer, Multi Media Player, and third party games
(e.g. InnerTube, Particle Editor, Zukor)

**Please Note:** All designs provided by BrainMaster, are for demonstration and illustration purposes only. It is the clinician’s responsibility to ensure that any designs used provide the intended feedback.

## Keyboard Quick Keys

The following keyboard controls can be used at any time when the BrainMaster is operating.

**Please Note:** When autothreshold is used, threshold commands change percent target value.

**Please Note:** Pressing <Tab> switches into "frequency adjust" mode. Pressing "a" for alpha, "t" for theta, etc, will make the frequency band change per what you have selected for the "on-the-fly" Frequency adjustment.

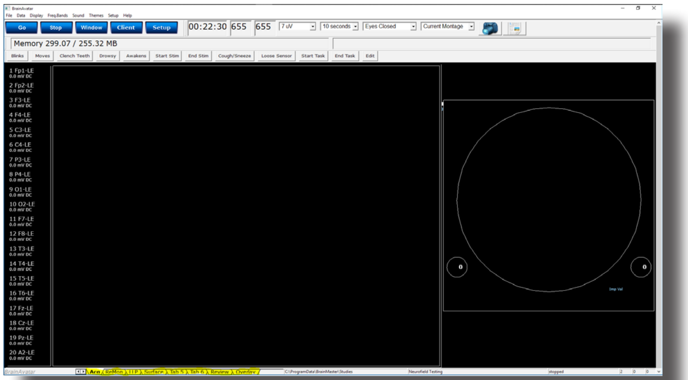
| Key | Function |
|---|---|
| a | Increase the alpha or 3rd bands threshold by 0.1uV or target by 1 percent |
| A | Decrease the alpha or 3rd bands threshold by 0.1uV or target by 1 percent |
| b | Increase the beta or 5th bands threshold by 0.1uV or target by 1 percent |
| B | Decrease the beta or 5th bands threshold by 0.1uV or target by 1 percent |
| c | Increase coherence/phase threshold |
| C | Decrease coherence/phase threshold |
| d | Increase the delta or 1st bands threshold by 0.1uV or target by 1 percent |
| D | Decrease the delta or 1st bands threshold by 0.1uV or target by 1 percent |
| g | Increase the gamma or 7th bands threshold 0.1 uV or target by 1 percent |
| G | Decrease the gamma or 7th bands threshold 0.1 uV or target by 1 percent |
| h | Increase the hibeta or 6th bands threshold 0.1 uV or target by 1 percent |
| H | Decrease the hibeta or 6th bands threshold 0.1 uV or target by 1 percent |
| l | Increase the lobeta or 4th bands threshold 0.1 uV or target by 1 percent |
| L | Decrease the lobeta or 4th bands threshold 0.1 uV or target by 1 percent |
| M | Toggle "Brain Mirror" between FFT and Filtered Mode |
| r | Reduce artifact rejection threshold value by 10 microvolts |
| R | Increase artifact rejection threshold value by 10 microvolts |
| t | Increase the theta or 2nd bands threshold by 0.1 uV or target by 1 percent |
| T | Decrease the theta or 2nd bands threshold by 0.1 uV or target by 1 percent |
| u | Increase the user or 8th bands threshold by 0.1 uV or target by 1 percent |
| U | Decrease the user or 8th band threshold by 0.1 uV or target by 1 percent |
| y | Copy autothresholds into current thresholds ("Autoupdate") |
| <Shift> + "=" | Increase the display gain by 20% |
| - | Decrease the display gain by 20% |
| <Space> | Pause or End Pause |
| 1 | Set mode so threshold keys (d, t, etc.) adjust channel 1 thresholds only |
| 2 | Set mode so threshold keys (d, t, etc.) adjust channel 2 thresholds only |

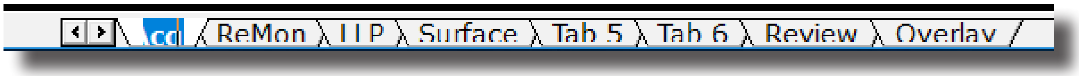
## Keyboard Quick Keys (Continued)

| **Key** | **Function** |
|---|---|
| 3 | Set mode so threshold keys (d, t, etc.) adjust channel 3 thresholds only |
| 4 | Set mode so threshold keys (d, t, etc.) adjust channel 4 thresholds only |
| 0 | Set mode so threshold keys (d, t, etc.) adjust all thresholds |
| <Up> <Pg Up> | Moves the display up (CSA Display only) |
| <Down> <Pg Dn> | Moves the display down (CSA Display only) |
| <Left> | Moves the display left (CSA Display only) |
| <Right> | Moves the display right (CSA Display only) |
| <Insert> | Switches between controlling look point and camera (CSA Display Only) |
| <Shift> + 9 | Decreases the Photic Output Amplitude by 1% |
| <Shift> + 0 | Increases the Photic Output Amplitude by 1% |
| <Shift> + "." | Enables Impedance (Discovery only) |
| <Shift> + "," | Disables Impedance (Discovery only) |
| <Ctrl> + e | Opens the BrainAvatar Setup Menu on the Event Wizard Tab |
| <Ctrl> + z | Opens the BrainAvatar Setup Menu on the Z-Score Tab |

## Renaming Tabs

1. From the Training Screen, find the Tab Section located at the bottom of the screen. Find the tab that you would like to edit, and double-click. Doing this will allow you to edit the Tab name to what you would like.


BrainAvatar
File Data Display Freq.Bands Sound Themes Setup Help
Go
Stop
Window
Client
Setup
00:22:30
655
655
7 uV
10 seconds
Eyes Closed
Current Montage
Memory 299.07 / 255.32 MB
Blinks
Moves
Clench Teeth
Drowsy
Awakens
Start Stim
End Stim
Cough/Sneeze
Loose Sensor
Start Task
End Task
Edit
1 Fp1-LE 0.0 mV DC
2 Fp2-LE 0.0 mV DC
3 F3-LE 0.0 mV DC
4 F4-LE 0.0 mV DC
5 C3-LE 0.0 mV DC
6 C4-LE 0.0 mV DC
7 P3-LE 0.0 mV DC
8 P4-LE 0.0 mV DC
9 O1-LE 0.0 mV DC
10 O2-LE 0.0 mV DC
11 F7-LE 0.0 mV DC
12 F8-LE 0.0 mV DC
13 T3-LE 0.0 mV DC
14 T4-LE 0.0 mV DC
15 T5-LE 0.0 mV DC
16 T6-LE 0.0 mV DC
17 Fz-LE 0.0 mV DC
18 Cz-LE 0.0 mV DC
19 Pz-LE 0.0 mV DC
20 A2-LE 0.0 mV DC
0
0
Imp Val
BrainAvatar
Acq
ReMon
I I P
Surface
Tab 5
Tab 6
Review
Overlay
C:\ProgramData\BrainMaster\Studies
Neurofield Testing
stopped
2
0
0

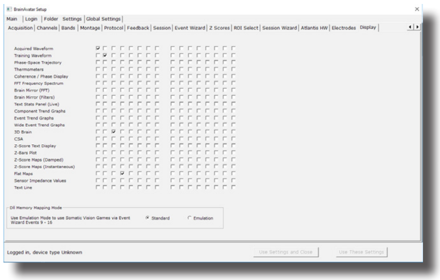

Acq
ReMon
I I P
Surface
Tab 5
Tab 6
Review
Overlay

All of the Tabs can be renamed. If the names of the tabs get too long, you can use the arrow buttons located next to the Tab Section to search through them.

## Displays(Tabs)

1. There are three ways to choose what to display on each tabs:

A. **Classic Method:** From the Setup Screen, click the Settings Tab, and then click the Display Tab, and choose by putting a check mark by the items that you would like displayed for each Tab. There are 6 Tabs for the Training Screen and Client Screen, plus an Overlay Screen, that can be displayed on all Tabs. Once you have chosen the Displays that you would like, please click the Use Settings and Close Button. **PLEASE NOTE:** This will not properly reflect, if you have done any changes using the Panel Wizard.


BrainAvatar Setup
Main
Login
Folder
Settings
Global Settings
Acquisition
Channels
Bands
Montage
Protocol
Feedback
Session
Event Wizard
Z Scores
ROI Select
Session Wizard
Atlantis HW
Electrodes
Display
Use Settings and Close
Use These Settings

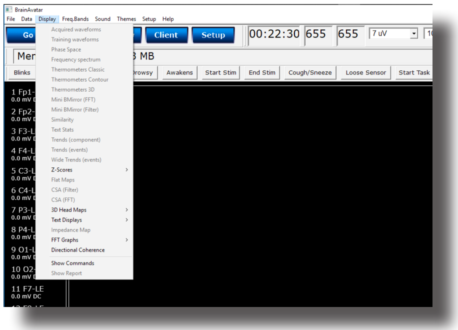
| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Acquired Waveform | ☑ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Training Waveform | ☐ | ☑ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Phase-Space Trajectory | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Thermometers | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Coherence / Phase Display | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| FFT Frequency Spectrum | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Brain Mirror (FFT) | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Brain Mirror (Filters) | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Text Stats Panel (Live) | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Component Trend Graphs | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Event Trend Graphs | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Wide Event Trend Graphs | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 3D Brain | ☐ | ☐ | ☑ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| CSA | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Z-Score Text Display | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Z-Bars Plot | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Z-Score Maps (Damped) | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Z-Score Maps (Instantaneous) | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Flat Maps | ☐ | ☐ | ☐ | ☑ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Sensor Impedance Values | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Text Line | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

Dll Memory Mapping Mode

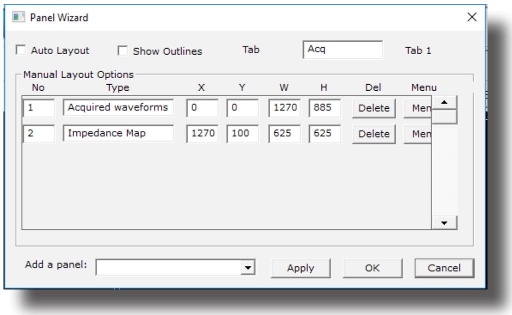
Use Emulation Mode to use Somatic Vision Games via Event Wizard Events 9 - 16 ● Standard ○ Emulation

Logged in, device type Unknown

B. **Training Screen:** Click the Display Tab, and choose which Display you would like for the Tab that you have currently selected. You will have to do this to each Tab individually. **PLEASE NOTE:** This will not properly reflect, if you have done any changes using the Panel Wizard


BrainAvatar
File
Data
Display
Freq.Bands
Sound
Themes
Setup
Help
Go
Client
Setup
00:22:30
655
655
7 uV
Mer
3 MB
Blinks
Drowsy
Awakens
Start Stim
End Stim
Cough/Sneeze
Loose Sensor
Start Task
Acquired waveforms
Training waveforms
Phase Space
Frequency spectrum
Thermometers Classic
Thermometers Contour
Thermometers 3D
Mini BMirror (FFT)
Mini BMirror (Filter)
Similarity
Text Stats
Trends (component)
Trends (events)
Wide Trends (events)
Z-Scores
Flat Maps
CSA (Filter)
CSA (FFT)
3D Head Maps
Text Displays
Impedance Map
FFT Graphs
Directional Coherence
Show Commands
Show Report
1 Fp1-
0.0 mV D
2 Fp2-
0.0 mV D
3 F3-L
0.0 mV D
4 F4-L
0.0 mV D
5 C3-L
0.0 mV D
6 C4-L
0.0 mV D
7 P3-L
0.0 mV D
8 P4-L
0.0 mV D
9 O1-L
0.0 mV D
10 O2-
0.0 mV D
11 F7-LE
0.0 mV DC

C. **Panel Wizard: In the Tab Section located at the bottom of your screeen. Find the tab you would like to work with, and** right-click the Tab. **PLEASE NOTE:** For more information on this, please go to the Panel Wizard Section of this Manual


Panel Wizard
Apply
OK
Cancel

☐ Auto Layout ☐ Show Outlines Tab Acq Tab 1

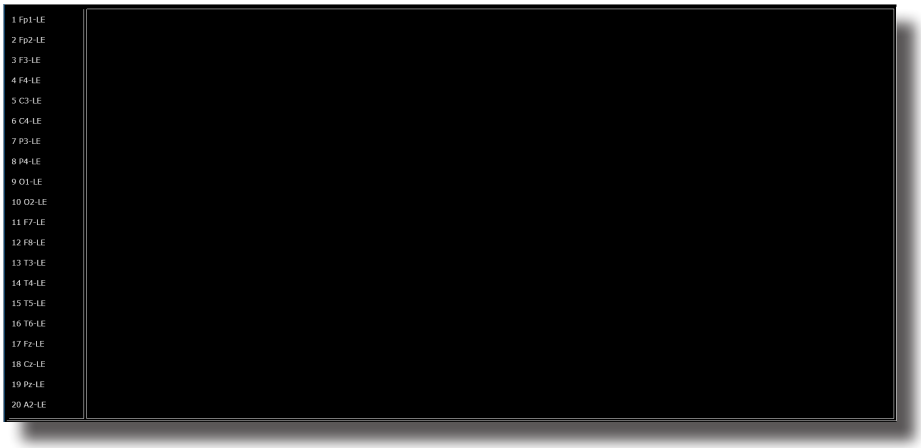
Manual Layout Options

| No | Type | X | Y | W | H | Del | Menu |
|---|---|---|---|---|---|---|---|
| 1 | Acquired waveforms | 0 | 0 | 1270 | 885 | Delete | Men |
| 2 | Impedance Map | 1270 | 100 | 625 | 625 | Delete | Men |

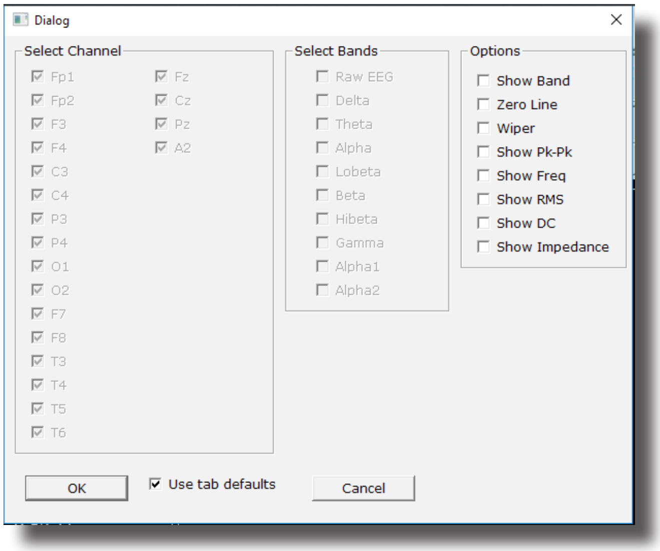
Add a panel:

# Display Types & Functionality

## Acquired Waveforms


1 Fp1-LE
2 Fp2-LE
3 F3-LE
4 F4-LE
5 C3-LE
6 C4-LE
7 P3-LE
8 P4-LE
9 O1-LE
10 O2-LE
11 F7-LE
12 F8-LE
13 T3-LE
14 T4-LE
15 T5-LE
16 T6-LE
17 Fz-LE
18 Cz-LE
19 Pz-LE
20 A2-LE

**Use:** Displays the acquired Waveforms.
**Requirements:** Displays only sites seleted in the Acquired Section of Settings.
**Left-Click Mouse Function:** Yes. Highlights an area of EEG for making annotations (Coming Soon).
**Right-Click Mouse Function (Panel Option):** Yes. Allows you to add filtered waveforms, choose to not view particular waveforms, show uV levels, DC Offsets & Impedances, as well as turning on & off a Zero Line.


Dialog
OK
Cancel

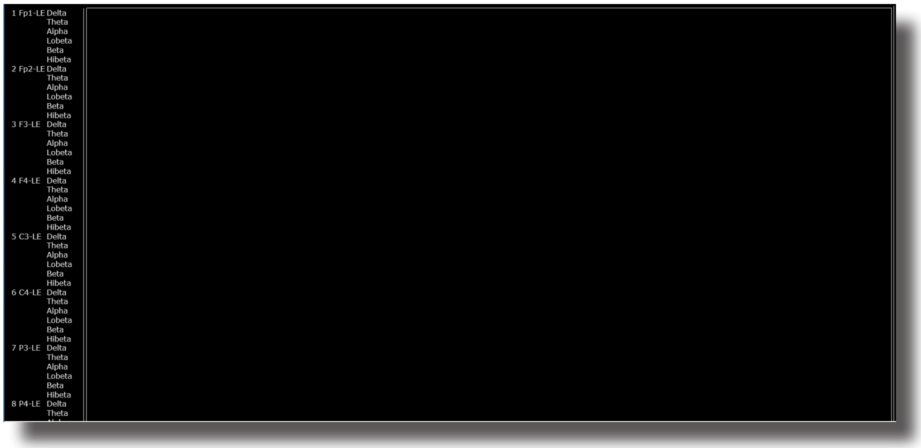
Select Channel
☑ Fp1
☑ Fp2
☑ F3
☑ F4
☑ C3
☑ C4
☑ P3
☑ P4
☑ O1
☑ O2
☑ F7
☑ F8
☑ T3
☑ T4
☑ T5
☑ T6
☑ Fz
☑ Cz
☑ Pz
☑ A2

Select Bands
☐ Raw EEG
☐ Delta
☐ Theta
☐ Alpha
☐ Lobeta
☐ Beta
☐ Hibeta
☐ Gamma
☐ Alpha1
☐ Alpha2

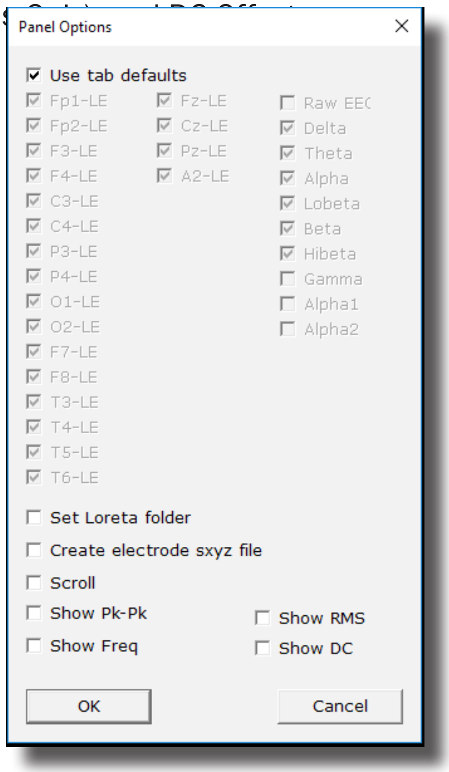
Options
☐ Show Band
☐ Zero Line
☐ Wiper
☐ Show Pk-Pk
☐ Show Freq
☐ Show RMS
☐ Show DC
☐ Show Impedance

☑ Use tab defaults

## Training Waveforms


1 Fp1-LE Delta
Theta
Alpha
Lobeta
Beta
Hibeta
2 Fp2-LE Delta
Theta
Alpha
Lobeta
Beta
Hibeta
3 F3-LE Delta
Theta
Alpha
Lobeta
Beta
Hibeta
4 F4-LE Delta
Theta
Alpha
Lobeta
Beta
Hibeta
5 C3-LE Delta
Theta
Alpha
Lobeta
Beta
Hibeta
6 C4-LE Delta
Theta
Alpha
Lobeta
Beta
Hibeta
7 P3-LE Delta
Theta
Alpha
Lobeta
Beta
Hibeta
8 P4-LE Delta
Theta

**Use:** Displays the Trained Waveforms.
**Requirements:** Displays only sites selected in the Montage Section of Settings.
**Left-Click Mouse Function:** No use at this moment.
**Right-Click Mouse Function (Panel Option):** Yes. Allows you to add Raw EEG waveforms, show uV levels, frequencies (Filtered Bands


Panel Options
OK
Cancel

☑ Use tab defaults

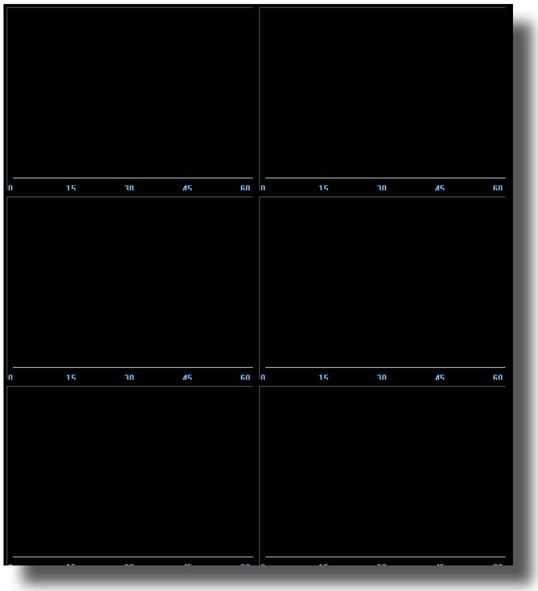
☑ Fp1-LE
☑ Fp2-LE
☑ F3-LE
☑ F4-LE
☑ C3-LE
☑ C4-LE
☑ P3-LE
☑ P4-LE
☑ O1-LE
☑ O2-LE
☑ F7-LE
☑ F8-LE
☑ T3-LE
☑ T4-LE
☑ T5-LE
☑ T6-LE

☑ Fz-LE
☑ Cz-LE
☑ Pz-LE
☑ A2-LE

☐ Raw EEC
☑ Delta
☑ Theta
☑ Alpha
☑ Lobeta
☑ Beta
☑ Hibeta
☐ Gamma
☐ Alpha1
☐ Alpha2

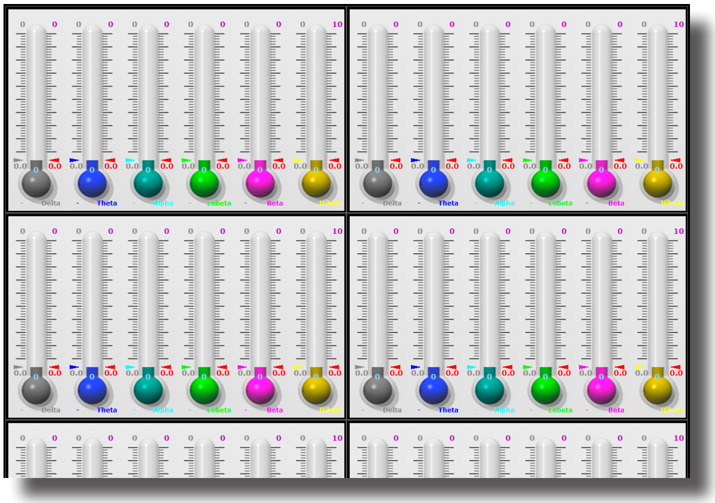
☐ Set Loreta folder
☐ Create electrode sxyz file
☐ Scroll
☐ Show Pk-Pk
☐ Show Freq
☐ Show RMS
☐ Show DC

### Frequency Spectrum



**Use:** Displays the frequency spectrum for each trained site.
**Requirements:** Displays only sites selected in the Montage Section of Settings
**Left-Click Mouse Function:** No.
**Right-Click Mouse Function (Panel Option):** No.

## Thermometer Display

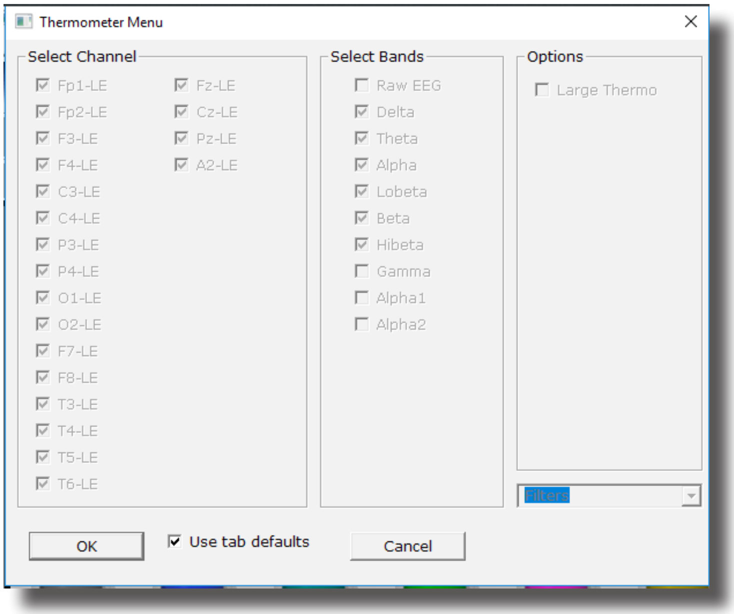


**Use:** Displays live bar-graphs that show the selected frequency components, along with associated threshold information for each trained site. You can choose from three different types of Thermometers: Classic, Contour (pictured), or Large.

**Requirements:** Displays only sites selected in the Montage Section of Settings.

**Left-Click Mouse Function:** No.

**Right-Click Mouse Function (Panel Option):** Yes. Allows you to choose which bands or Events you would like displayed, as well as choosing the Large Style Thermometer.



Thermometer Menu

Select Channel

☑ Fp1-LE
☑ Fp2-LE
☑ F3-LE
☑ F4-LE
☑ C3-LE
☑ C4-LE
☑ P3-LE
☑ P4-LE
☑ O1-LE
☑ O2-LE
☑ F7-LE
☑ F8-LE
☑ T3-LE
☑ T4-LE
☑ T5-LE
☑ T6-LE
☑ Fz-LE
☑ Cz-LE
☑ Pz-LE
☑ A2-LE

Select Bands

☐ Raw EEG
☑ Delta
☑ Theta
☑ Alpha
☑ Lobeta
☑ Beta
☑ Hibeta
☐ Gamma
☐ Alpha1
☐ Alpha2

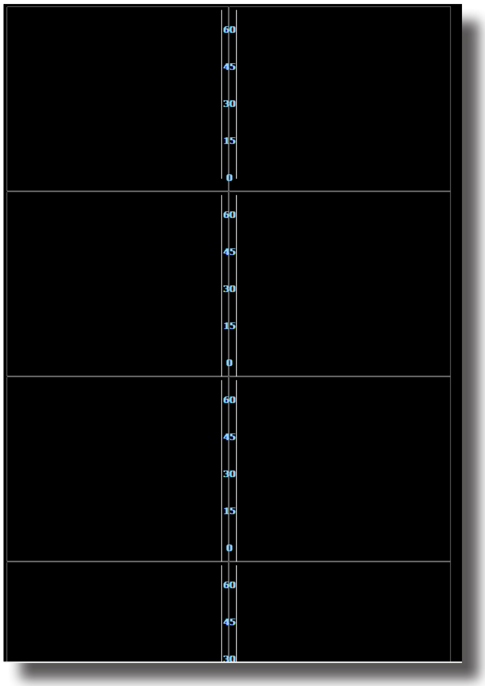
Options

☐ Large Thermo

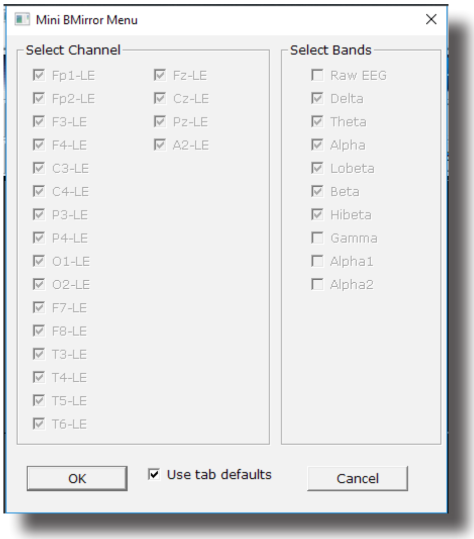
Filters

☑ Use tab defaults

## Mini BrainMirror(FFT)



**Use:** Displays the FFT spectrum for each trained site.
**Requirements:** Displays only sites selected in the Montage Section of Settings.
**Left-Click Mouse Function:** No.
**Right-Click Mouse Function (Panel Option):** Yes. Allows you to choose which channels will be displayed.



Mini BMirror Menu

Select Channel

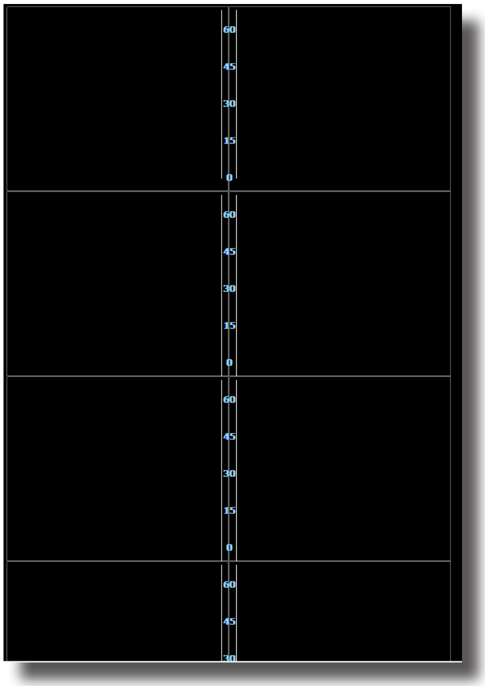
☑ Fp1-LE
☑ Fp2-LE
☑ F3-LE
☑ F4-LE
☑ C3-LE
☑ C4-LE
☑ P3-LE
☑ P4-LE
☑ O1-LE
☑ O2-LE
☑ F7-LE
☑ F8-LE
☑ T3-LE
☑ T4-LE
☑ T5-LE
☑ T6-LE
☑ Fz-LE
☑ Cz-LE
☑ Pz-LE
☑ A2-LE

Select Bands

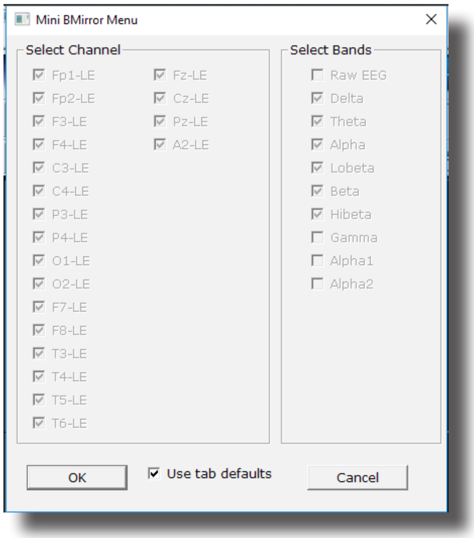
☐ Raw EEG
☑ Delta
☑ Theta
☑ Alpha
☑ Lobeta
☑ Beta
☑ Hibeta
☐ Gamma
☐ Alpha1
☐ Alpha2

☑ Use tab defaults

## Mini BrainMirror(Filter)



**Use:** Displays the Filtered spectrum for each trained site.
**Requirements:** Displays only sites selected in the Montage Section of Settings.
**Left-Click Mouse Function:** No.
**Right-Click Mouse Function (Panel Option):** Yes. Allows you to choose which channels will be displayed



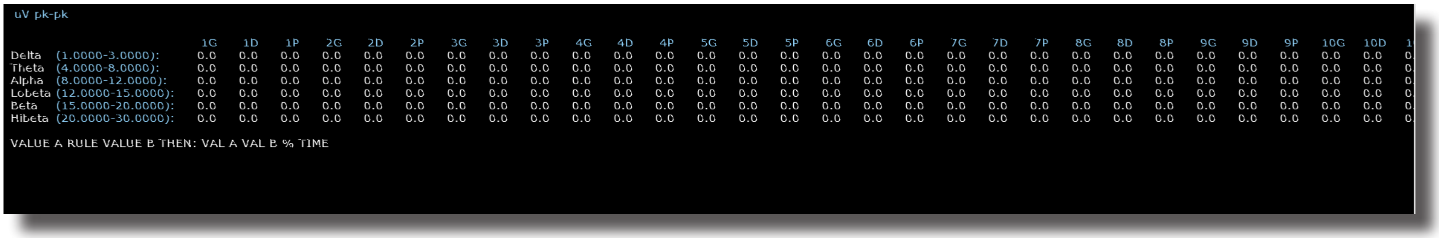
Mini BMirror Menu

Select Channel
☑ Fp1-LE
☑ Fp2-LE
☑ F3-LE
☑ F4-LE
☑ C3-LE
☑ C4-LE
☑ P3-LE
☑ P4-LE
☑ O1-LE
☑ O2-LE
☑ F7-LE
☑ F8-LE
☑ T3-LE
☑ T4-LE
☑ T5-LE
☑ T6-LE
☑ Fz-LE
☑ Cz-LE
☑ Pz-LE
☑ A2-LE

Select Bands
☐ Raw EEG
☑ Delta
☑ Theta
☑ Alpha
☑ Lobeta
☑ Beta
☑ Hibeta
☐ Gamma
☐ Alpha1
☐ Alpha2

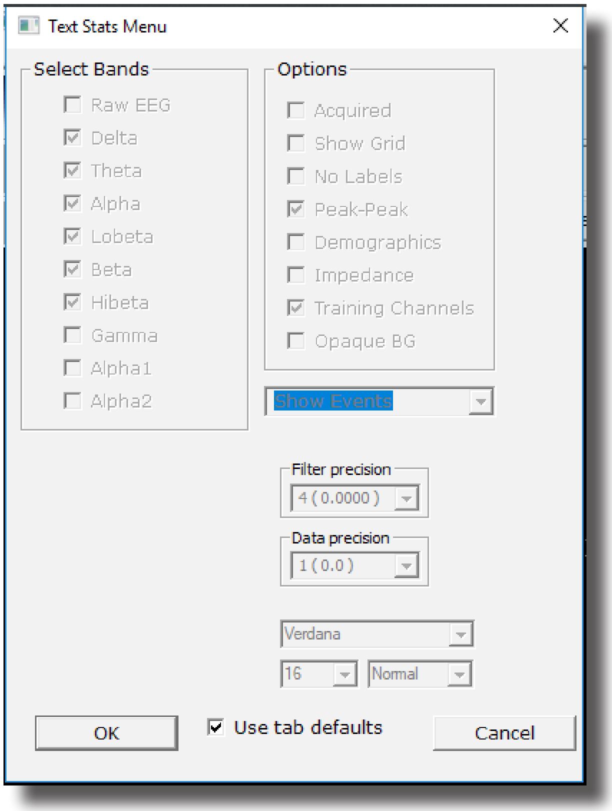
☑ Use tab defaults

## Text Stats



```
uV pk-pk

                             1G    1D    1P    2G    2D    2P    3G    3D    3P    4G    4D    4P    5G    5D    5P    6G    6D    6P    7G    7D    7P    8G    8D    8P    9G    9D    9P   10G   10D
Delta  (1.0000-3.0000):     0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
Theta  (4.0000-8.0000):     0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
Alpha  (8.0000-12.0000):    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
Lobeta (12.0000-15.0000):   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
Beta   (15.0000-20.0000):   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
Hibeta (20.0000-30.0000):   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0

VALUE A RULE VALUE B THEN: VAL A VAL B % TIME
```

**Use:** Displays the Grand Average, Damped Average, and percent of time over threshold for each frequency band on each trained site, as well as any Event Information.
**Requirements:** Displays only sites selected in the Montage Section of Settings, and/or if an Event is enabled.
**Left-Click Mouse Function:** No.
**Right-Click Mouse Function (Panel Option):** Yes. Allows you to choose which bands or Events you would like displayed, as well as other settings like Impedance readings, Impedances, as well as adjust the data precision.



Text Stats Menu

Select Bands
- ☐ Raw EEG
- ☑ Delta
- ☑ Theta
- ☑ Alpha
- ☑ Lobeta
- ☑ Beta
- ☑ Hibeta
- ☐ Gamma
- ☐ Alpha1
- ☐ Alpha2

Options
- ☐ Acquired
- ☐ Show Grid
- ☐ No Labels
- ☑ Peak-Peak
- ☐ Demographics
- ☐ Impedance
- ☑ Training Channels
- ☐ Opaque BG

Show Events

Filter precision: 4 ( 0.0000 )

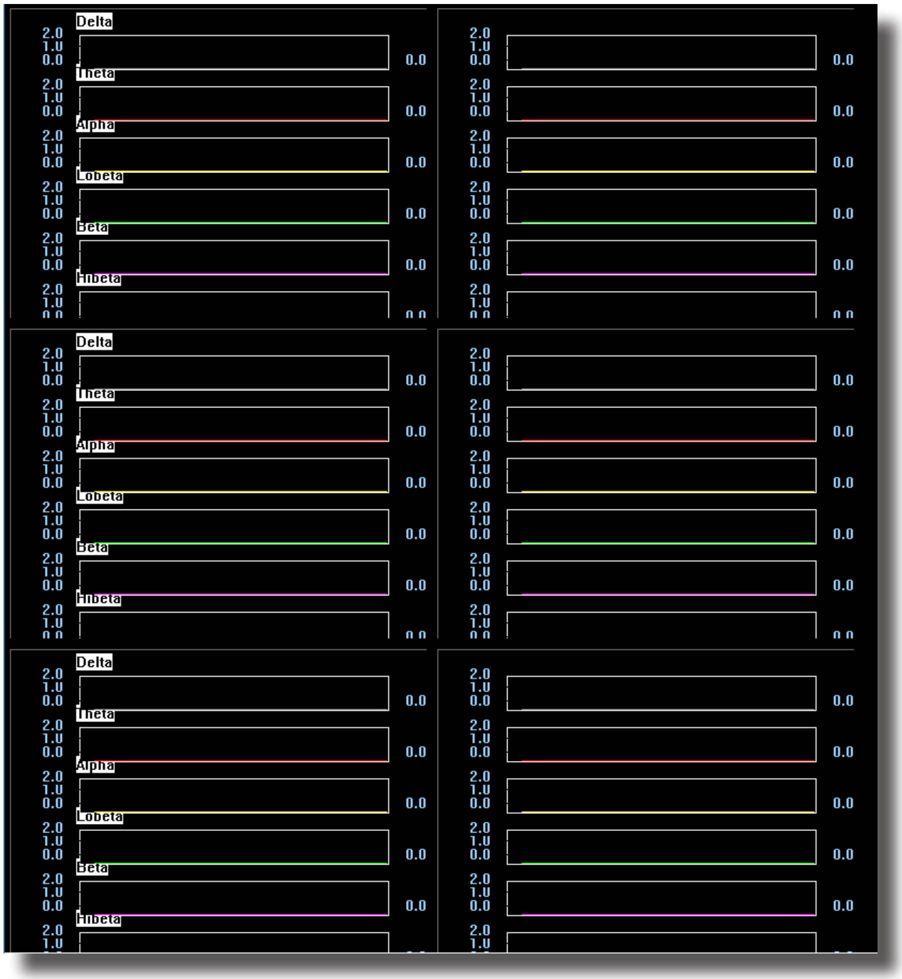
Data precision: 1 ( 0.0 )

Verdana

16 Normal

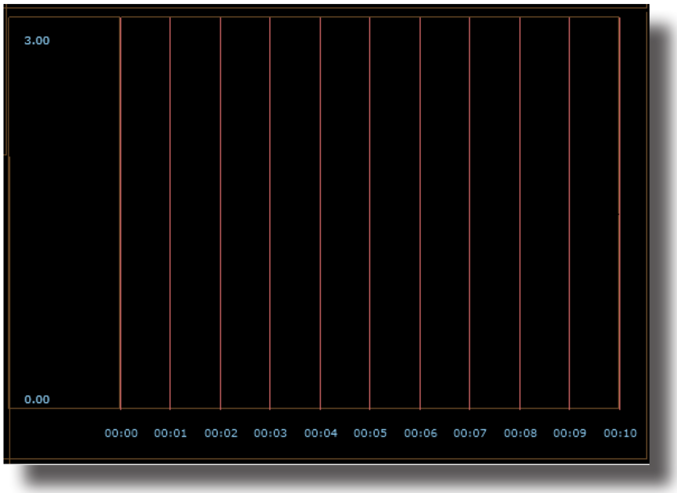
☑ Use tab defaults

## Trend Graph (Components)

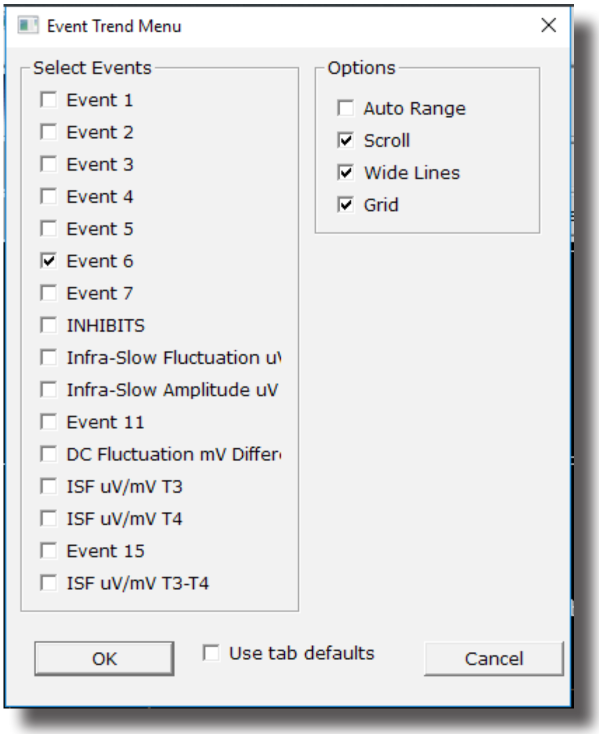

Delta
Theta
Alpha
Lobeta
Beta
Hibeta
2.0
1.0
0.0

**Use:** Displays a graph for each component for each trained site.
**Requirements:** Displays only sites selected in the Montage Section of Settings.
**Left-Click Mouse Function:** No.
**Right-Click Mouse Function (Panel Option):** No.

## Trend Graph (Events)



**Use:** Displays a graph for each event utilized through the Event Wizard.
**Requirements:** Displays only if an Event is Enabled and Visible.
**Left-Click Mouse Function:** No.
**Right-Click Mouse Function (Panel Option):** Yes. Allows you to choose which Events that you would like to display, as well as different settings for size of the lines, and the range of the graph.



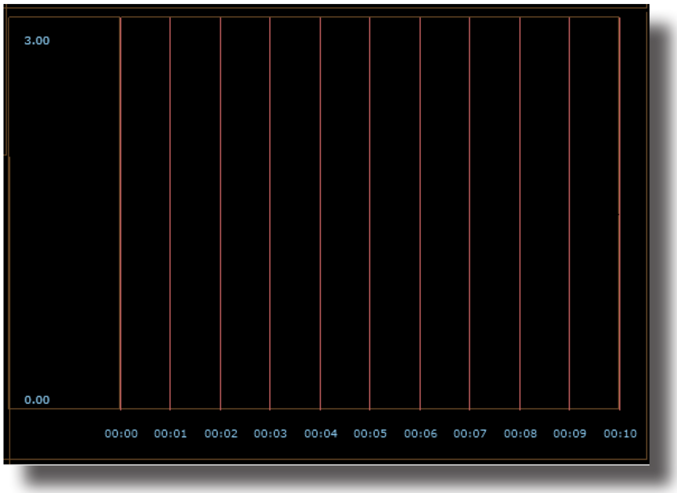
Event Trend Menu

Select Events
- ☐ Event 1
- ☐ Event 2
- ☐ Event 3
- ☐ Event 4
- ☐ Event 5
- ☑ Event 6
- ☐ Event 7
- ☐ INHIBITS
- ☐ Infra-Slow Fluctuation u\
- ☐ Infra-Slow Amplitude uV
- ☐ Event 11
- ☐ DC Fluctuation mV Differ
- ☐ ISF uV/mV T3
- ☐ ISF uV/mV T4
- ☐ Event 15
- ☐ ISF uV/mV T3-T4

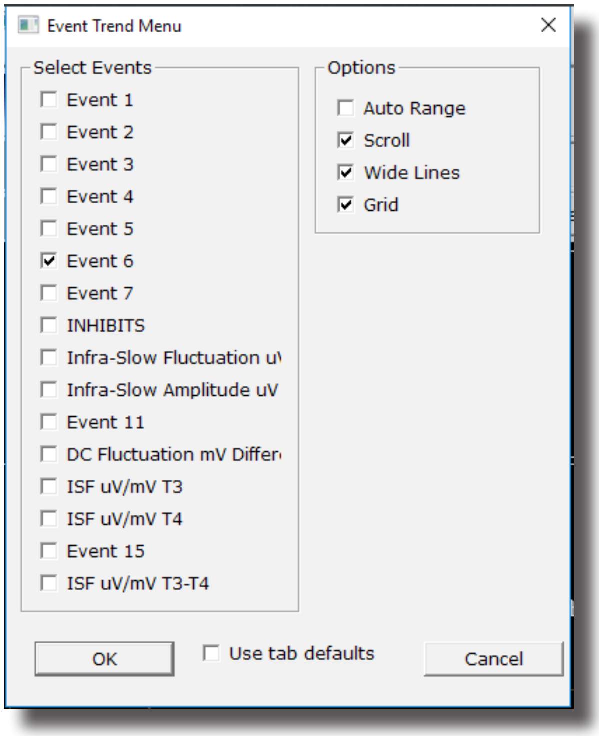
Options
- ☐ Auto Range
- ☑ Scroll
- ☑ Wide Lines
- ☑ Grid

☐ Use tab defaults

## Wide Trend (Events) (Same as Trends)



**Use:** Displays a graph for each event utilized through the Event Wizard.
**Requirements:** Displays only if an Event is Enabled and Visible.
**Left-Click Mouse Function:** No.
**Right-Click Mouse Function (Panel Option):** Yes. Allows you to choose which Events that you would like to display, as well as different settings for size of the lines, and the range of the graph.



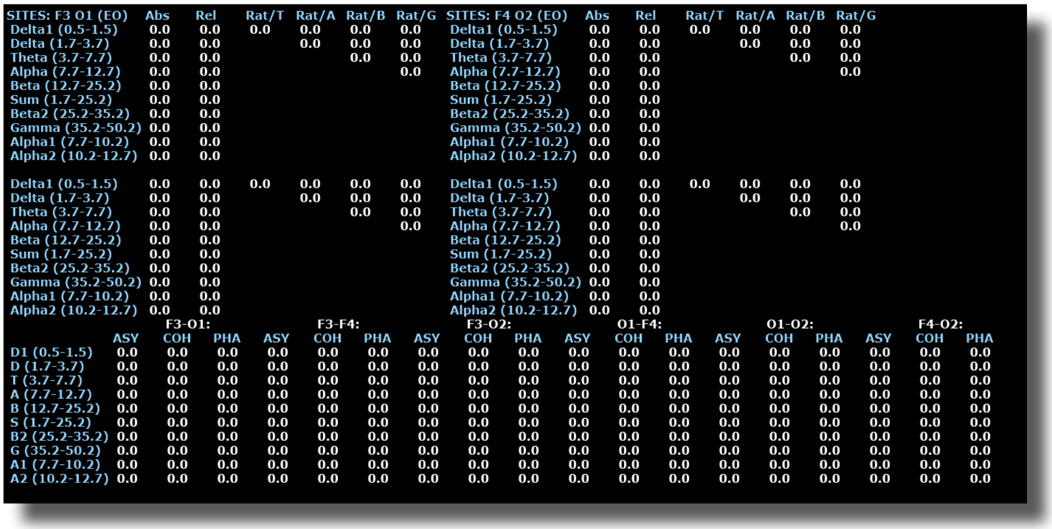
Event Trend Menu

Select Events
- ☐ Event 1
- ☐ Event 2
- ☐ Event 3
- ☐ Event 4
- ☐ Event 5
- ☑ Event 6
- ☐ Event 7
- ☐ INHIBITS
- ☐ Infra-Slow Fluctuation u\
- ☐ Infra-Slow Amplitude uV
- ☐ Event 11
- ☐ DC Fluctuation mV Differ
- ☐ ISF uV/mV T3
- ☐ ISF uV/mV T4
- ☐ Event 15
- ☐ ISF uV/mV T3-T4

Options
- ☐ Auto Range
- ☑ Scroll
- ☑ Wide Lines
- ☑ Grid

☐ Use tab defaults

## Z-Scores



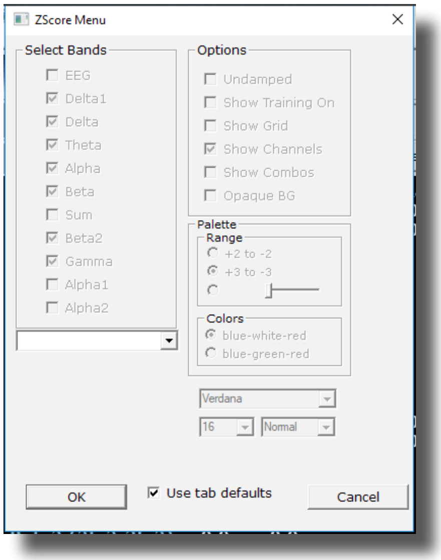
```
SITES: F3 O1 (EO)   Abs    Rel    Rat/T  Rat/A  Rat/B  Rat/G  SITES: F4 O2 (EO)   Abs    Rel    Rat/T  Rat/A  Rat/B  Rat/G
 Delta1 (0.5-1.5)   0.0    0.0    0.0    0.0    0.0    0.0     Delta1 (0.5-1.5)   0.0    0.0    0.0    0.0    0.0    0.0
 Delta (1.7-3.7)    0.0    0.0           0.0    0.0    0.0     Delta (1.7-3.7)    0.0    0.0           0.0    0.0    0.0
 Theta (3.7-7.7)    0.0    0.0                  0.0    0.0     Theta (3.7-7.7)    0.0    0.0                  0.0    0.0
 Alpha (7.7-12.7)   0.0    0.0                         0.0     Alpha (7.7-12.7)   0.0    0.0                         0.0
 Beta (12.7-25.2)   0.0    0.0                                 Beta (12.7-25.2)   0.0    0.0
 Sum (1.7-25.2)     0.0    0.0                                 Sum (1.7-25.2)     0.0    0.0
 Beta2 (25.2-35.2)  0.0    0.0                                 Beta2 (25.2-35.2)  0.0    0.0
 Gamma (35.2-50.2)  0.0    0.0                                 Gamma (35.2-50.2)  0.0    0.0
 Alpha1 (7.7-10.2)  0.0    0.0                                 Alpha1 (7.7-10.2)  0.0    0.0
 Alpha2 (10.2-12.7) 0.0    0.0                                 Alpha2 (10.2-12.7) 0.0    0.0

 Delta1 (0.5-1.5)   0.0    0.0    0.0    0.0    0.0    0.0     Delta1 (0.5-1.5)   0.0    0.0    0.0    0.0    0.0    0.0
 Delta (1.7-3.7)    0.0    0.0           0.0    0.0    0.0     Delta (1.7-3.7)    0.0    0.0           0.0    0.0    0.0
 Theta (3.7-7.7)    0.0    0.0                  0.0    0.0     Theta (3.7-7.7)    0.0    0.0                  0.0    0.0
 Alpha (7.7-12.7)   0.0    0.0                         0.0     Alpha (7.7-12.7)   0.0    0.0                         0.0
 Beta (12.7-25.2)   0.0    0.0                                 Beta (12.7-25.2)   0.0    0.0
 Sum (1.7-25.2)     0.0    0.0                                 Sum (1.7-25.2)     0.0    0.0
 Beta2 (25.2-35.2)  0.0    0.0                                 Beta2 (25.2-35.2)  0.0    0.0
 Gamma (35.2-50.2)  0.0    0.0                                 Gamma (35.2-50.2)  0.0    0.0
 Alpha1 (7.7-10.2)  0.0    0.0                                 Alpha1 (7.7-10.2)  0.0    0.0
 Alpha2 (10.2-12.7) 0.0    0.0                                 Alpha2 (10.2-12.7) 0.0    0.0
                     F3-O1:            F3-F4:            F3-O2:            O1-F4:            O1-O2:            F4-O2:
                ASY   COH   PHA   ASY   COH   PHA   ASY   COH   PHA   ASY   COH   PHA   ASY   COH   PHA   ASY   COH   PHA
D1 (0.5-1.5)    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
D (1.7-3.7)     0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
T (3.7-7.7)     0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
A (7.7-12.7)    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
B (12.7-25.2)   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
S (1.7-25.2)    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
B2 (25.2-35.2)  0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
G (35.2-50.2)   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
A1 (7.7-10.2)   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
A2 (10.2-12.7)  0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
```

**Use:** Displays the Absolute Power, Relative Power, and Power Ratios for all components chosen at each trained site.

**Requirements:** Displays only for sites, components, and values chosen in the Z-Score Section of Settings.

**Left-Click Mouse Function:** No.

**Right-Click Mouse Function (Panel Option):** Yes. Allows you to select the bands for viewing, the speed that you would like for the data, what data you would like to view, adjust the palette for the data coming in, as well as choose to display only the Z-Scores being LZT Trained.



ZScore Menu

Select Bands
☐ EEG
☑ Delta1
☑ Delta
☑ Theta
☑ Alpha
☑ Beta
☐ Sum
☑ Beta2
☑ Gamma
☐ Alpha1
☐ Alpha2

Options
☐ Undamped
☐ Show Training On
☐ Show Grid
☑ Show Channels
☐ Show Combos
☐ Opaque BG

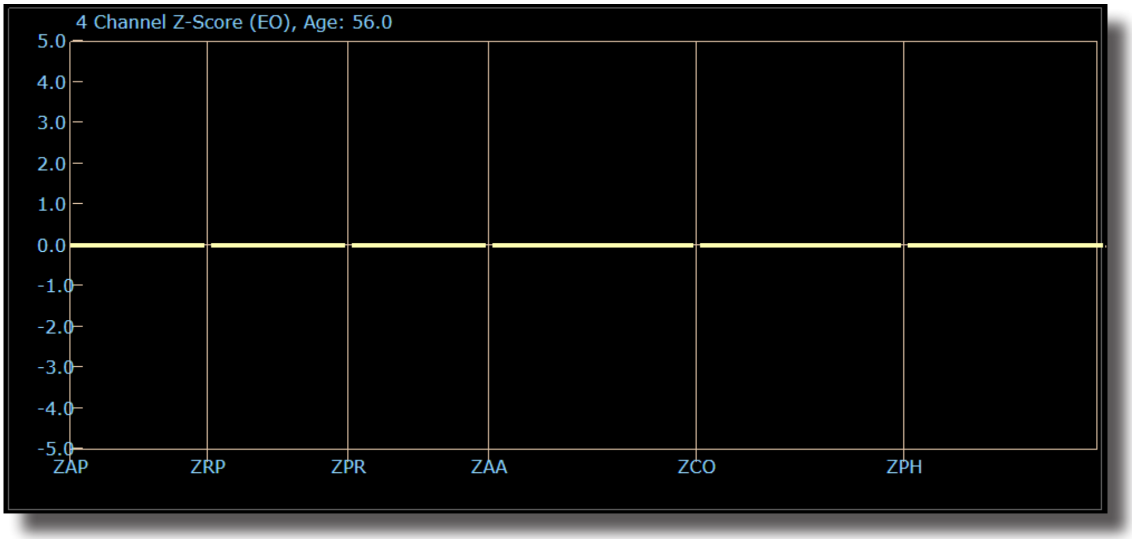
Palette
Range
○ +2 to -2
● +3 to -3
○

Colors
● blue-white-red
○ blue-green-red

Verdana
16
Normal

☑ Use tab defaults

## Z-Bars Plot

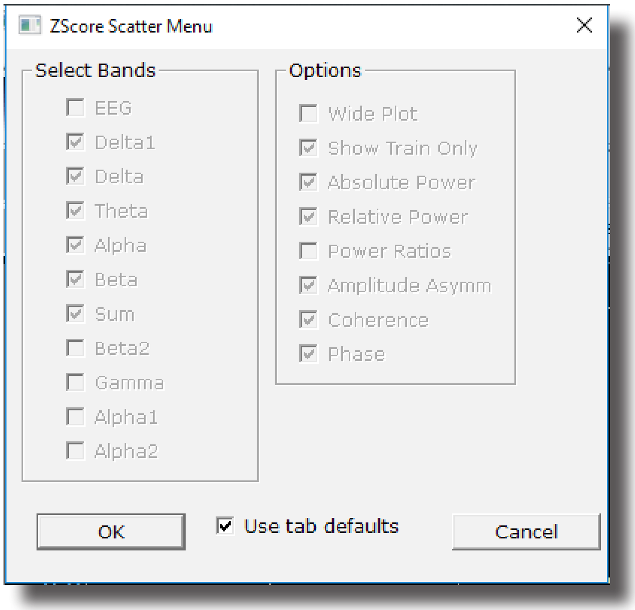


**Use:** Displays the bar-graph representation of the Absolute Power, Relative Power, Power Ratios, Phase, Coherence, and Asymmetry for all components chosen at each trained site.

**Requirements:** Displays only for sites, components, and values chosen in the Z-Score Section of Settings.

**Left-Click Mouse Function:** No.

**Right-Click Mouse Function (Panel Option):** Yes. Allows you to select the bands for viewing as well as which metrics you would like to view

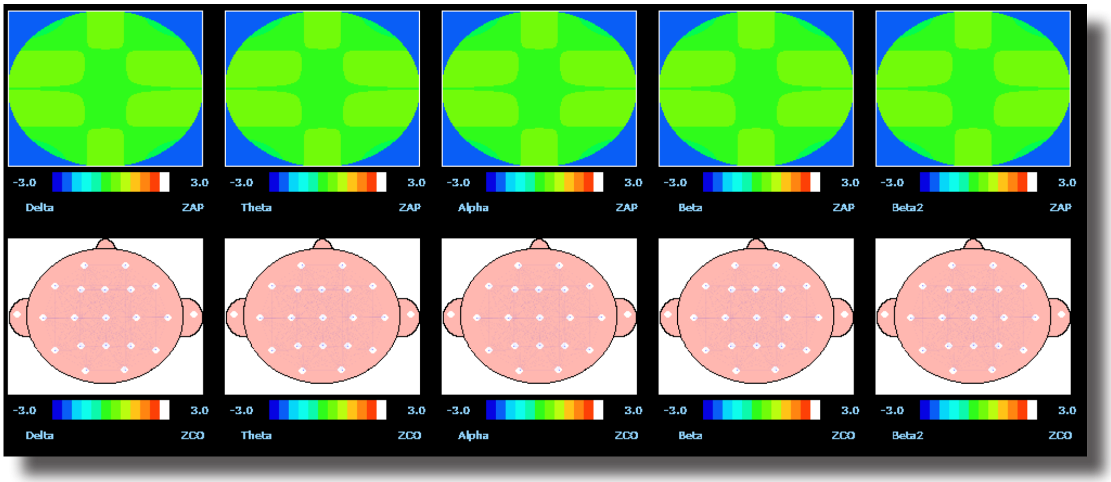


Select Bands
- ☐ EEG
- ☑ Delta1
- ☑ Delta
- ☑ Theta
- ☑ Alpha
- ☑ Beta
- ☑ Sum
- ☐ Beta2
- ☐ Gamma
- ☐ Alpha1
- ☐ Alpha2

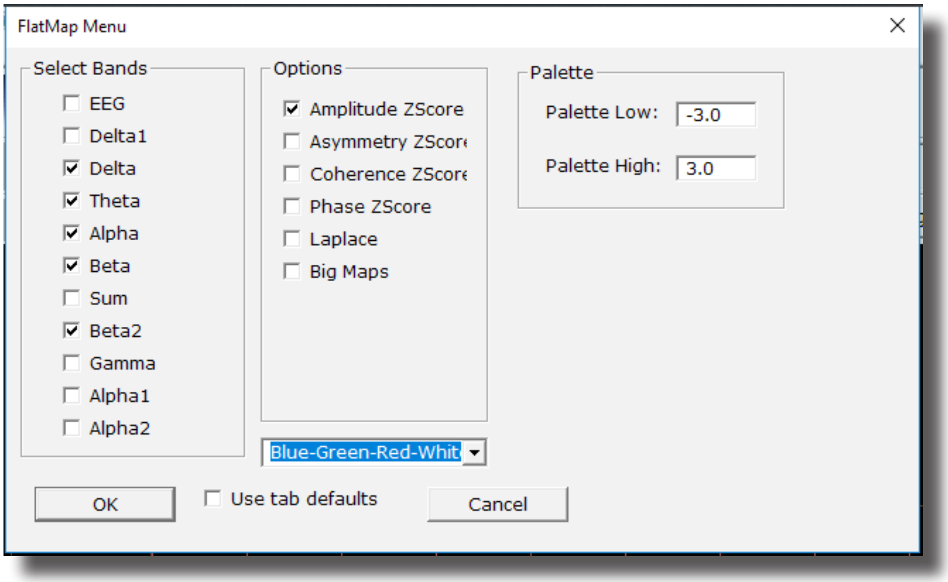
Options
- ☐ Wide Plot
- ☑ Show Train Only
- ☑ Absolute Power
- ☑ Relative Power
- ☐ Power Ratios
- ☑ Amplitude Asymm
- ☑ Coherence
- ☑ Phase

☑ Use tab defaults

## Z-Maps


-3.0
3.0
Delta
ZAP
Theta
ZAP
Alpha
ZAP
Beta
ZAP
Beta2
ZAP
Delta
ZCO
Theta
ZCO
Alpha
ZCO
Beta
ZCO
Beta2
ZCO

**Use:** Displays a topographic version of the Z-Scores for each filtered waveform.
**Requirements:** Displays only if you have 19-Channel Z-scores chosen in the Z-Score Section of Settings.
**Left-Click Mouse Function:** No.
**Right-Click Mouse Function (Panel Option):** Yes. Allows you to choose what Bands are displayed, the palette range of the maps as well as choose between averaged maps, instantaneous maps, damped maps, and/or all of the different connectivity maps.


FlatMap Menu
OK
Cancel

Select Bands
☐ EEG
☐ Delta1
☑ Delta
☑ Theta
☑ Alpha
☑ Beta
☐ Sum
☑ Beta2
☐ Gamma
☐ Alpha1
☐ Alpha2

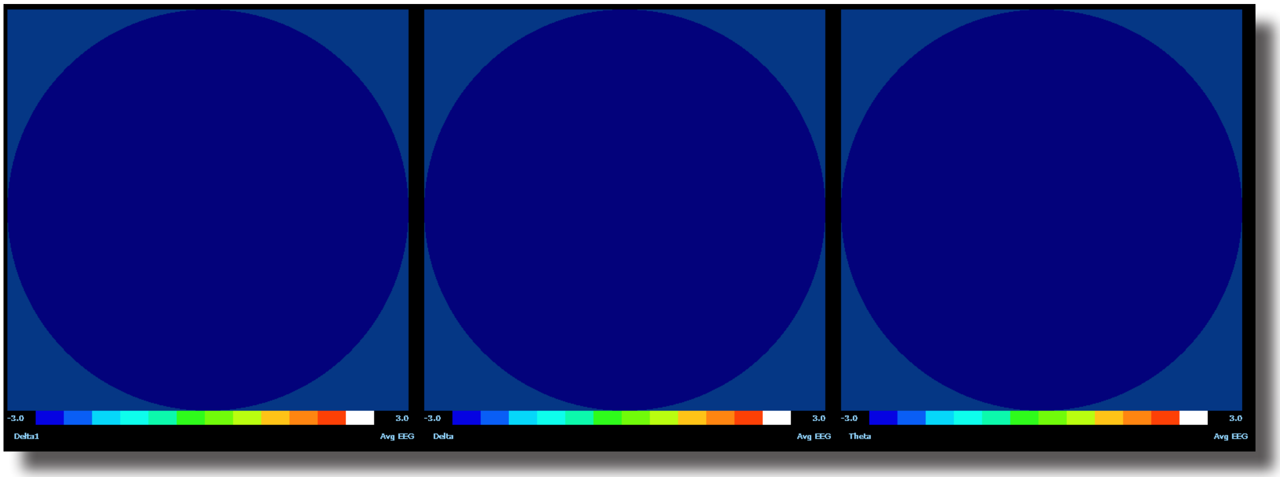
Options
☑ Amplitude ZScore
☐ Asymmetry ZScore
☐ Coherence ZScore
☐ Phase ZScore
☐ Laplace
☐ Big Maps

Blue-Green-Red-Whit

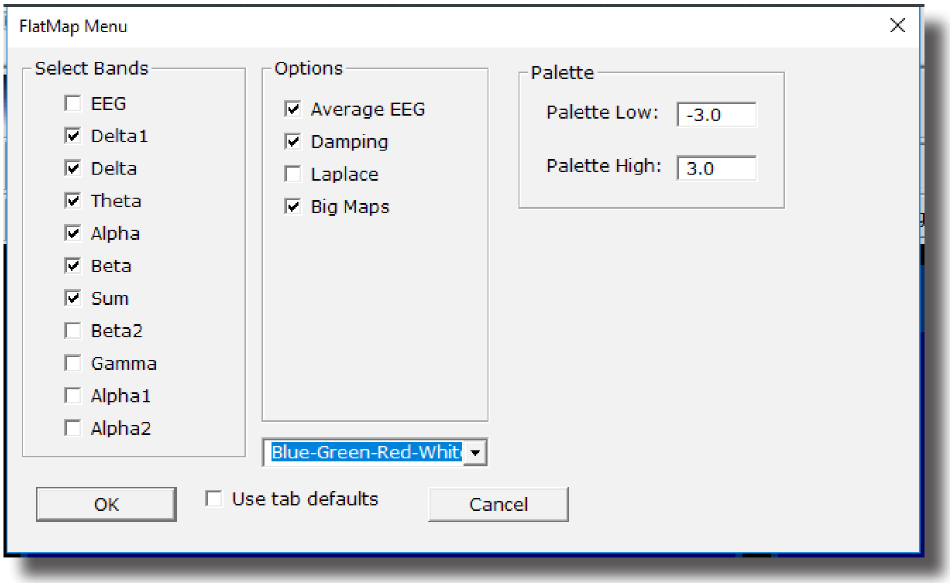
Palette
Palette Low: -3.0
Palette High: 3.0

☐ Use tab defaults

## Flat Maps



**Use:** Displays a topographic version of the powers for each filtered waveform.
**Requirements:** Displays for only the bands chosen to be viewed.
**Left-Click Mouse Function:** No.
**Right-Click Mouse Function (Panel Option):** Yes. Allows you to choose what Bands are displayed, the palette range, as well as choose between averaged maps, instantaneous maps, big maps, damped maps, and Laplacian View.


FlatMap Menu

Select Bands
- ☐ EEG
- ☑ Delta1
- ☑ Delta
- ☑ Theta
- ☑ Alpha
- ☑ Beta
- ☑ Sum
- ☐ Beta2
- ☐ Gamma
- ☐ Alpha1
- ☐ Alpha2

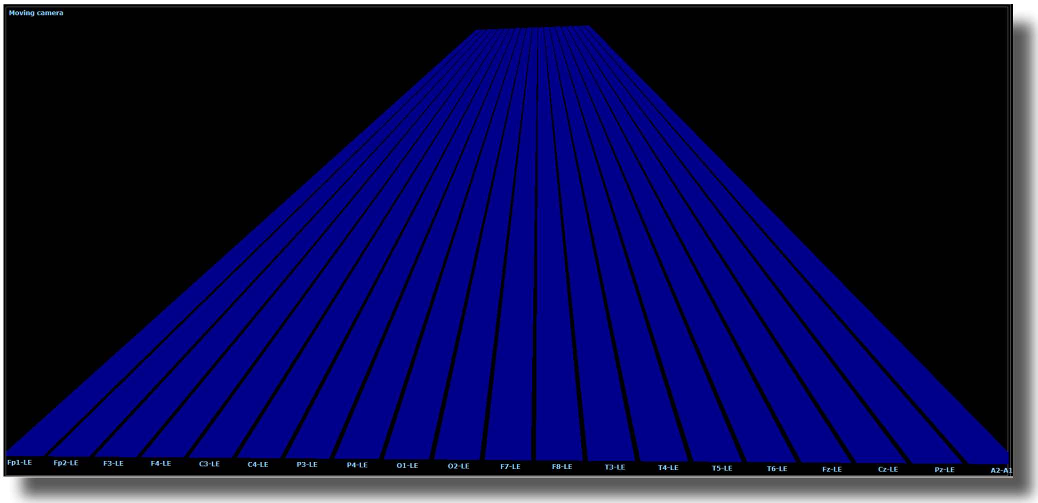
Options
- ☑ Average EEG
- ☑ Damping
- ☐ Laplace
- ☑ Big Maps

Blue-Green-Red-Whit

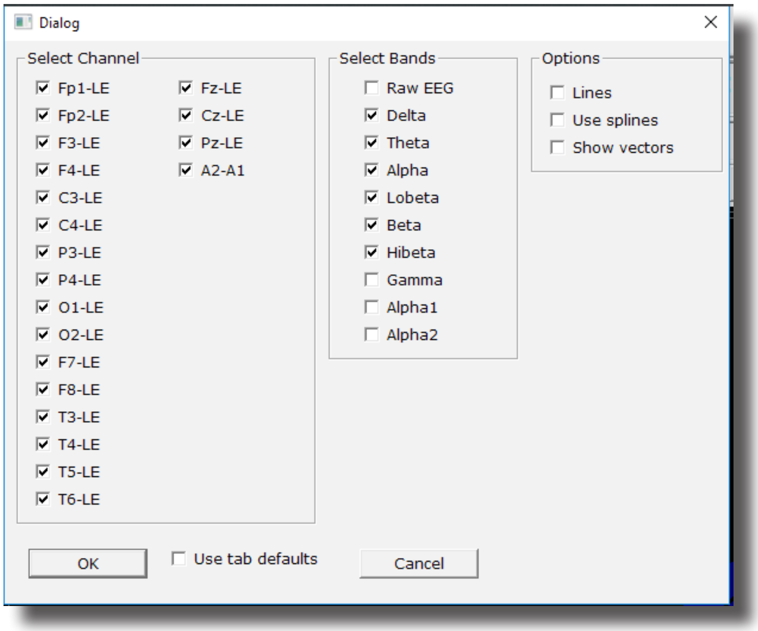
Palette
Palette Low: -3.0
Palette High: 3.0

☐ Use tab defaults

## CSA (Filtered)


Moving camera
Fp1-LE
Fp2-LE
F3-LE
F4-LE
C3-LE
C4-LE
P3-LE
P4-LE
O1-LE
O2-LE
F7-LE
F8-LE
T3-LE
T4-LE
T5-LE
T6-LE
Fz-LE
Cz-LE
Pz-LE
A2-A1

**Use:** Displays a filtered version of the Compressed Spectral Array for each trained site.
**Requirements:** Displays only sites selected in the Montage Section of Settings.
**Left-Click Mouse Function:** Yes. By left-clicking and holding down on the mouse, you can change the displays orientation. Using the Scroll control, will zoom the field in and out. See the Keyboard Quick Keys for more options.
**Right-Click Mouse Function (Panel Option):** Yes. Allows you to choose what Bands are displayed, as well as if you would like this to be displayed as a full image, or a line image.



Dialog

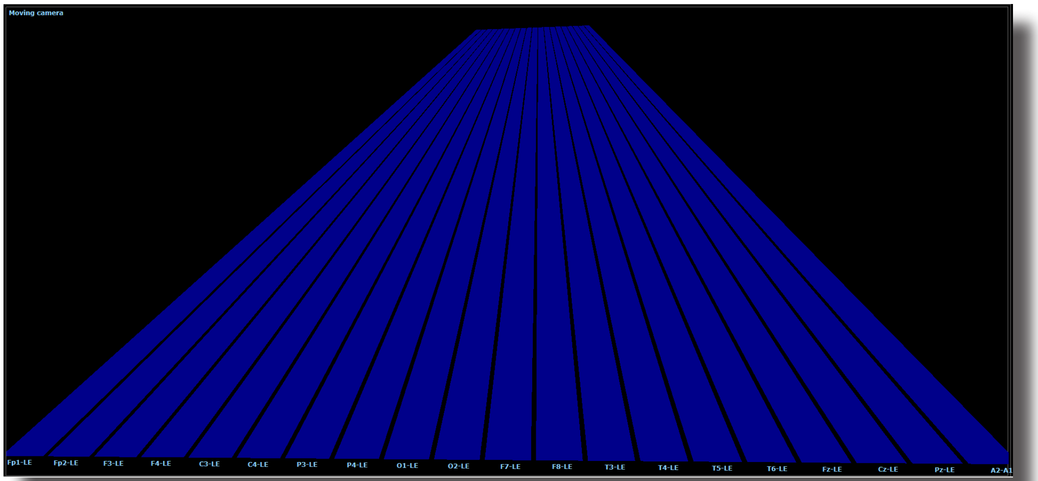
Select Channel
- ☑ Fp1-LE
- ☑ Fp2-LE
- ☑ F3-LE
- ☑ F4-LE
- ☑ C3-LE
- ☑ C4-LE
- ☑ P3-LE
- ☑ P4-LE
- ☑ O1-LE
- ☑ O2-LE
- ☑ F7-LE
- ☑ F8-LE
- ☑ T3-LE
- ☑ T4-LE
- ☑ T5-LE
- ☑ T6-LE
- ☑ Fz-LE
- ☑ Cz-LE
- ☑ Pz-LE
- ☑ A2-A1

Select Bands
- ☐ Raw EEG
- ☑ Delta
- ☑ Theta
- ☑ Alpha
- ☑ Lobeta
- ☑ Beta
- ☑ Hibeta
- ☐ Gamma
- ☐ Alpha1
- ☐ Alpha2

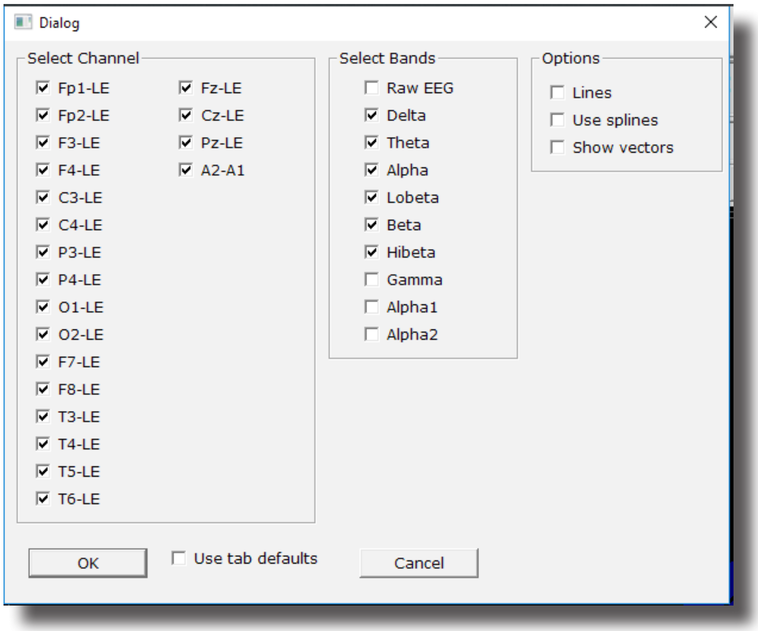
Options
- ☐ Lines
- ☐ Use splines
- ☐ Show vectors

☐ Use tab defaults

## CSA (FFT)


Moving camera
Fp1-LE
Fp2-LE
F3-LE
F4-LE
C3-LE
C4-LE
P3-LE
P4-LE
O1-LE
O2-LE
F7-LE
F8-LE
T3-LE
T4-LE
T5-LE
T6-LE
Fz-LE
Cz-LE
Pz-LE
A2-A1

**Use:** Displays a FFT version of the Compressed Spectral Array for each trained site.
**Requirements:** Displays only sites selected in the Montage Section of Settings.
**Left-Click Mouse Function:** Yes. By left-clicking and holding down on the mouse, you can change the displays orientation. Using the Scroll control, will zoom the field in and out. See the Keyboard Quick Keys for more options.
**Right-Click Mouse Function (Panel Option):** Yes. Allows you to choose what Bands are displayed, as well as if you would like this to be displayed as a full image, or a line image.


Dialog

Select Channel
☑ Fp1-LE
☑ Fp2-LE
☑ F3-LE
☑ F4-LE
☑ C3-LE
☑ C4-LE
☑ P3-LE
☑ P4-LE
☑ O1-LE
☑ O2-LE
☑ F7-LE
☑ F8-LE
☑ T3-LE
☑ T4-LE
☑ T5-LE
☑ T6-LE
☑ Fz-LE
☑ Cz-LE
☑ Pz-LE
☑ A2-A1

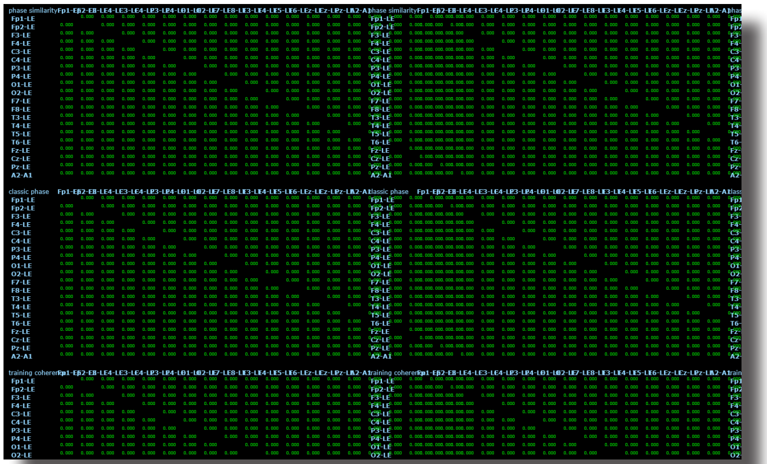
Select Bands
☐ Raw EEG
☑ Delta
☑ Theta
☑ Alpha
☑ Lobeta
☑ Beta
☑ Hibeta
☐ Gamma
☐ Alpha1
☐ Alpha2

Options
☐ Lines
☐ Use splines
☐ Show vectors

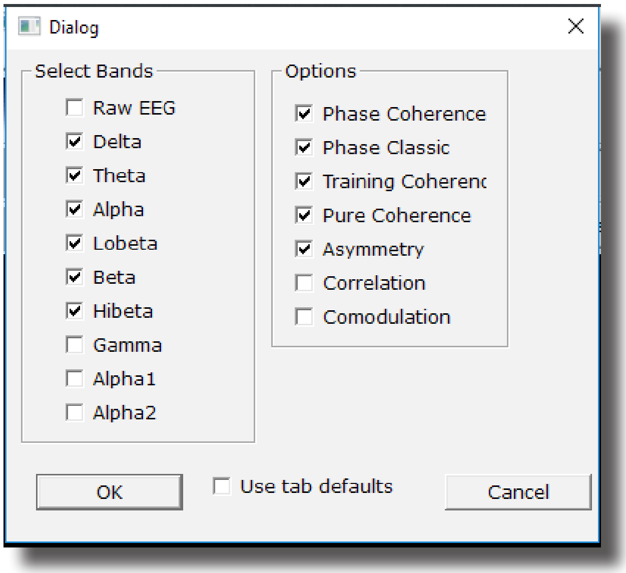
☐ Use tab defaults

OK
Cancel

## Coherence



**Use:** Displays a text representation of Coherence for the Acquired channels.
**Requirements:** Displays only sites selected in the Acquired Section of Settings.
**Left-Click Mouse Function:** No.
**Right-Click Mouse Function (Panel Option):** Yes. Allows you to choose which bands you would like to look at, as well as what type of Coherence you would like to view.



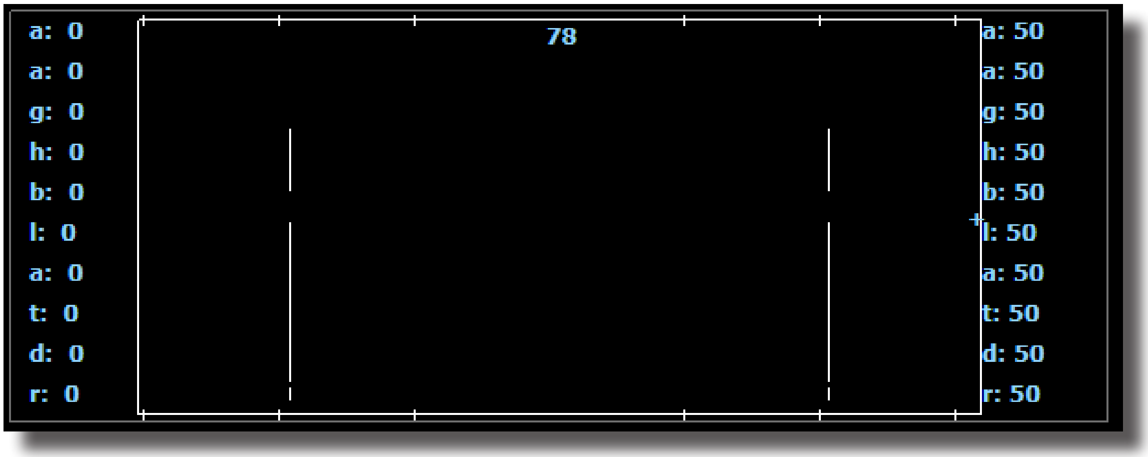
Dialog

Select Bands
☐ Raw EEG
☑ Delta
☑ Theta
☑ Alpha
☑ Lobeta
☑ Beta
☑ Hibeta
☐ Gamma
☐ Alpha1
☐ Alpha2

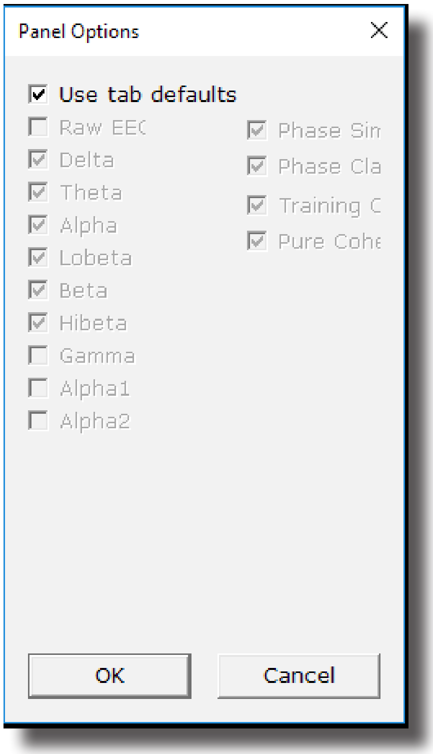
Options
☑ Phase Coherence
☑ Phase Classic
☑ Training Coherenc
☑ Pure Coherence
☑ Asymmetry
☐ Correlation
☐ Comodulation

☐ Use tab defaults

## Similarity


a: 0
a: 0
g: 0
h: 0
b: 0
l: 0
a: 0
t: 0
d: 0
r: 0
78
a: 50
a: 50
g: 50
h: 50
b: 50
l: 50
a: 50
t: 50
d: 50
r: 50

**Use:** Displays a Bar Graph representation for the trained channels.
**Requirements:** Displays only sites selected in the Montage section of Settings.
**Left-Click Mouse Function:** No.
**Right-Click Mouse Function (Panel Option):** Yes. Allows you to choose which bands you would like to look at, as well as what type of Coherence you would like to view.

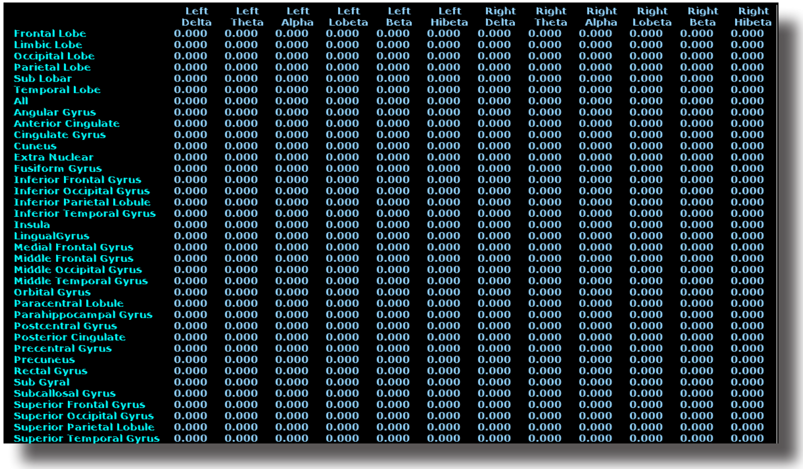

Panel Options
OK
Cancel

☑ Use tab defaults

☐ Raw EEG
☑ Delta
☑ Theta
☑ Alpha
☑ Lobeta
☑ Beta
☑ Hibeta
☐ Gamma
☐ Alpha1
☐ Alpha2

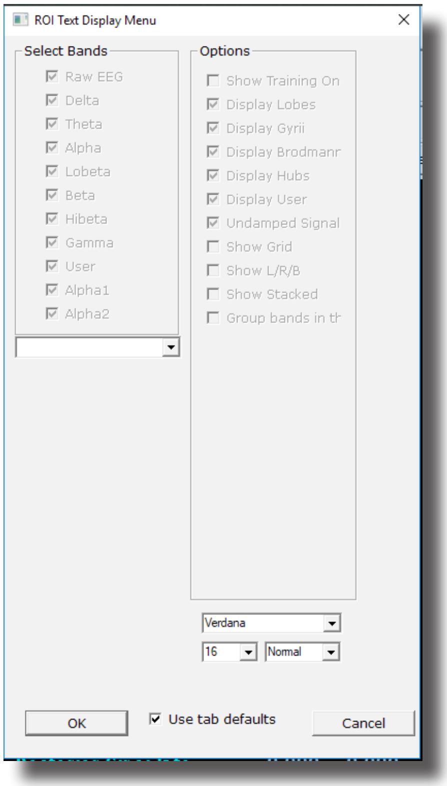
☑ Phase Sin
☑ Phase Cla
☑ Training C
☑ Pure Cohe

## ROI Amplitudes Text



| | Left Delta | Left Theta | Left Alpha | Left Lobeta | Left Beta | Left Hibeta | Right Delta | Right Theta | Right Alpha | Right Lobeta | Right Beta | Right Hibeta |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Frontal Lobe | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Limbic Lobe | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Occipital Lobe | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Parietal Lobe | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Sub Lobar | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Temporal Lobe | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| All | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Angular Gyrus | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Anterior Cingulate | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Cingulate Gyrus | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Cuneus | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Extra Nuclear | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Fusiform Gyrus | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Inferior Frontal Gyrus | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Inferior Occipital Gyrus | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Inferior Parietal Lobule | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Inferior Temporal Gyrus | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Insula | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| LingualGyrus | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Medial Frontal Gyrus | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Middle Frontal Gyrus | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Middle Occipital Gyrus | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Middle Temporal Gyrus | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Orbital Gyrus | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Paracentral Lobule | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Parahippocampal Gyrus | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Postcentral Gyrus | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Posterior Cingulate | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Precentral Gyrus | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Precuneus | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Rectal Gyrus | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Sub Gyral | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Subcallosal Gyrus | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Superior Frontal Gyrus | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Superior Occipital Gyrus | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Superior Parietal Lobule | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Superior Temporal Gyrus | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

**Use:** Displays a text representation of ROI Amplitudes for All ROI's.
**Requirements:** BrainAvatar Live sLORETA Projector.
**Left-Click Mouse Function:** No.
**Right-Click Mouse Function (Panel Option):** Yes. Allows you to choose which bands you would like to look at, as well as what ROI's to view.



ROI Text Display Menu

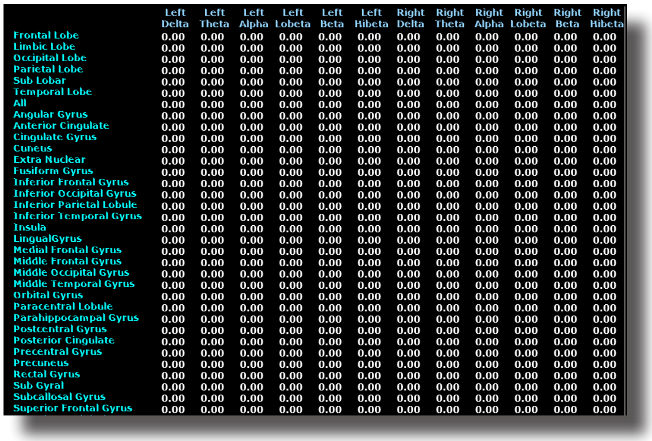
Select Bands
☑ Raw EEG
☑ Delta
☑ Theta
☑ Alpha
☑ Lobeta
☑ Beta
☑ Hibeta
☑ Gamma
☑ User
☑ Alpha1
☑ Alpha2

Options
☐ Show Training On
☑ Display Lobes
☑ Display Gyrii
☑ Display Brodmanr
☑ Display Hubs
☑ Display User
☑ Undamped Signal
☐ Show Grid
☐ Show L/R/B
☐ Show Stacked
☐ Group bands in tł

Verdana
16 Normal

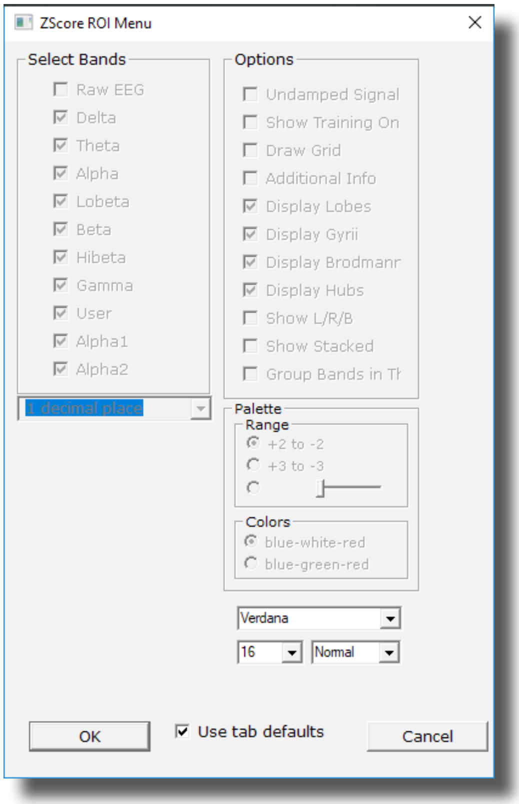
☑ Use tab defaults

### ROI Z-ScoreText



| | Left Delta | Left Theta | Left Alpha | Left Lobeta | Left Beta | Left Hibeta | Right Delta | Right Theta | Right Alpha | Right Lobeta | Right Beta | Right Hibeta |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Frontal Lobe | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Limbic Lobe | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Occipital Lobe | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Parietal Lobe | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sub Lobar | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Temporal Lobe | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| All | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Angular Gyrus | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anterior Cingulate | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cingulate Gyrus | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuneus | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Extra Nuclear | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fusiform Gyrus | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Inferior Frontal Gyrus | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Inferior Occipital Gyrus | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Inferior Parietal Lobule | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Inferior Temporal Gyrus | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Insula | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| LingualGyrus | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Medial Frontal Gyrus | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Middle Frontal Gyrus | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Middle Occipital Gyrus | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Middle Temporal Gyrus | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Orbital Gyrus | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Paracentral Lobule | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Parahippocampal Gyrus | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Postcentral Gyrus | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Posterior Cingulate | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Precentral Gyrus | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Precuneus | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rectal Gyrus | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sub Gyral | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Subcallosal Gyrus | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Superior Frontal Gyrus | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

**Use:** Displays a text representation of ROI Amplitudes for All ROI's.
**Requirements:** BrainAvatar Live sLORETA Projector.
**Left-Click Mouse Function:** No.
**Right-Click Mouse Function (Panel Option):** Yes. Allows you to choose which bands you would like to look at, as well as what ROI's, and the palette range.



ZScore ROI Menu

Select Bands
☐ Raw EEG
☑ Delta
☑ Theta
☑ Alpha
☑ Lobeta
☑ Beta
☑ Hibeta
☑ Gamma
☑ User
☑ Alpha1
☑ Alpha2

1 decimal place

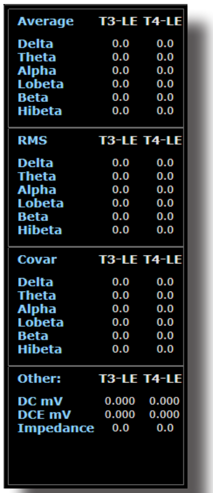
Options
☐ Undamped Signal
☐ Show Training On
☐ Draw Grid
☐ Additional Info
☑ Display Lobes
☑ Display Gyrii
☑ Display Brodmanr
☑ Display Hubs
☐ Show L/R/B
☐ Show Stacked
☐ Group Bands in Tt

Palette
Range
● +2 to -2
○ +3 to -3
○

Colors
● blue-white-red
○ blue-green-red

Verdana
16
Normal

## EEG Text



| Average | T3-LE | T4-LE |
|---|---|---|
| Delta | 0.0 | 0.0 |
| Theta | 0.0 | 0.0 |
| Alpha | 0.0 | 0.0 |
| Lobeta | 0.0 | 0.0 |
| Beta | 0.0 | 0.0 |
| Hibeta | 0.0 | 0.0 |

| RMS | T3-LE | T4-LE |
|---|---|---|
| Delta | 0.0 | 0.0 |
| Theta | 0.0 | 0.0 |
| Alpha | 0.0 | 0.0 |
| Lobeta | 0.0 | 0.0 |
| Beta | 0.0 | 0.0 |
| Hibeta | 0.0 | 0.0 |

| Covar | T3-LE | T4-LE |
|---|---|---|
| Delta | 0.0 | 0.0 |
| Theta | 0.0 | 0.0 |
| Alpha | 0.0 | 0.0 |
| Lobeta | 0.0 | 0.0 |
| Beta | 0.0 | 0.0 |
| Hibeta | 0.0 | 0.0 |

| Other: | T3-LE | T4-LE |
|---|---|---|
| DC mV | 0.000 | 0.000 |
| DCE mV | 0.000 | 0.000 |
| Impedance | 0.0 | 0.0 |

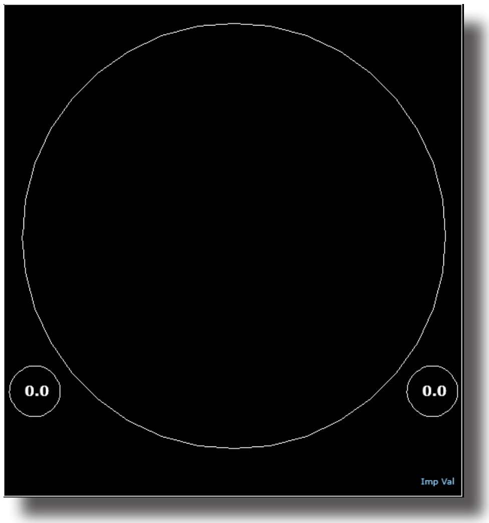
**Use:** Displays text values for all acquired EEG channels, including, Average, RMS, Covariance, DC, DCE and Impedance* values.

**Requirements:** Displays only sites selected in the Acquired Section of Settings.

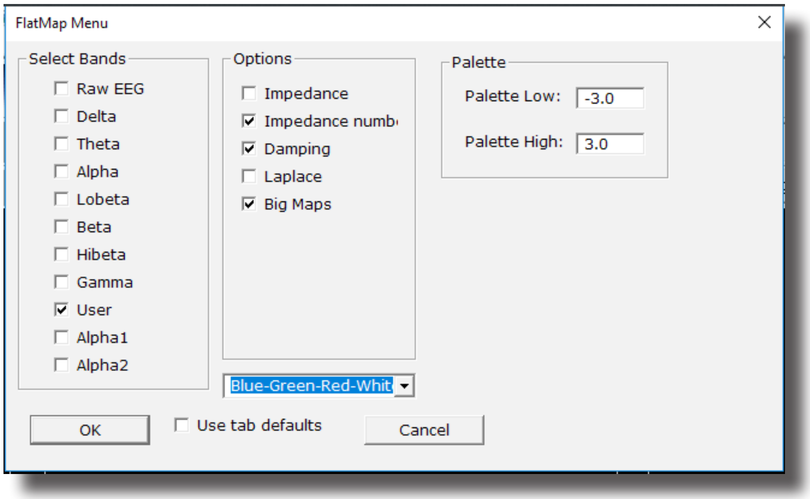
**Left-Click Mouse Function:** No.

**Right-Click Mouse Function (Panel Option):** No.

## Impedance Maps



**Use:** Displays text and graphical displays for the impedance measurments.
**Requirements:** Displays only sites selected in the Acquired Section of Settings.
**Left-Click Mouse Function:** No.
**Right-Click Mouse Function (Panel Option):** Yes. Allows you to choose the size of the map displays, as well as what types of maps you would like to be displayed.


FlatMap Menu

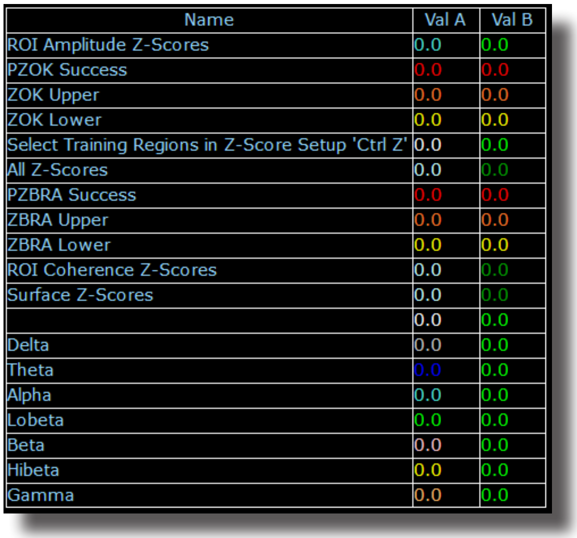
Select Bands
☐ Raw EEG
☐ Delta
☐ Theta
☐ Alpha
☐ Lobeta
☐ Beta
☐ Hibeta
☐ Gamma
☑ User
☐ Alpha1
☐ Alpha2

Options
☐ Impedance
☑ Impedance numb
☑ Damping
☐ Laplace
☑ Big Maps

Blue-Green-Red-Whit

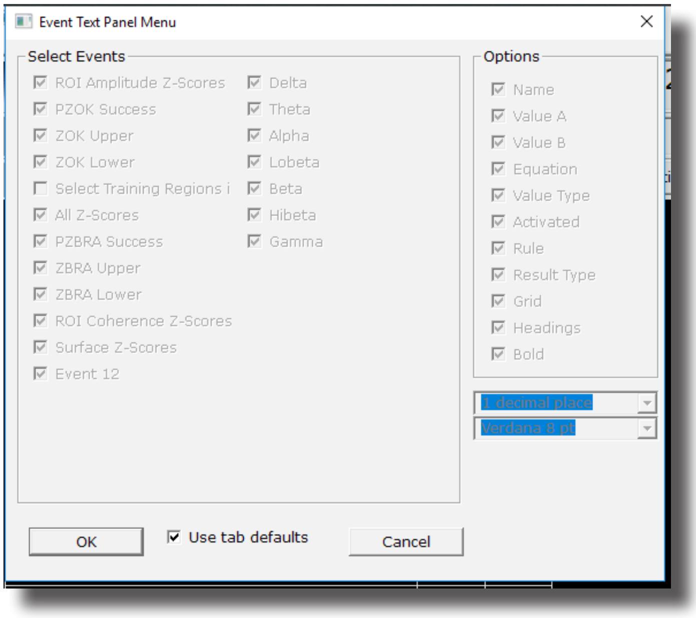
Palette
Palette Low: -3.0
Palette High: 3.0

## Event Text



| Name | Val A | Val B |
|---|---|---|
| ROI Amplitude Z-Scores | 0.0 | 0.0 |
| PZOK Success | 0.0 | 0.0 |
| ZOK Upper | 0.0 | 0.0 |
| ZOK Lower | 0.0 | 0.0 |
| Select Training Regions in Z-Score Setup 'Ctrl Z' | 0.0 | 0.0 |
| All Z-Scores | 0.0 | 0.0 |
| PZBRA Success | 0.0 | 0.0 |
| ZBRA Upper | 0.0 | 0.0 |
| ZBRA Lower | 0.0 | 0.0 |
| ROI Coherence Z-Scores | 0.0 | 0.0 |
| Surface Z-Scores | 0.0 | 0.0 |
|  | 0.0 | 0.0 |
| Delta | 0.0 | 0.0 |
| Theta | 0.0 | 0.0 |
| Alpha | 0.0 | 0.0 |
| Lobeta | 0.0 | 0.0 |
| Beta | 0.0 | 0.0 |
| Hibeta | 0.0 | 0.0 |
| Gamma | 0.0 | 0.0 |

**Use:** Displays Text for the Enabled Events.
**Requirements:** Actively used Events.
**Left-Click Mouse Function:** No.
**Right-Click Mouse Function (Panel Option):** Yes. Allows you to choose the size and which events are displayed, as well as which portions of an Event is displayed.



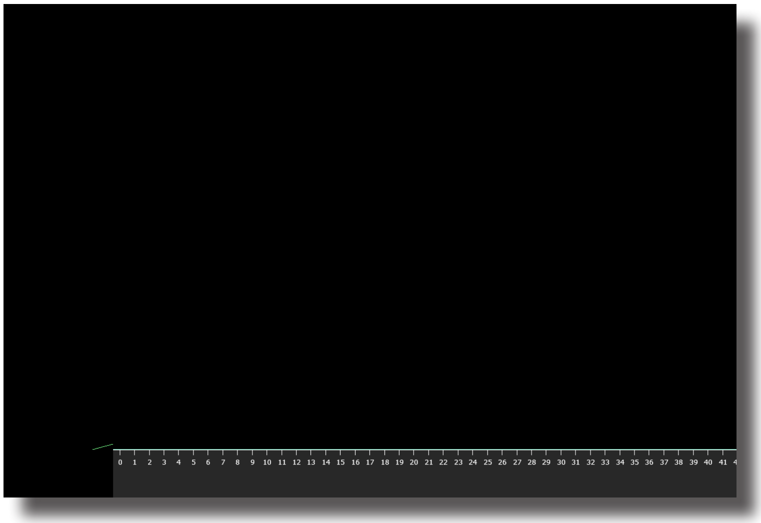
☑ ROI Amplitude Z-Scores
☑ PZOK Success
☑ ZOK Upper
☑ ZOK Lower
☐ Select Training Regions i
☑ All Z-Scores
☑ PZBRA Success
☑ ZBRA Upper
☑ ZBRA Lower
☑ ROI Coherence Z-Scores
☑ Surface Z-Scores
☑ Event 12
☑ Delta
☑ Theta
☑ Alpha
☑ Lobeta
☑ Beta
☑ Hibeta
☑ Gamma

☑ Name
☑ Value A
☑ Value B
☑ Equation
☑ Value Type
☑ Activated
☑ Rule
☑ Result Type
☑ Grid
☑ Headings
☑ Bold

1 decimal place
Verdana 8 pt

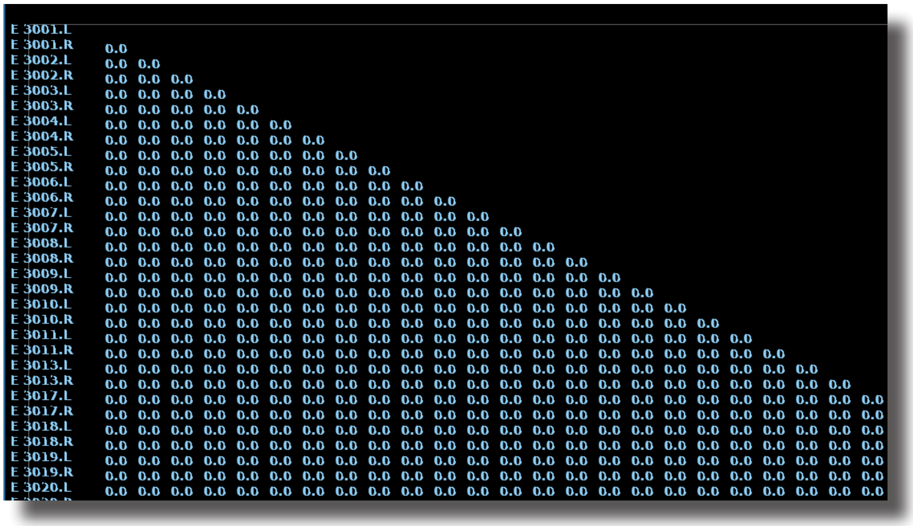
☑ Use tab defaults

## FFT Graph


0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41

**Use:** Displays a Line Graph for all channels from the Acquired or Training Channels
**Requirements:** Acquired or Montaged Channels.
**Left-Click Mouse Function:** No.
**Right-Click Mouse Function (Panel Option):** No.

## ROI Coherence Text Display



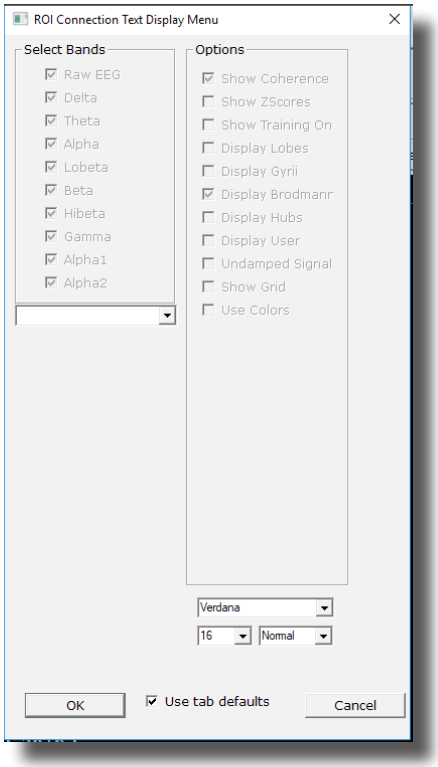
```
E 3001.L
E 3001.R   0.0
E 3002.L   0.0  0.0
E 3002.R   0.0  0.0  0.0
E 3003.L   0.0  0.0  0.0  0.0
E 3003.R   0.0  0.0  0.0  0.0  0.0
E 3004.L   0.0  0.0  0.0  0.0  0.0  0.0
E 3004.R   0.0  0.0  0.0  0.0  0.0  0.0  0.0
E 3005.L   0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
E 3005.R   0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
E 3006.L   0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
E 3006.R   0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
E 3007.L   0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
E 3007.R   0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
E 3008.L   0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
E 3008.R   0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
E 3009.L   0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
E 3009.R   0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
E 3010.L   0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
E 3010.R   0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
E 3011.L   0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
E 3011.R   0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
E 3013.L   0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
E 3013.R   0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
E 3017.L   0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
E 3017.R   0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
E 3018.L   0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
E 3018.R   0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
E 3019.L   0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
E 3019.R   0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
E 3020.L   0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
```

**Use:** Displays text information for the Coherences of ROI's

**Requirements:** Connectivity Suite

**Left-Click Mouse Function:** No.

**Right-Click Mouse Function (Panel Option):** Yes. Allows you to choose the size of font, as well as which ROI Coherences you would like to view, or whether it's standard or Z-Score Coherences.



ROI Connection Text Display Menu

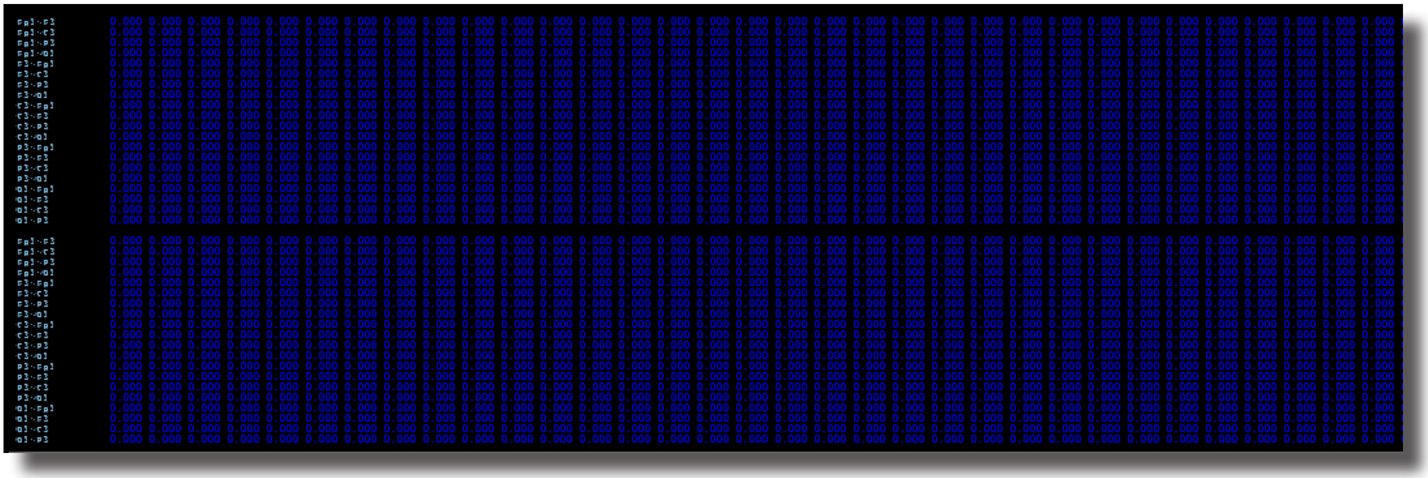
Select Bands
☑ Raw EEG
☑ Delta
☑ Theta
☑ Alpha
☑ Lobeta
☑ Beta
☑ Hibeta
☑ Gamma
☑ Alpha1
☑ Alpha2

Options
☑ Show Coherence
☐ Show ZScores
☐ Show Training On
☐ Display Lobes
☐ Display Gyrii
☑ Display Brodmanr
☐ Display Hubs
☐ Display User
☐ Undamped Signal
☐ Show Grid
☐ Use Colors

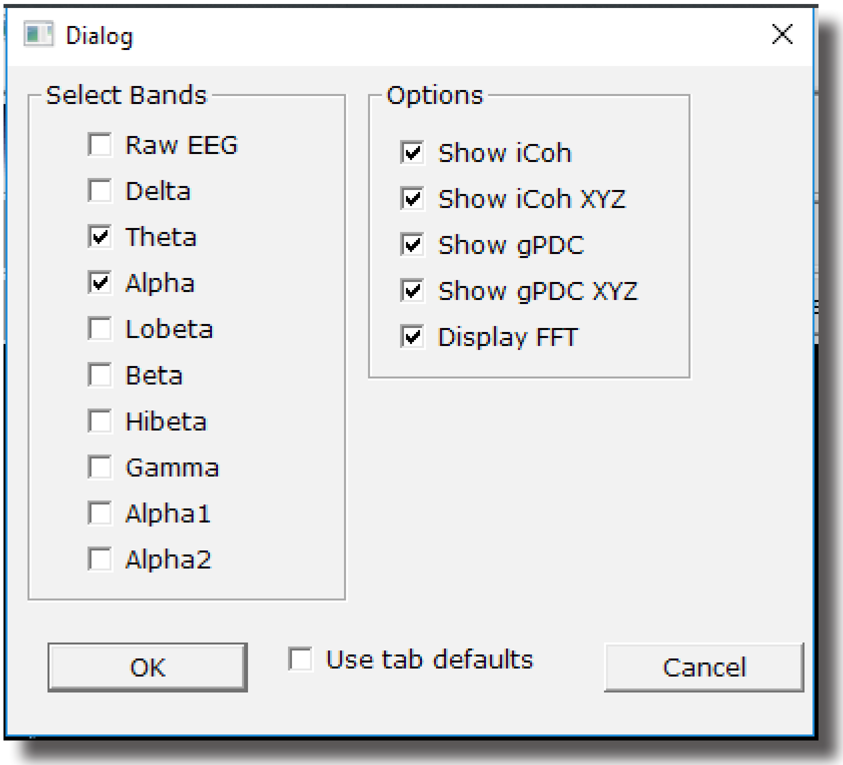
Verdana
16
Normal

☑ Use tab defaults

## Directional Coherence Text



**Use:** Displays Text for all included Directional Coherence Values
**Requirements:** Connectivity Suite
**Left-Click Mouse Function:** No.
**Right-Click Mouse Function (Panel Option):** Yes. Allows you to choose the size of the Font, as well as which types of Directional Coherence you would like to view.



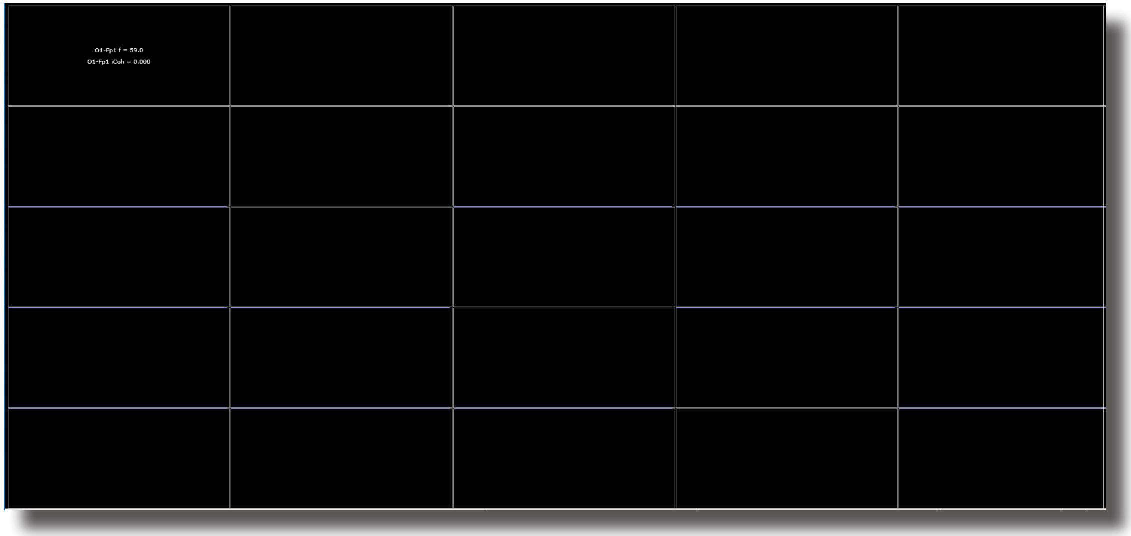
Dialog

Select Bands
☐ Raw EEG
☐ Delta
☑ Theta
☑ Alpha
☐ Lobeta
☐ Beta
☐ Hibeta
☐ Gamma
☐ Alpha1
☐ Alpha2

Options
☑ Show iCoh
☑ Show iCoh XYZ
☑ Show gPDC
☑ Show gPDC XYZ
☑ Display FFT

☐ Use tab defaults

## Directional Coherence Graph Display



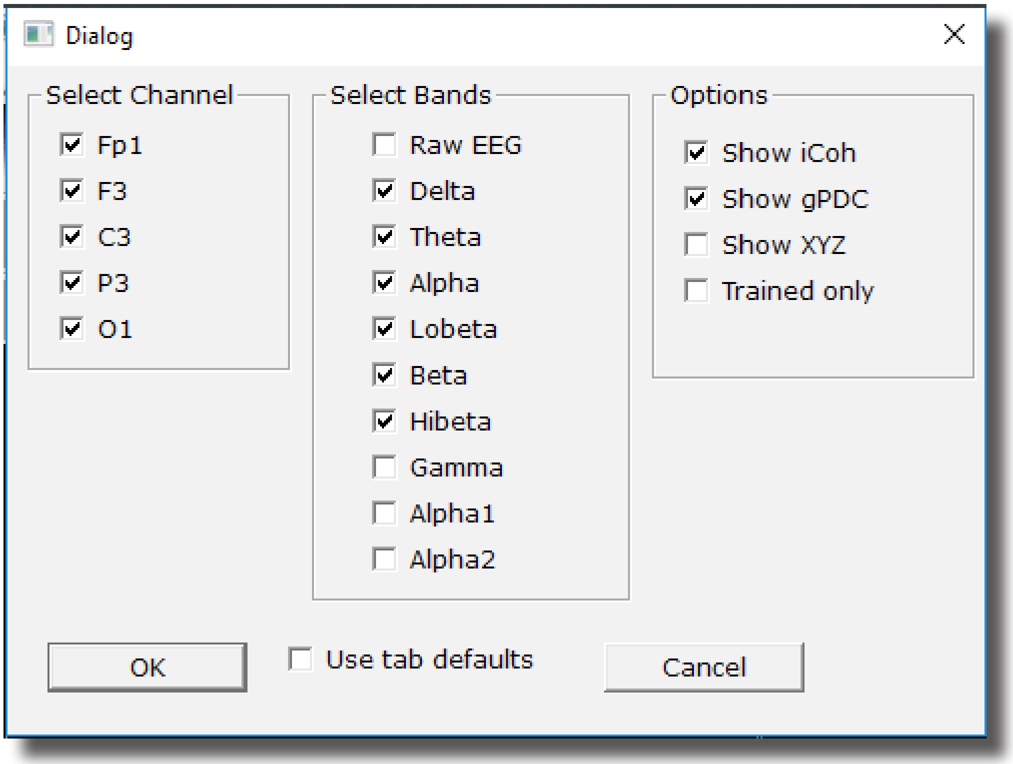
O1-Fp1 f = 59.0
O1-Fp1 iCoh = 0.000

**Use:** Displays graphs for all included Directional Coherence Values

**Requirements:** Connectivity Suite

**Left-Click Mouse Function:** No.

**Right-Click Mouse Function (Panel Option):** Yes. Allows you to choose which types of Directional Coherence you would like to view.



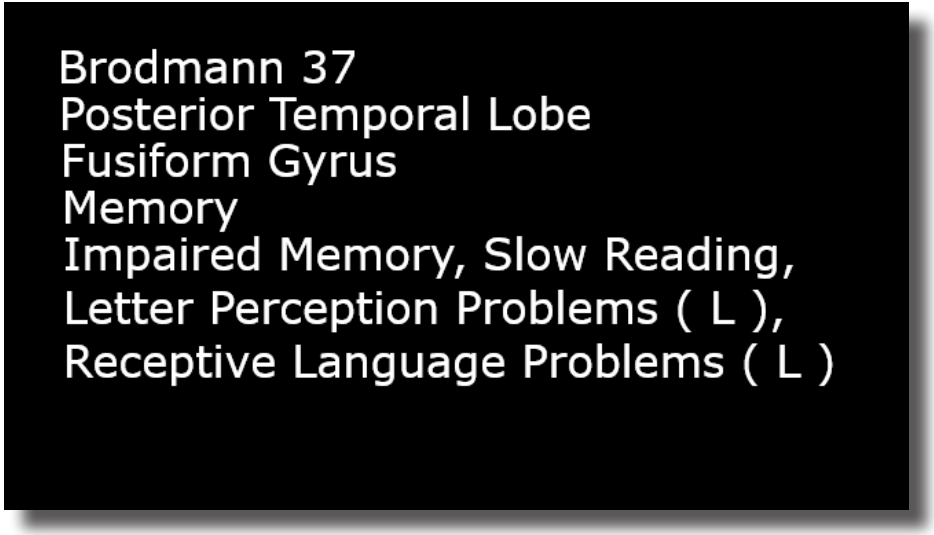
Select Channel
- ☑ Fp1
- ☑ F3
- ☑ C3
- ☑ P3
- ☑ O1

Select Bands
- ☐ Raw EEG
- ☑ Delta
- ☑ Theta
- ☑ Alpha
- ☑ Lobeta
- ☑ Beta
- ☑ Hibeta
- ☐ Gamma
- ☐ Alpha1
- ☐ Alpha2

Options
- ☑ Show iCoh
- ☑ Show gPDC
- ☐ Show XYZ
- ☐ Trained only

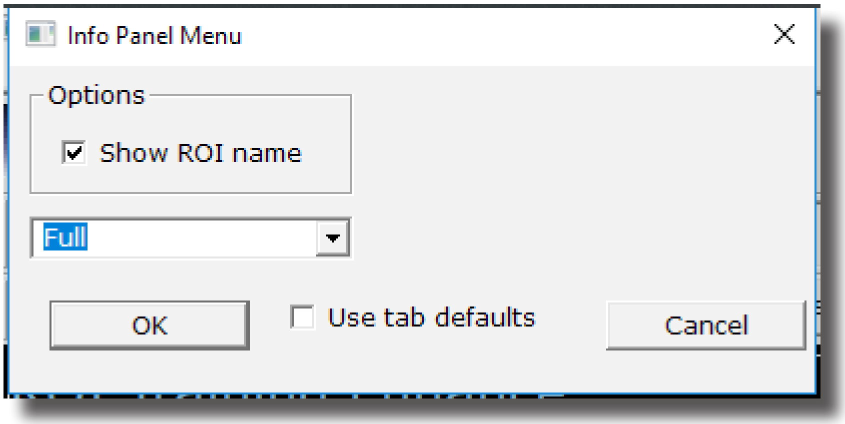
☐ Use tab defaults

**ROI Description Display**



Brodmann 37
Posterior Temporal Lobe
Fusiform Gyrus
Memory
Impaired Memory, Slow Reading,
Letter Perception Problems ( L ),
Receptive Language Problems ( L )

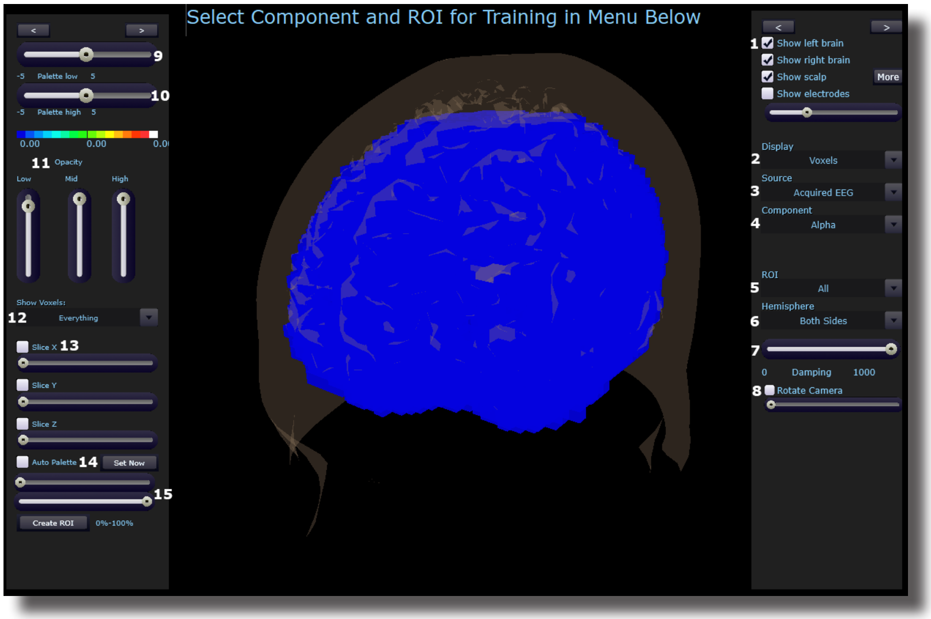
**Use:** Displays simple information on the ROI that is being viewed in the Live LORETA Projector
**Requirements:** BrainAvatar LLP
**Left-Click Mouse Function:** No.
**Right-Click Mouse Function (Panel Option):** Yes. Allows you to choose whether you are viewing the name or not, as well as the percentage of size on the display.



Info Panel Menu
Options
☑ Show ROI name
Full
OK
☐ Use tab defaults
Cancel

## Advanced Displays

### Volume Head Map (Optional Purchase)



Select Component and ROI for Training in Menu Below

☑ Show left brain
☑ Show right brain
☑ Show scalp
☐ Show electrodes

Display: Voxels
Source: Acquired EEG
Component: Alpha
ROI: All
Hemisphere: Both Sides

☐ Rotate Camera

Show Voxels: Everything

☐ Slice X
☐ Slice Y
☐ Slice Z
☐ Auto Palette

1. **Model Display Section –** Section where you can choose various items to be displayed for the model.

2. **Display Drop-Down Menu –** Drop-Down Menu, where you can choose the type of display for the data. You can choose between Voxels or Dipoles.

3. **Source Drop-Down Menu –** Drop-Down Menu, where you can choose the source of the display information. You can choose between various acquired and Z-Scores sources, based on your Display choice.

4. **Component Drop-Down Menu –** Drop-Down Menu, where you can choose the component to be displayed. You can either choose the Raw EEG, or any of the filtered bands.

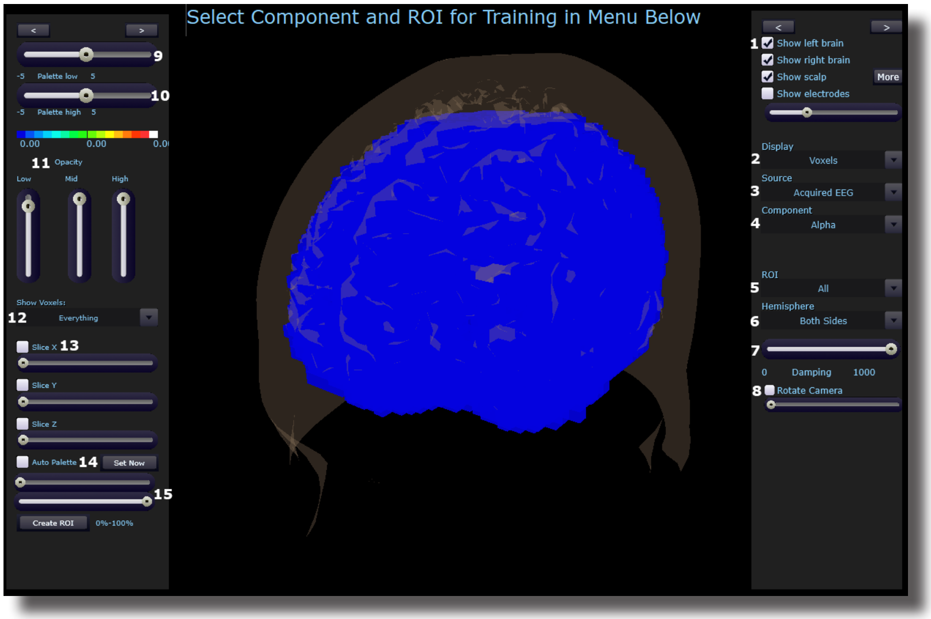
5. **ROI Drop-Down Menu –** Drop-Down Menu, where you can choose the Region of Interest to be displayed. For a detailed list of the ROI's, please see the next page.

6. **Hemisphere Drop-Down Menu –** Drop-Down Menu, where you can choose to look at the Left Hemisphere, Right Hemisphere, or both.

7. **Damping Slider –** Slide bar that sets the rate of change for the display.

8. **Rotation Section –** Section that you can set the rotation and speed of rotation for the Head Map.

## Volume Head Map (Optional Purchase) (Continued)



Select Component and ROI for Training in Menu Below

☑ Show left brain

☑ Show right brain

☑ Show scalp

☐ Show electrodes

Display: Voxels

Source: Acquired EEG

Component: Alpha

ROI: All

Hemisphere: Both Sides

☐ Rotate Camera

Show Voxels: Everything

☐ Slice X

☐ Slice Y

☐ Slice Z

☐ Auto Palette

<
>
9
-5 Palette low 5
10
-5 Palette high 5
0.00
0.00
0.0
11 Opacity
Low
Mid
High
12
13
14
Set Now
15
Create ROI
0%-100%
1
More
2
3
4
5
6
7
0 Damping 1000
8

9. **Palette Low Slider –** Slide bar that sets the low range of the palette for displaying.

10. **Palette High Slider –** Slide bar that sets the high range of the palette for displaying.

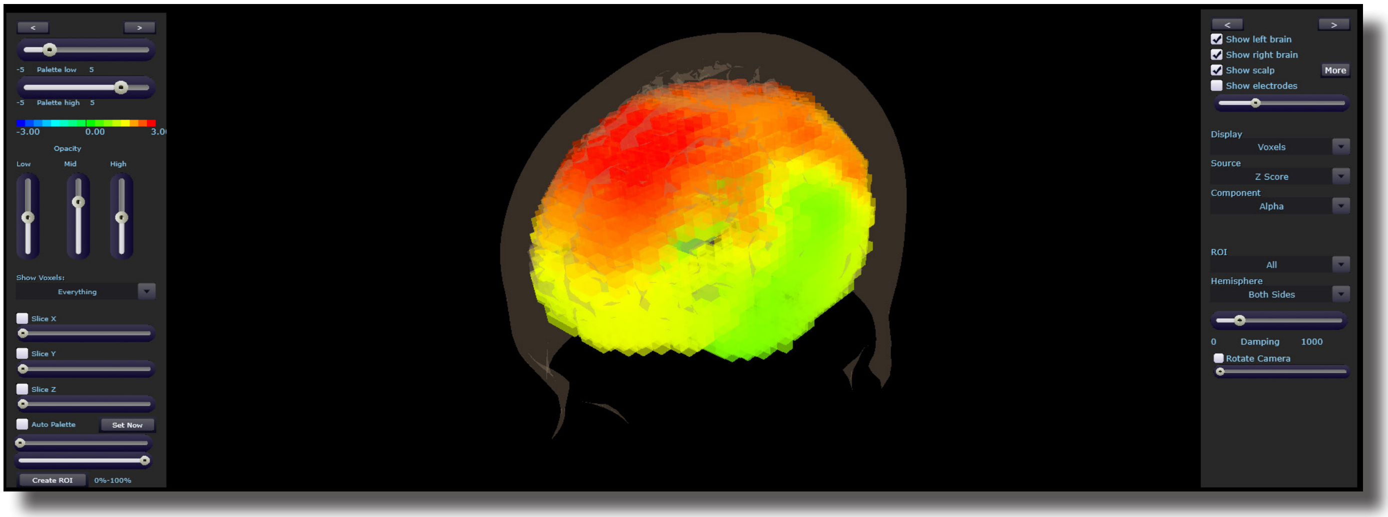
11. **Opacity Section –** Slider bars that sets the opacity for the different ranges of data.

12. **Show Voxel Drop-Down -** Drop-Down that will set what will be displayed based off of either the Palette or Percentage Slider

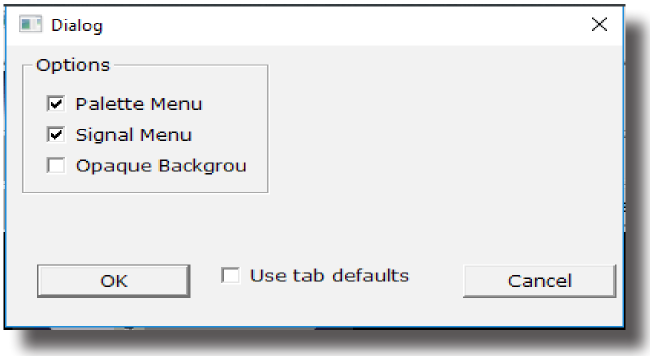
13. **Slice Section –** Section, that you can chose an area for viewing base on X, Y or Z coordinates on the head.

14. **Auto Palette Section –** Section where you can allow the data to set the range that you are investigating, and click the Set Now to set the range to a permanent range.

15. **Percentage Sliders -** Section where you can set the Percentage range that you would like to be displayed for the Show Voxel Drop-Down.


<
>
-5 Palette low 5
-5 Palette high 5
-3.00
0.00
3.0
Opacity
Low
Mid
High
Show Voxels:
Everything
☐ Slice X
☐ Slice Y
☐ Slice Z
☐ Auto Palette
Set Now
Create ROI
0%-100%
☑ Show left brain
☑ Show right brain
☑ Show scalp
More
☐ Show electrodes
Display
Voxels
Source
Z Score
Component
Alpha
ROI
All
Hemisphere
Both Sides
0 Damping 1000
☐ Rotate Camera

**Requirements:** Displays only sites selected in the Acquisition Screen, and the LLP Add-on.
**Left-Click Mouse Function:** Yes. By left-clicking and holding down on the mouse, you can change the displays orientation. Using the Scroll control, will zoom the field in and out.
**Right-Click Mouse Function(Panel Option):** Yes. Allows you to either hide or display the Palette or Signal menu.


Dialog

Options

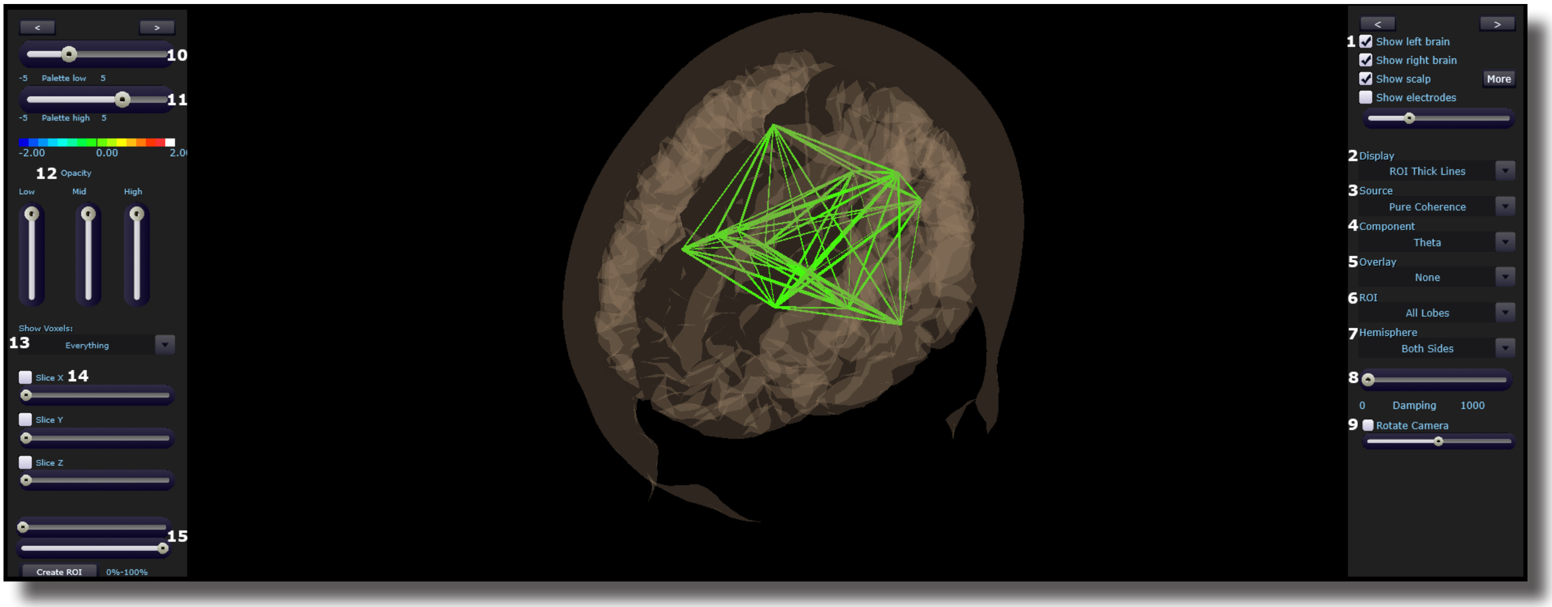
☑ Palette Menu
☑ Signal Menu
☐ Opaque Backgrou

OK ☐ Use tab defaults Cancel

## ROI Table

| **Lobes** | | |
|---|---|---|
| Frontal Lobe | Libic Lobe | Occipital Lobe |
| Parietal Lobe | Sub-Lobar | Temporal Lobe |
| | Everything | |
| **Gyrus** | | |
| Angular Gyrus | Anterior Cingulate | Cingulate Gyrus |
| Cuneus | Extra-Nuclear | Fusiform Gyrus |
| Inferior Frontal Gyrus | Inferior Occipital Gyrus | Inferior Parietal Gyrus |
| Inferior Temporal Gyrus | Insula | Lingual Gyrus |
| Medial Frontal Gyrus | Middle Frontal Gyrus | Middle Occipital Gyrus |
| Middle Temporal Gyrus | Orbital Gyrus | Paracentral Lobule |
| Parahippocampal Gyrus | Postcentral Gyrus | Posterior Cingulate |
| Precentral Gyrus | Precuneus | Rectal Gyrus |
| Sub-Gyral | Subcallosal Gyrus | Superior Frontal Gyrus |
| Superior Occipital Gyrus | Superior Parietal Lobule | Superior Temporal Gyrus |
| Supramarginal Gyrus | Transverse Temporal Gyrus | Uncus |
| **Brodmann Areas** | | |
| Brodmann Area 1 | Brodmann Area 2 | Brodmann Area 3 |
| Brodmann Area 4 | Brodmann Area 5 | Brodmann Area 6 |
| Brodmann Area 7 | Brodmann Area 8 | Brodmann Area 9 |
| Brodmann Area 10 | Brodmann Area 11 | Brodmann Area 13 |
| Brodmann Area 17 | Brodmann Area 18 | Brodmann Area 19 |
| Brodmann Area 20 | Brodmann Area 21 | Brodmann Area 22 |
| Brodmann Area 23 | Brodmann Area 24 | Brodmann Area 25 |
| Brodmann Area 27 | Brodmann Area 28 | Brodmann Area 29 |
| Brodmann Area 30 | Brodmann Area 31 | Brodmann Area 32 |
| Brodmann Area 33 | Brodmann Area 34 | Brodmann Area 35 |
| Brodmann Area 36 | Brodmann Area 37 | Brodmann Area 38 |
| Brodmann Area 39 | Brodmann Area 40 | Brodmann Area 41 |
| Brodmann Area 42 | Brodmann Area 43 | Brodmann Area 44 |
| Brodmann Area 45 | Brodmann Area 46 | Brodmann Area 47 |
| Network Hubs | | |
| Hagmann 1 | Hagmann 2 | Hagmann 3 |
| Hagmann 4 | Hagmann 5 | Hagmann 6 |
| Default Mode Network | Central Executive Network | Salient Network |

## Volume Connectivity Head Map (Optional Purchase)



Show Voxels: Everything

☐ Slice X

☐ Slice Y

☐ Slice Z

Create ROI 0%-100%

☑ Show left brain

☑ Show right brain

☑ Show scalp

☐ Show electrodes

Display: ROI Thick Lines

Source: Pure Coherence

Component: Theta

Overlay: None

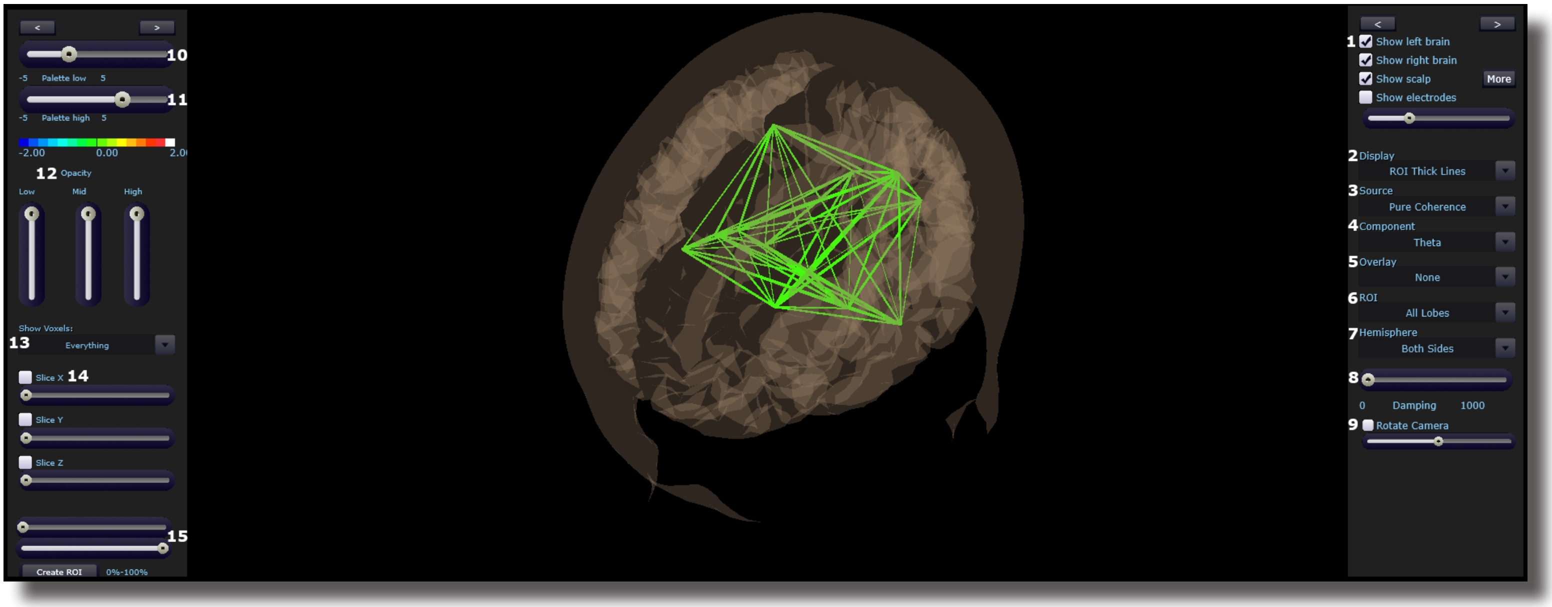
ROI: All Lobes

Hemisphere: Both Sides

☐ Rotate Camera

1. **Model Display Section –** Section where you can choose various items to be displayed for the model.
2. **Display Drop-Down Menu –** Drop-Down Menu, where you can choose the type of display for the data. You can choose between Voxels or Dipoles.
3. **Source Drop-Down Menu –** Drop-Down Menu, where you can choose the source of the display information. You can choose between various acquired and Z-Scores sources, based on your Display choice.
4. **Component Drop-Down Menu –** Drop-Down Menu, where you can choose the component to be displayed. You can either choose the Raw EEG, or any of the filtered bands.
5. **Overlay Drop-Down Menu** - Drop-Down Menu, where you can choose what type of Display will be on the Model.
6. **ROI Drop-Down Menu –** Drop-Down Menu, where you can choose the Region of Interest to be displayed. For a detailed list of the ROI's, please see the next page.
7. **Hemisphere Drop-Down Menu –** Drop-Down Menu, where you can choose to look at the Left Hemisphere, Right Hemisphere, or both.
8. **Damping Slider –** Slide bar that sets the rate of change for the display.

## Volume Connectivity Head Map (Optional Purchase) (Continued)



1 ☑ Show left brain
☑ Show right brain
☑ Show scalp
☐ Show electrodes

2 Display: ROI Thick Lines

3 Source: Pure Coherence

4 Component: Theta

5 Overlay: None

6 ROI: All Lobes

7 Hemisphere: Both Sides

8 0 Damping 1000

9 ☐ Rotate Camera

Show Voxels: Everything

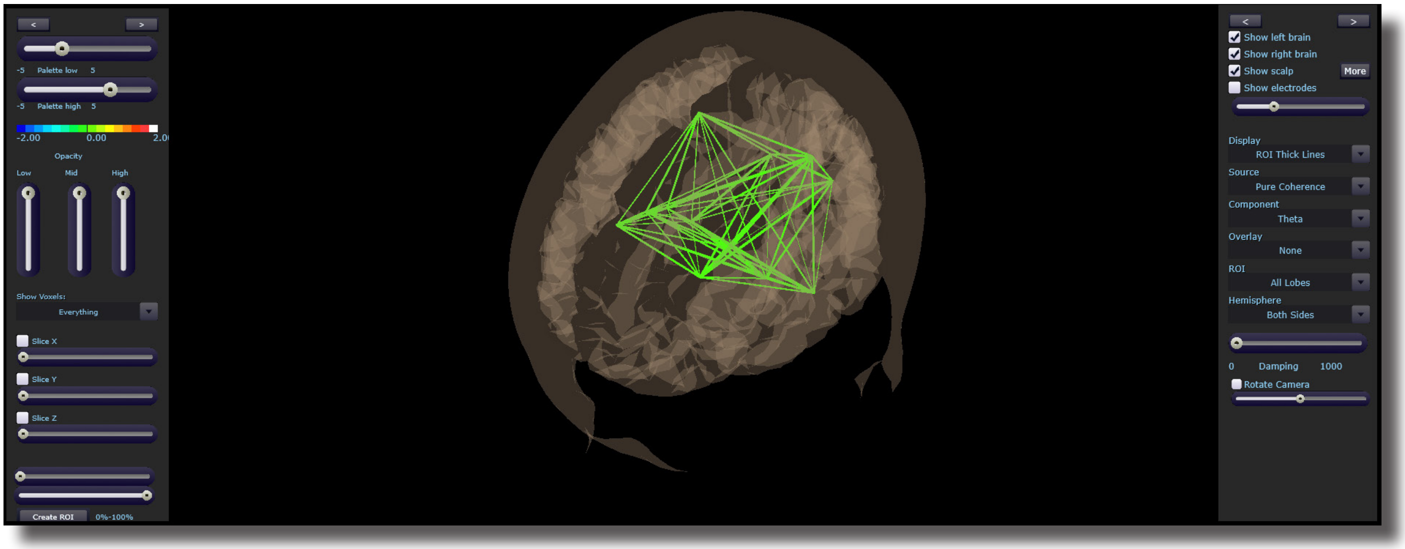
☐ Slice X

☐ Slice Y

☐ Slice Z

0%-100%

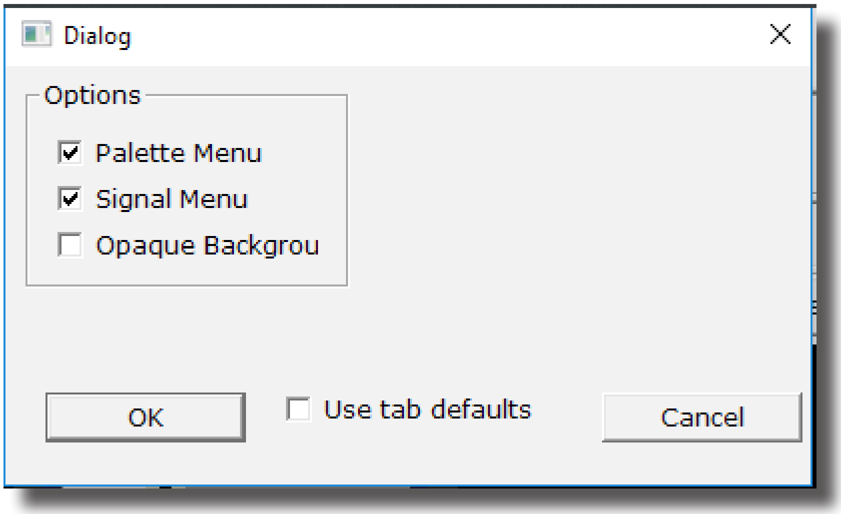
9. **Rotation Section –** Section that you can set the rotation and speed of rotation for the Head Map.
10. **Palette Low Slider –** Slide bar that sets the low range of the palette for displaying.
11. **Palette High Slider –** Slide bar that sets the high range of the palette for displaying.
12. **Opacity Section –** Slider bars that sets the opacity for the different ranges of data.
13. **Show Voxel Drop-Down -** Drop-Down that will set what will be displayed based off of either the Palette or Percentage Slider
14. **Slice Section –** Section, that you can chose an area for viewing base on X, Y or Z coordinates on the head.
15. **Percentage Sliders -** Section where you can set the Percentage range that you would like to be displayed for the Show Voxel Drop-Down.



-5 Palette low 5
-5 Palette high 5
-2.00 0.00 2.0
Opacity
Low Mid High
Show Voxels: Everything
☐ Slice X
☐ Slice Y
☐ Slice Z
0%-100%

☑ Show left brain
☑ Show right brain
☑ Show scalp
☐ Show electrodes
Display: ROI Thick Lines
Source: Pure Coherence
Component: Theta
Overlay: None
ROI: All Lobes
Hemisphere: Both Sides
0 Damping 1000
☐ Rotate Camera

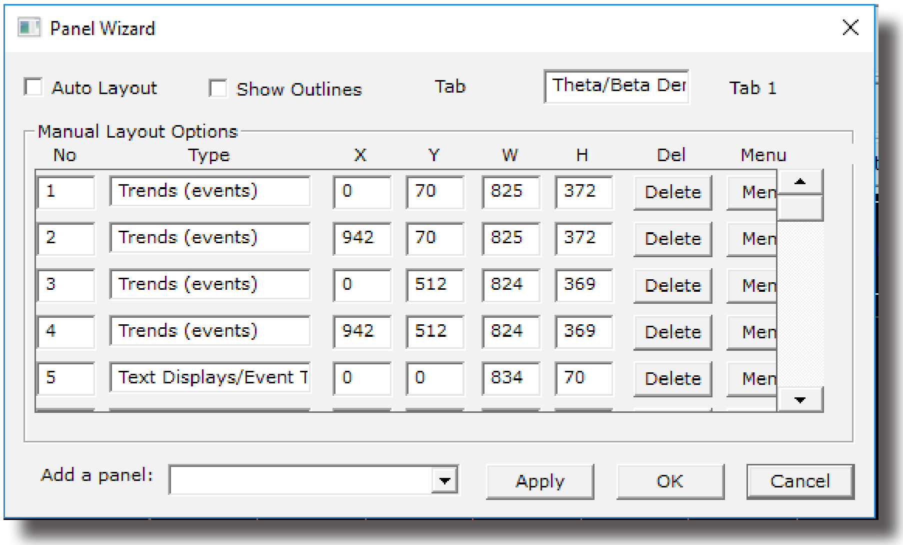
**Requirements:** Displays only sites selected in the Acquisition Screen, and the LLP Add-on, and Connectivity Suite Add-on.
**Left-Click Mouse Function:** Yes. By left-clicking and holding down on the mouse, you can change the displays orientation. Using the Scroll control, will zoom the field in and out.
**Right-Click Mouse Function(Panel Option):** Yes. Allows you to either hide or display the Palette or Signal menu.



Options
☑ Palette Menu
☑ Signal Menu
☐ Opaque Backgrou
☐ Use tab defaults

## Panel Wizard

### Panel Wizard Control Menu Display



☐ Auto Layout ☐ Show Outlines Tab Theta/Beta Der Tab 1

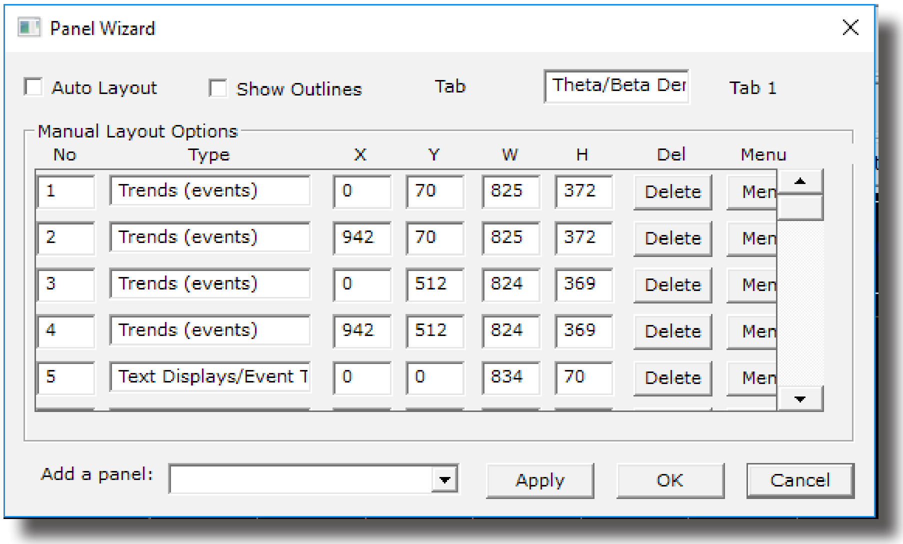
Manual Layout Options

| No | Type | X | Y | W | H |
|---|---|---|---|---|---|
| 1 | Trends (events) | 0 | 70 | 825 | 372 |
| 2 | Trends (events) | 942 | 70 | 825 | 372 |
| 3 | Trends (events) | 0 | 512 | 824 | 369 |
| 4 | Trends (events) | 942 | 512 | 824 | 369 |
| 5 | Text Displays/Event T | 0 | 0 | 834 | 70 |

Add a panel:

1. **Auto Layout Check Box –** Check Box to choose whether or not you want the tab to use the Auto Layout function.
2. **Show Outlines Check Box –** Check Box to choose whether you would like to see the display, or if you would like to view the outlines, so that you can manually move the display box.
3. **Tab Name Box –** Box in which you can view/rename the current tab you are viewing (Coming soon).
4. **Display Type Box –** Display box, that displays the currently selected display type, as well as allows you to change the Display type (Coming soon).
5. **X Axis Box –** Box, in which you can adjust the Display Type's position on the X-Axis for this Tab.
6. **Y Axis Box –** Box in which you can adjust the Display Type's position on the Y-Axis for this Tab.
7. **Width Box –** Box in which you can adjust the width for the particular Display Type on this Tab.
8. **Height Box –** Box in which you can adjust the width for the particular Display Type on this Tab.
9. **Delete Button –** Click to delete the Display Type for this tab
10. **Menu Button –** Click to bring up the Menu for the Display Type. This can also be done, by Right-Clicking the particular Display Type.
11. **Add Box –** Box in which you can add new Display Types.

## Panel Wizard Control Menu Display (Continued)



☐ Auto Layout ☐ Show Outlines Tab Theta/Beta Der Tab 1

Manual Layout Options

| No | Type | X | Y | W | H | Del | Menu |
|---|---|---|---|---|---|---|---|
| 1 | Trends (events) | 0 | 70 | 825 | 372 | Delete | Men |
| 2 | Trends (events) | 942 | 70 | 825 | 372 | Delete | Men |
| 3 | Trends (events) | 0 | 512 | 824 | 369 | Delete | Men |
| 4 | Trends (events) | 942 | 512 | 824 | 369 | Delete | Men |
| 5 | Text Displays/Event T | 0 | 0 | 834 | 70 | Delete | Men |

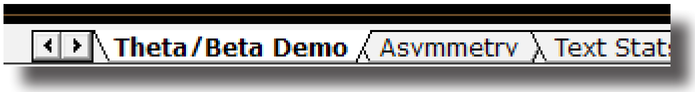
12. **Apply Button –** Click to apply any changes done in the X Axis, Y Axis, Width, and/or Height Boxes.

13. **OK Button –** Click to confirm changes and close the Panel Wizard

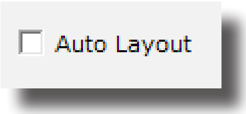
14. **Cancel Button –** Click to cancel any changes that have not been applied, and close the Panel Wizard

## Using the Panel Wizard

1. From the Training screen, Right-Click on the Tab that you would like to edit. You will have some different options:

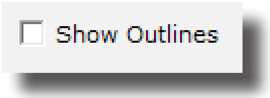


   a. **Auto Layout –** In order for you do any type of manual design, this will have to be un-checked. After you have unchecked this, click the OK Button, and re-start Panel Wizard:



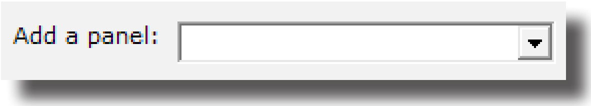
☐ Auto Layout

   b. **Show Outlines –** This switches between seeing the display and seeing lines for the displays. When you see the outlines, you can click on the different boxes. This allows you to resize or move a display using your mouse



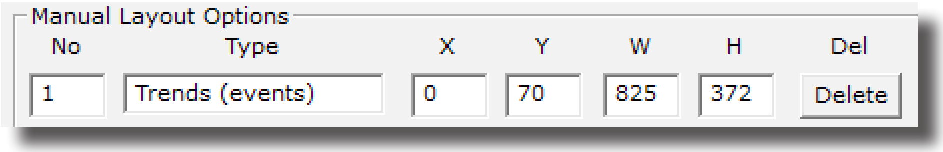
☐ Show Outlines

   c. **Add: -** This allows you to add different displays for this tab



Add a panel:

   d. **Manual Layout Options –** This allows you to use the X and Y axis to place the display in a particular location, as well as adjust the width and height. When you have entered this information, click Apply to place these items. You can also choose to delete a particular display.

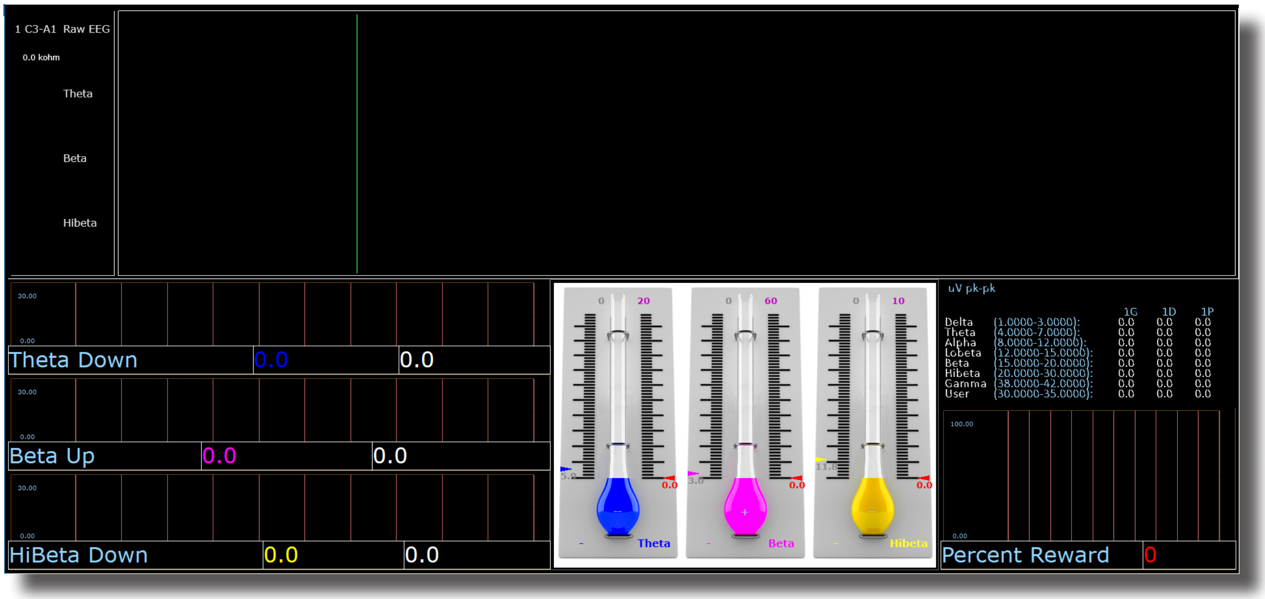


Manual Layout Options

| No | Type | X | Y | W | H | Del |
|---|---|---|---|---|---|---|
| 1 | Trends (events) | 0 | 70 | 825 | 372 | Delete |

With the Panel Wizard now launched, you can make the adjustments that you would like to adjust.

## Panel Wizard Resolution Help


1 C3-A1 Raw EEG
0.0 kohm
Theta
Beta
Hibeta
30.00
0.00
0
20
Theta
0
60
Beta
0
10
Hibeta
100.00
0.00

Theta Down 0.0 0.0

Beta Up 0.0 0.0

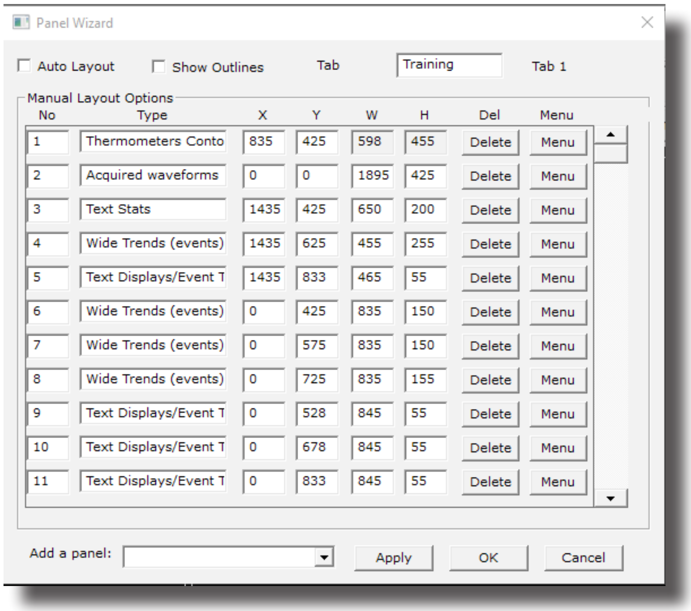
HiBeta Down 0.0 0.0

Percent Reward 0

uV pk-pk

| | | 1G | 1D | 1P |
|---|---|---|---|---|
| Delta | (1.0000-3.0000): | 0.0 | 0.0 | 0.0 |
| Theta | (4.0000-7.0000): | 0.0 | 0.0 | 0.0 |
| Alpha | (8.0000-12.0000): | 0.0 | 0.0 | 0.0 |
| Lobeta | (12.0000-15.0000): | 0.0 | 0.0 | 0.0 |
| Beta | (15.0000-20.0000): | 0.0 | 0.0 | 0.0 |
| Hibeta | (20.0000-30.0000): | 0.0 | 0.0 | 0.0 |
| Gamma | (38.0000-42.0000): | 0.0 | 0.0 | 0.0 |
| User | (30.0000-35.0000): | 0.0 | 0.0 | 0.0 |

## 1920 X 1080 Resolution Screen Settings



Panel Wizard

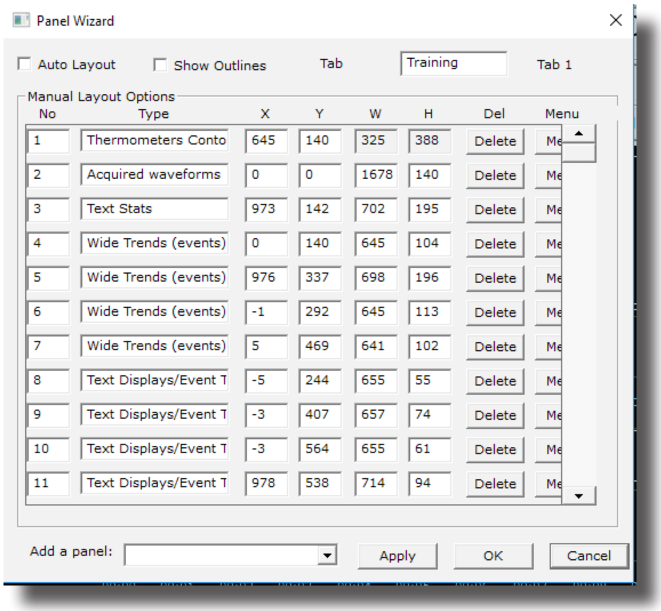
☐ Auto Layout ☐ Show Outlines Tab Training Tab 1

Manual Layout Options

| No | Type | X | Y | W | H | Del | Menu |
|---|---|---|---|---|---|---|---|
| 1 | Thermometers Conto | 835 | 425 | 598 | 455 | Delete | Menu |
| 2 | Acquired waveforms | 0 | 0 | 1895 | 425 | Delete | Menu |
| 3 | Text Stats | 1435 | 425 | 650 | 200 | Delete | Menu |
| 4 | Wide Trends (events) | 1435 | 625 | 455 | 255 | Delete | Menu |
| 5 | Text Displays/Event T | 1435 | 833 | 465 | 55 | Delete | Menu |
| 6 | Wide Trends (events) | 0 | 425 | 835 | 150 | Delete | Menu |
| 7 | Wide Trends (events) | 0 | 575 | 835 | 150 | Delete | Menu |
| 8 | Wide Trends (events) | 0 | 725 | 835 | 155 | Delete | Menu |
| 9 | Text Displays/Event T | 0 | 528 | 845 | 55 | Delete | Menu |
| 10 | Text Displays/Event T | 0 | 678 | 845 | 55 | Delete | Menu |
| 11 | Text Displays/Event T | 0 | 833 | 845 | 55 | Delete | Menu |

Add a panel: Apply OK Cancel

## 1366 X 768 Resolution Screen Settings



Panel Wizard

☐ Auto Layout ☐ Show Outlines Tab Training Tab 1

Manual Layout Options

| No | Type | X | Y | W | H | Del | Menu |
|---|---|---|---|---|---|---|---|
| 1 | Thermometers Conto | 645 | 140 | 325 | 388 | Delete | Me |
| 2 | Acquired waveforms | 0 | 0 | 1678 | 140 | Delete | Me |
| 3 | Text Stats | 973 | 142 | 702 | 195 | Delete | Me |
| 4 | Wide Trends (events) | 0 | 140 | 645 | 104 | Delete | Me |
| 5 | Wide Trends (events) | 976 | 337 | 698 | 196 | Delete | Me |
| 6 | Wide Trends (events) | -1 | 292 | 645 | 113 | Delete | Me |
| 7 | Wide Trends (events) | 5 | 469 | 641 | 102 | Delete | Me |
| 8 | Text Displays/Event T | -5 | 244 | 655 | 55 | Delete | Me |
| 9 | Text Displays/Event T | -3 | 407 | 657 | 74 | Delete | Me |
| 10 | Text Displays/Event T | -3 | 564 | 655 | 61 | Delete | Me |
| 11 | Text Displays/Event T | 978 | 538 | 714 | 94 | Delete | Me |

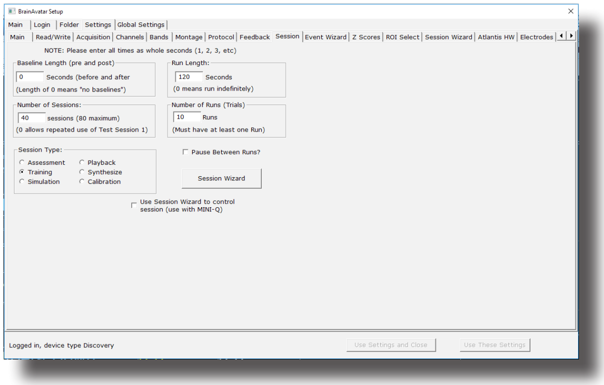
Add a panel: Apply OK Cancel

# EEG Data Files

## Simple EEG Data File Playback (Session Type Method)

*****PLEASE NOTE:** This process can only be done if you have purchased a BrainMaster Clinical License.

1. From the Setup Screen, click the Settings Tab, then the Session Tab. On the Session Tab, change the Session Type to Playback, and click Use Settings and Close. When ready click GO.


BrainAvatar Setup
Main | Login | Folder | Settings | Global Settings
Main | Read/Write | Acquisition | Channels | Bands | Montage | Protocol | Feedback | Session | Event Wizard | Z Scores | ROI Select | Session Wizard | Atlantis HW | Electrodes
Session Wizard
Use Settings and Close
Use These Settings

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

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

Run Length: 120 Seconds
(0 means run indefinitely)

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

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

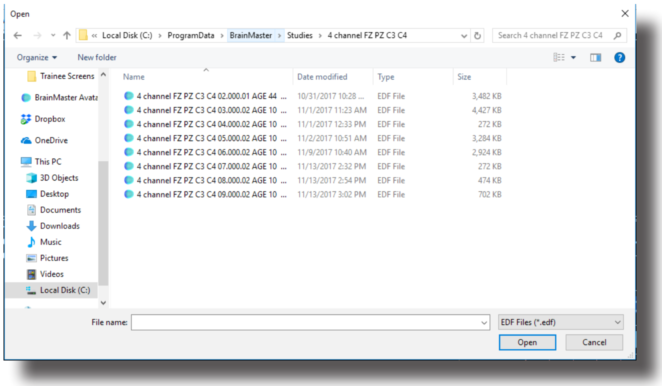
Session Type:
○ Assessment ○ Playback
● Training ○ Synthesize
○ Simulation ○ Calibration

☐ Pause Between Runs?

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

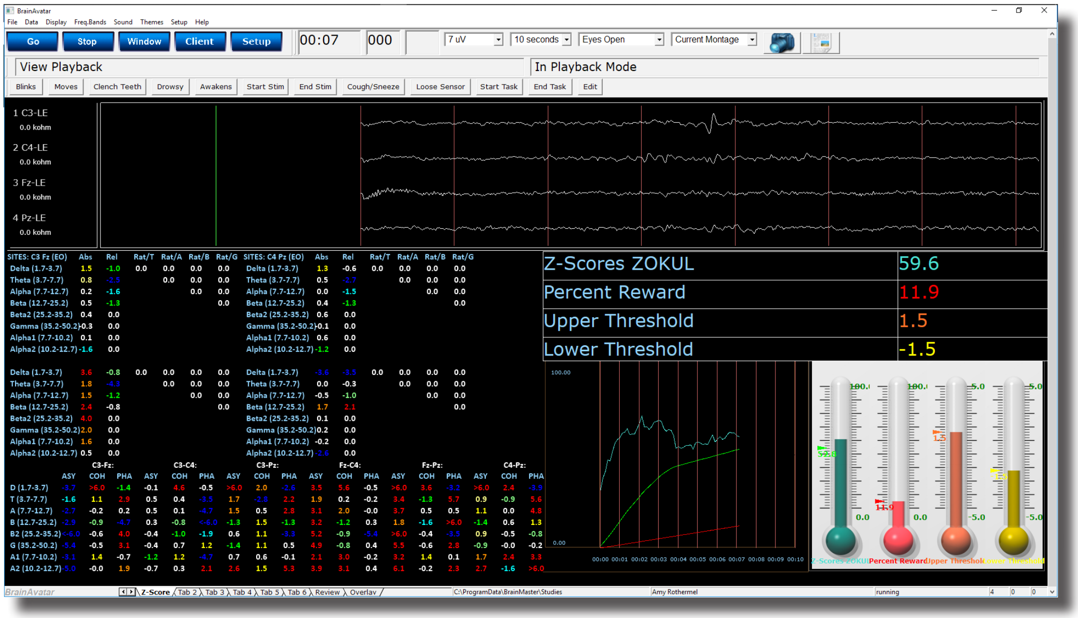
Logged in, device type Discovery

2. Use the Open Screen to Navigate to the EDF file that you would like to play.


Open
« Local Disk (C:) › ProgramData › BrainMaster › Studies › 4 channel FZ PZ C3 C4
Search 4 channel FZ PZ C3 C4
Organize
New folder
Trainee Screens
BrainMaster Avata
Dropbox
OneDrive
This PC
3D Objects
Desktop
Documents
Downloads
Music
Pictures
Videos
Local Disk (C:)
File name:
EDF Files (*.edf)
Open
Cancel

| Name | Date modified | Type | Size |
|---|---|---|---|
| 4 channel FZ PZ C3 C4 02.000.01 AGE 44 ... | 10/31/2017 10:28 ... | EDF File | 3,482 KB |
| 4 channel FZ PZ C3 C4 03.000.02 AGE 10 ... | 11/1/2017 11:23 AM | EDF File | 4,427 KB |
| 4 channel FZ PZ C3 C4 04.000.02 AGE 10 ... | 11/1/2017 12:33 PM | EDF File | 272 KB |
| 4 channel FZ PZ C3 C4 05.000.02 AGE 10 ... | 11/2/2017 10:51 AM | EDF File | 3,284 KB |
| 4 channel FZ PZ C3 C4 06.000.02 AGE 10 ... | 11/9/2017 10:40 AM | EDF File | 2,924 KB |
| 4 channel FZ PZ C3 C4 07.000.02 AGE 10 ... | 11/13/2017 2:32 PM | EDF File | 272 KB |
| 4 channel FZ PZ C3 C4 08.000.02 AGE 10 ... | 11/13/2017 2:54 PM | EDF File | 474 KB |
| 4 channel FZ PZ C3 C4 09.000.02 AGE 10 ... | 11/13/2017 3:02 PM | EDF File | 702 KB |

The EDF will now begin to playback. The EDF will operate exactly as live EEG. All displays will react as if live EEG information is coming in.


BrainAvatar
File
Data
Display
Freq.Bands
Sound
Themes
Setup
Help
Go
Stop
Window
Client
Setup
Blinks
Moves
Clench Teeth
Drowsy
Awakens
Start Stim
End Stim
Cough/Sneeze
Loose Sensor
Start Task
End Task
Edit
1 C3-LE
0.0 kohm
2 C4-LE
0.0 kohm
3 Fz-LE
0.0 kohm
4 Pz-LE
0.0 kohm
100.00
0.00
00:00 00:01 00:02 00:03 00:04 00:05 00:06 00:07 00:08 00:09 00:10
100.0
0.0
100.0
0.0
5.0
-5.0
5.0
-5.0
52.8
11.9
1.5
-1.5
Z-Scores ZOKUL
Percent Reward
Upper Threshold
Lower Threshold
BrainAvatar
Z-Score
Tab 2
Tab 3
Tab 4
Tab 5
Tab 6
Review
Overlav

00:07 000

7 uV

10 seconds

Eyes Open

Current Montage

View Playback

In Playback Mode

| SITES: C3 Fz (EO) | Abs | Rel | Rat/T | Rat/A | Rat/B | Rat/G | SITES: C4 Pz (EO) | Abs | Rel | Rat/T | Rat/A | Rat/B | Rat/G |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Delta (1.7-3.7) | 1.5 | -1.0 | 0.0 | 0.0 | 0.0 | 0.0 | Delta (1.7-3.7) | 1.3 | -0.6 | 0.0 | 0.0 | 0.0 | 0.0 |
| Theta (3.7-7.7) | 0.8 | -2.5 | | 0.0 | 0.0 | 0.0 | Theta (3.7-7.7) | 0.5 | -2.7 | | 0.0 | 0.0 | 0.0 |
| Alpha (7.7-12.7) | 0.2 | -1.6 | | | 0.0 | 0.0 | Alpha (7.7-12.7) | 0.0 | -1.5 | | | 0.0 | 0.0 |
| Beta (12.7-25.2) | 0.5 | -1.3 | | | | 0.0 | Beta (12.7-25.2) | 0.4 | -1.3 | | | | 0.0 |
| Beta2 (25.2-35.2) | 0.4 | 0.0 | | | | | Beta2 (25.2-35.2) | 0.6 | 0.0 | | | | |
| Gamma (35.2-50.2) | -0.3 | 0.0 | | | | | Gamma (35.2-50.2) | -0.1 | 0.0 | | | | |
| Alpha1 (7.7-10.2) | 0.1 | 0.0 | | | | | Alpha1 (7.7-10.2) | 0.6 | 0.0 | | | | |
| Alpha2 (10.2-12.7) | -1.6 | 0.0 | | | | | Alpha2 (10.2-12.7) | -1.2 | 0.0 | | | | |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Delta (1.7-3.7) | 3.6 | -0.8 | 0.0 | 0.0 | 0.0 | 0.0 | Delta (1.7-3.7) | -3.6 | -3.5 | 0.0 | 0.0 | 0.0 | 0.0 |
| Theta (3.7-7.7) | 1.8 | -4.3 | | 0.0 | 0.0 | 0.0 | Theta (3.7-7.7) | 0.0 | -0.3 | | 0.0 | 0.0 | 0.0 |
| Alpha (7.7-12.7) | 1.5 | -1.2 | | | 0.0 | 0.0 | Alpha (7.7-12.7) | -0.5 | -1.0 | | | 0.0 | 0.0 |
| Beta (12.7-25.2) | 2.4 | -0.8 | | | | 0.0 | Beta (12.7-25.2) | 1.7 | 2.1 | | | | 0.0 |
| Beta2 (25.2-35.2) | 4.0 | 0.0 | | | | | Beta2 (25.2-35.2) | 0.1 | 0.0 | | | | |
| Gamma (35.2-50.2) | 2.0 | 0.0 | | | | | Gamma (35.2-50.2) | 0.2 | 0.0 | | | | |
| Alpha1 (7.7-10.2) | 1.6 | 0.0 | | | | | Alpha1 (7.7-10.2) | -0.2 | 0.0 | | | | |
| Alpha2 (10.2-12.7) | 0.5 | 0.0 | | | | | Alpha2 (10.2-12.7) | -2.6 | 0.0 | | | | |

| | C3-Fz: | | | C3-C4: | | | C3-Pz: | | | Fz-C4: | | | Fz-Pz: | | | C4-Pz: | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ASY | COH | PHA | ASY | COH | PHA | ASY | COH | PHA | ASY | COH | PHA | ASY | COH | PHA | ASY | COH | PHA |
| D (1.7-3.7) | -3.7 | >6.0 | -1.4 | -0.1 | 4.6 | -0.5 | >6.0 | 2.0 | -2.6 | 3.5 | 5.6 | -0.5 | >6.0 | 3.6 | -3.2 | >6.0 | 2.4 | -3.9 |
| T (3.7-7.7) | -1.6 | 1.1 | 2.9 | 0.5 | 0.4 | -3.5 | 1.7 | -2.8 | 2.2 | 1.9 | 0.2 | -0.2 | 3.4 | -1.3 | 5.7 | 0.9 | -0.9 | 5.6 |
| A (7.7-12.7) | -2.7 | -0.2 | 0.2 | 0.5 | 0.1 | -4.7 | 1.5 | 0.5 | 2.8 | 3.1 | 2.0 | -0.0 | 3.7 | 0.5 | 0.5 | 1.1 | 0.0 | 4.8 |
| B (12.7-25.2) | -2.9 | -0.9 | -4.7 | 0.3 | -0.8 | <-6.0 | -1.3 | 1.5 | -1.3 | 3.2 | -1.2 | 0.3 | 1.8 | -1.6 | >6.0 | -1.4 | 0.6 | 1.3 |
| B2 (25.2-35.2) | <-6.0 | -0.6 | 4.0 | -0.4 | -1.0 | -1.9 | 0.6 | 1.1 | -3.3 | 5.2 | -0.9 | -5.4 | >6.0 | -0.4 | -3.5 | 0.9 | -0.5 | -0.8 |
| G (35.2-50.2) | -5.4 | -0.5 | 3.1 | -0.4 | 0.7 | 1.2 | -1.4 | 1.1 | 0.5 | 4.9 | -0.8 | 0.4 | 5.5 | -0.6 | 2.8 | -0.9 | -0.0 | -0.2 |
| A1 (7.7-10.2) | -3.1 | 1.4 | -0.7 | -1.2 | 1.2 | -4.7 | 0.7 | 0.6 | -0.1 | 2.1 | 3.0 | -0.2 | 3.2 | 1.4 | 0.1 | 1.7 | 2.4 | 3.3 |
| A2 (10.2-12.7) | -5.0 | -0.0 | 1.9 | -0.7 | 0.3 | 2.1 | 2.6 | 1.5 | 5.3 | 3.9 | 3.1 | 0.4 | 6.1 | -0.2 | 2.3 | 2.7 | -1.6 | >6.0 |

| | |
|---|---|
| Z-Scores ZOKUL | 59.6 |
| Percent Reward | 11.9 |
| Upper Threshold | 1.5 |
| Lower Threshold | -1.5 |

C:\ProgramData\BrainMaster\Studies

Amy Rothermel

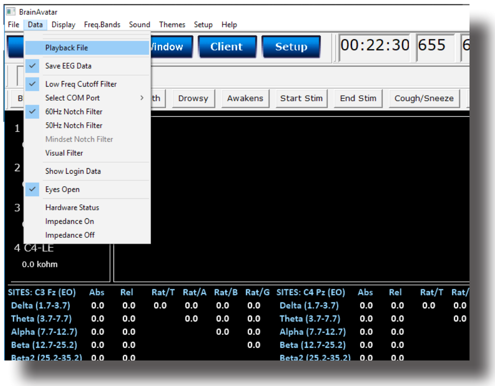
running

4 0 0

## Simple EEG Data File Playback (Playback File Method)

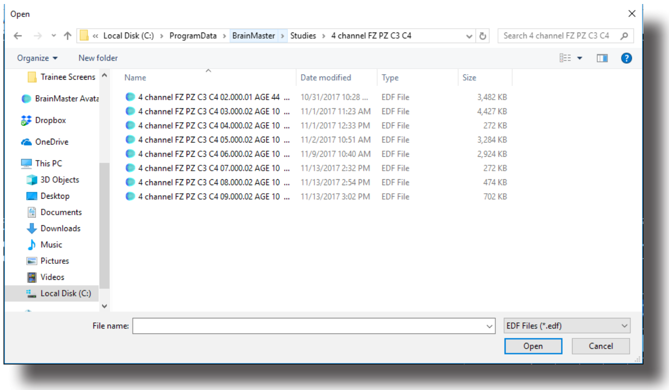
***__PLEASE NOTE:__ This process can only be done if you have purchased a BrainMaster Clinical License.

1. From the Training Screen, click the Data Tab, and choose the option Playback File.


BrainAvatar
File
Data
Display
Freq.Bands
Sound
Themes
Setup
Help
Playback File
✓ Save EEG Data
✓ Low Freq Cutoff Filter
Select COM Port
✓ 60Hz Notch Filter
50Hz Notch Filter
Mindset Notch Filter
Visual Filter
Show Login Data
✓ Eyes Open
Hardware Status
Impedance On
Impedance Off
Window
Client
Setup
00:22:30
655
Drowsy
Awakens
Start Stim
End Stim
Cough/Sneeze
1
2
3
4 C4-LE
0.0 kohm

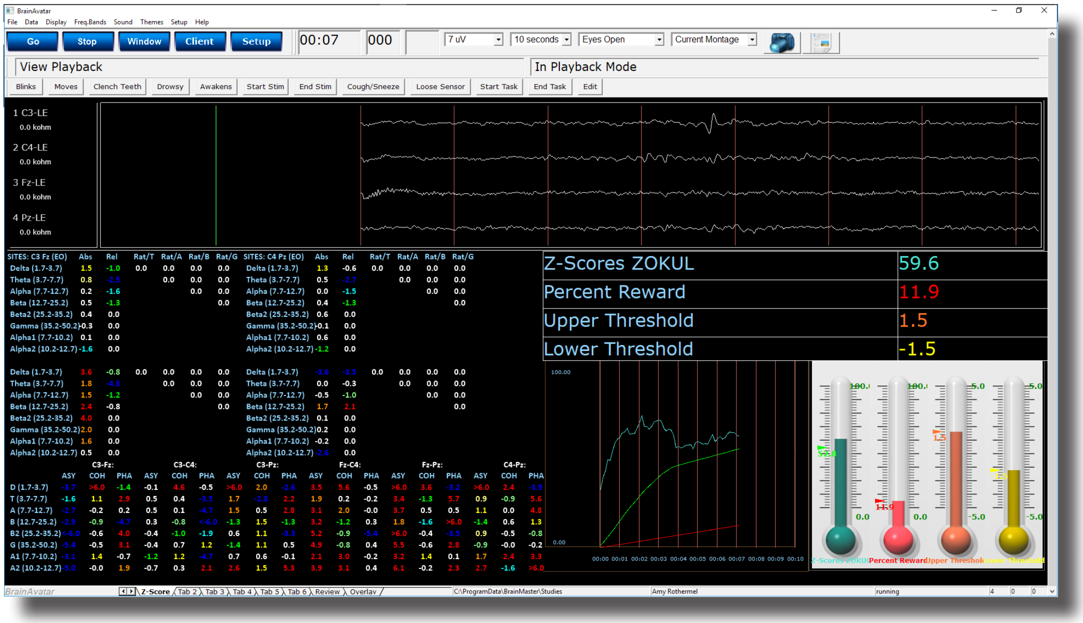
| SITES: C3 Fz (EO) | Abs | Rel | Rat/T | Rat/A | Rat/B | Rat/G | SITES: C4 Pz (EO) | Abs | Rel | Rat/T | Rat/ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Delta (1.7-3.7) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | Delta (1.7-3.7) | 0.0 | 0.0 | 0.0 | 0.0 |
| Theta (3.7-7.7) | 0.0 | 0.0 |  | 0.0 | 0.0 | 0.0 | Theta (3.7-7.7) | 0.0 | 0.0 |  | 0.0 |
| Alpha (7.7-12.7) | 0.0 | 0.0 |  |  | 0.0 | 0.0 | Alpha (7.7-12.7) | 0.0 | 0.0 |  |  |
| Beta (12.7-25.2) | 0.0 | 0.0 |  |  |  | 0.0 | Beta (12.7-25.2) | 0.0 | 0.0 |  |  |
| Beta2 (25.2-35.2) | 0.0 | 0.0 |  |  |  |  | Beta2 (25.2-35.2) | 0.0 | 0.0 |  |  |

2. Use the Open Screen to Navigate to the EDF file that you would like to play.


Open
« Local Disk (C:) › ProgramData › BrainMaster › Studies › 4 channel FZ PZ C3 C4
Search 4 channel FZ PZ C3 C4
Organize
New folder
Trainee Screens
BrainMaster Avata
Dropbox
OneDrive
This PC
3D Objects
Desktop
Documents
Downloads
Music
Pictures
Videos
Local Disk (C:)
File name:
EDF Files (*.edf)
Open
Cancel

| Name | Date modified | Type | Size |
|---|---|---|---|
| 4 channel FZ PZ C3 C4 02.000.01 AGE 44 ... | 10/31/2017 10:28 ... | EDF File | 3,482 KB |
| 4 channel FZ PZ C3 C4 03.000.02 AGE 10 ... | 11/1/2017 11:23 AM | EDF File | 4,427 KB |
| 4 channel FZ PZ C3 C4 04.000.02 AGE 10 ... | 11/1/2017 12:33 PM | EDF File | 272 KB |
| 4 channel FZ PZ C3 C4 05.000.02 AGE 10 ... | 11/2/2017 10:51 AM | EDF File | 3,284 KB |
| 4 channel FZ PZ C3 C4 06.000.02 AGE 10 ... | 11/9/2017 10:40 AM | EDF File | 2,924 KB |
| 4 channel FZ PZ C3 C4 07.000.02 AGE 10 ... | 11/13/2017 2:32 PM | EDF File | 272 KB |
| 4 channel FZ PZ C3 C4 08.000.02 AGE 10 ... | 11/13/2017 2:54 PM | EDF File | 474 KB |
| 4 channel FZ PZ C3 C4 09.000.02 AGE 10 ... | 11/13/2017 3:02 PM | EDF File | 702 KB |

The EDF will now begin to playback. The EDF will operate exactly as live EEG. All displays will react as if live EEG information is coming in.


BrainAvatar
File Data Display Freq.Bands Sound Themes Setup Help
Go
Stop
Window
Client
Setup
7 uV
10 seconds
Eyes Open
Current Montage
Blinks
Moves
Clench Teeth
Drowsy
Awakens
Start Stim
End Stim
Cough/Sneeze
Loose Sensor
Start Task
End Task
Edit
1 C3-LE
2 C4-LE
3 Fz-LE
4 Pz-LE
100.00
0.00
00:00 00:01 00:02 00:03 00:04 00:05 00:06 00:07 00:08 00:09 00:10
100.0
100.0
5.0
5.0
0.0
0.0
-5.0
-5.0
11.9
Z-Scores ZOKUL
Percent Reward
Upper Threshold
Lower Threshold
BrainAvatar
Z-Score
Tab 2
Tab 3
Tab 4
Tab 5
Tab 6
Review
Overlav

00:07

000

View Playback

In Playback Mode

1 C3-LE 0.0 kohm
2 C4-LE 0.0 kohm
3 Fz-LE 0.0 kohm
4 Pz-LE 0.0 kohm

| SITES: C3 Fz (EO) | Abs | Rel | Rat/T | Rat/A | Rat/B | Rat/G |
|---|---|---|---|---|---|---|
| Delta (1.7-3.7) | 1.5 | -1.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Theta (3.7-7.7) | 0.8 | -2.5 | | 0.0 | 0.0 | 0.0 |
| Alpha (7.7-12.7) | 0.2 | -1.6 | | | 0.0 | 0.0 |
| Beta (12.7-25.2) | 0.5 | -1.3 | | | | 0.0 |
| Beta2 (25.2-35.2) | 0.4 | 0.0 | | | | |
| Gamma (35.2-50.2) | -0.3 | 0.0 | | | | |
| Alpha1 (7.7-10.2) | 0.1 | 0.0 | | | | |
| Alpha2 (10.2-12.7) | -1.6 | 0.0 | | | | |
| | | | | | | |
| Delta (1.7-3.7) | 3.6 | -0.8 | 0.0 | 0.0 | 0.0 | 0.0 |
| Theta (3.7-7.7) | 1.8 | -4.3 | | 0.0 | 0.0 | 0.0 |
| Alpha (7.7-12.7) | 1.5 | -1.2 | | | 0.0 | 0.0 |
| Beta (12.7-25.2) | 2.4 | -0.8 | | | | 0.0 |
| Beta2 (25.2-35.2) | 4.0 | 0.0 | | | | |
| Gamma (35.2-50.2) | 2.0 | 0.0 | | | | |
| Alpha1 (7.7-10.2) | 1.6 | 0.0 | | | | |
| Alpha2 (10.2-12.7) | 0.5 | 0.0 | | | | |

| SITES: C4 Pz (EO) | Abs | Rel | Rat/T | Rat/A | Rat/B | Rat/G |
|---|---|---|---|---|---|---|
| Delta (1.7-3.7) | 1.3 | -0.6 | 0.0 | 0.0 | 0.0 | 0.0 |
| Theta (3.7-7.7) | 0.5 | -2.7 | | 0.0 | 0.0 | 0.0 |
| Alpha (7.7-12.7) | 0.0 | -1.5 | | | 0.0 | 0.0 |
| Beta (12.7-25.2) | 0.4 | -1.3 | | | | 0.0 |
| Beta2 (25.2-35.2) | 0.6 | 0.0 | | | | |
| Gamma (35.2-50.2) | -0.1 | 0.0 | | | | |
| Alpha1 (7.7-10.2) | 0.6 | 0.0 | | | | |
| Alpha2 (10.2-12.7) | -1.2 | 0.0 | | | | |
| | | | | | | |
| Delta (1.7-3.7) | -3.6 | -3.5 | 0.0 | 0.0 | 0.0 | 0.0 |
| Theta (3.7-7.7) | 0.0 | -0.3 | | 0.0 | 0.0 | 0.0 |
| Alpha (7.7-12.7) | -0.5 | -1.0 | | | 0.0 | 0.0 |
| Beta (12.7-25.2) | 1.7 | 2.1 | | | | 0.0 |
| Beta2 (25.2-35.2) | 0.1 | 0.0 | | | | |
| Gamma (35.2-50.2) | 0.2 | 0.0 | | | | |
| Alpha1 (7.7-10.2) | -0.2 | 0.0 | | | | |
| Alpha2 (10.2-12.7) | -2.6 | 0.0 | | | | |

| | | | |
|---|---|---|---|
| Z-Scores ZOKUL | 59.6 |
| Percent Reward | 11.9 |
| Upper Threshold | 1.5 |
| Lower Threshold | -1.5 |

| | C3-Fz: | | | C3-C4: | | | C3-Pz: | | | Fz-C4: | | | Fz-Pz: | | | C4-Pz: | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ASY | COH | PHA | ASY | COH | PHA | ASY | COH | PHA | ASY | COH | PHA | ASY | COH | PHA | ASY | COH | PHA |
| D (1.7-3.7) | -3.7 | >6.0 | -1.4 | -0.1 | 4.6 | -0.5 | >6.0 | 2.0 | -2.6 | 3.5 | 5.6 | -0.5 | >6.0 | 3.6 | -3.2 | >6.0 | 2.4 | -3.9 |
| T (3.7-7.7) | -1.6 | 1.1 | 2.9 | 0.5 | 0.4 | -3.5 | 1.7 | -2.8 | 2.2 | 1.9 | 0.2 | -0.2 | 3.4 | -1.3 | 5.7 | 0.9 | -0.9 | 5.6 |
| A (7.7-12.7) | -2.7 | -0.2 | 0.2 | 0.5 | 0.1 | -4.7 | 1.5 | 0.5 | 2.8 | 3.1 | 2.0 | -0.0 | 3.7 | 0.5 | 0.5 | 1.1 | 0.0 | 4.8 |
| B (12.7-25.2) | -2.9 | -0.9 | -4.7 | 0.3 | -0.8 | <-6.0 | -1.3 | 1.5 | -1.3 | 3.2 | -1.2 | 0.3 | 1.8 | -1.6 | >6.0 | -1.4 | 0.6 | 1.3 |
| B2 (25.2-35.2) | <-6.0 | -0.6 | 4.0 | -0.4 | -1.0 | -1.9 | 0.6 | 1.1 | -3.3 | 5.2 | -0.9 | -5.4 | >6.0 | -0.4 | -3.5 | 0.9 | -0.5 | -0.8 |
| G (35.2-50.2) | -5.4 | -0.5 | 3.1 | -0.4 | 0.7 | 1.2 | -1.4 | 1.1 | 0.5 | 4.9 | -0.8 | 0.4 | 5.5 | -0.6 | 2.8 | -0.9 | -0.0 | -0.2 |
| A1 (7.7-10.2) | -3.1 | 1.4 | -0.7 | -1.2 | 1.2 | -4.7 | 0.7 | 0.6 | -0.1 | 2.1 | 3.0 | -0.2 | 3.2 | 1.4 | 0.1 | 1.7 | 2.4 | 3.3 |
| A2 (10.2-12.7) | -5.0 | -0.0 | 1.9 | -0.7 | 0.3 | 2.1 | 2.6 | 1.5 | 5.3 | 3.9 | 3.1 | 0.4 | 6.1 | -0.2 | 2.3 | 2.7 | -1.6 | >6.0 |

C:\ProgramData\BrainMaster\Studies

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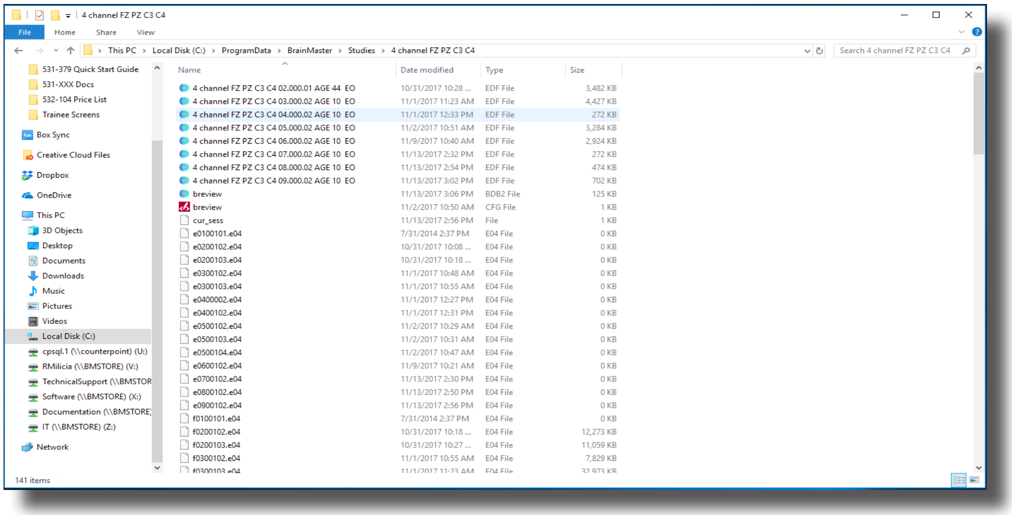
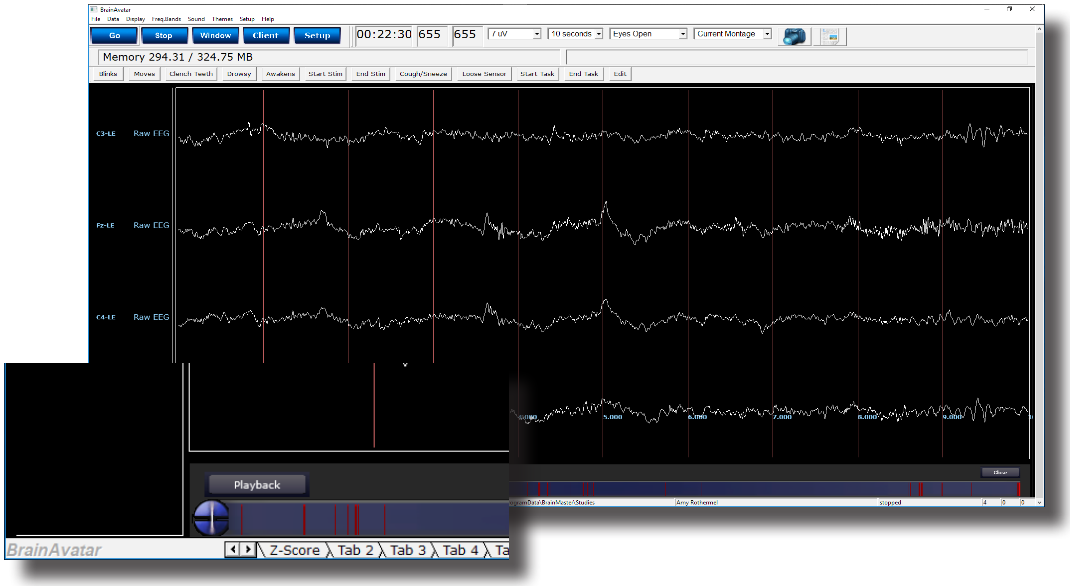
## Opening an EEG Data File (Windows/File Explorer)

1. Locate the EDF, BDF, or DAT file that you would like to open. When you find this file double-click the file.


4 channel FZ PZ C3 C4
File
Home
Share
View
This PC › Local Disk (C:) › ProgramData › BrainMaster › Studies › 4 channel FZ PZ C3 C4
Search 4 channel FZ PZ C3 C4
531-379 Quick Start Guide
531-XXX Docs
532-104 Price List
Trainee Screens
Box Sync
Creative Cloud Files
Dropbox
OneDrive
This PC
3D Objects
Desktop
Documents
Downloads
Music
Pictures
Videos
Local Disk (C:)
cpsql.1 (\\counterpoint) (U:)
RMilicia (\\BMSTORE) (V:)
TechnicalSupport (\\BMSTOR
Software (\\BMSTORE) (X:)
Documentation (\\BMSTORE)
IT (\\BMSTORE) (Z:)
Network
141 items

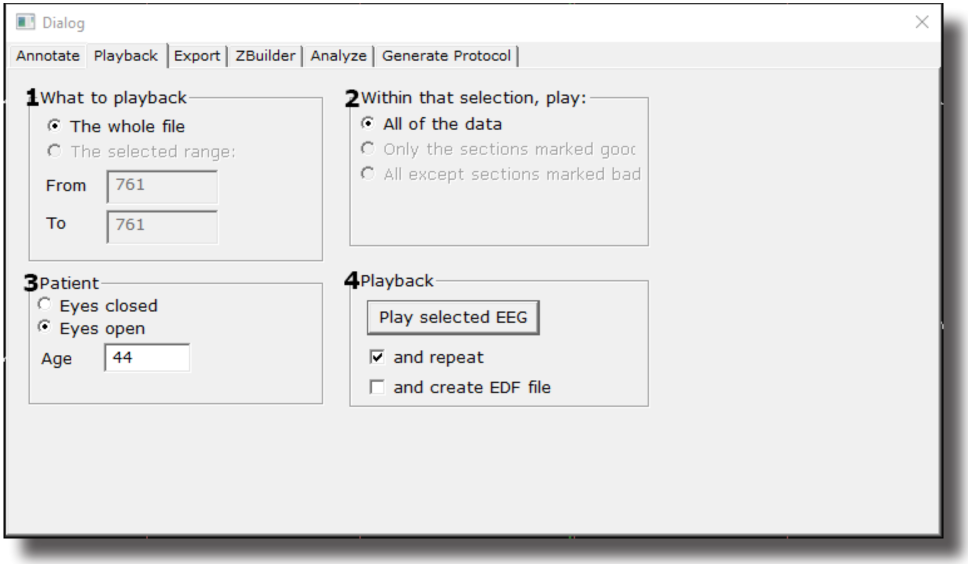
| Name | Date modified | Type | Size |
|---|---|---|---|
| 4 channel FZ PZ C3 C4 02.000.01 AGE 44 EO | 10/31/2017 10:28 ... | EDF File | 3,482 KB |
| 4 channel FZ PZ C3 C4 03.000.02 AGE 10 EO | 11/1/2017 11:23 AM | EDF File | 4,427 KB |
| 4 channel FZ PZ C3 C4 04.000.02 AGE 10 EO | 11/1/2017 12:33 PM | EDF File | 272 KB |
| 4 channel FZ PZ C3 C4 05.000.02 AGE 10 EO | 11/2/2017 10:51 AM | EDF File | 3,284 KB |
| 4 channel FZ PZ C3 C4 06.000.02 AGE 10 EO | 11/9/2017 10:40 AM | EDF File | 2,924 KB |
| 4 channel FZ PZ C3 C4 07.000.02 AGE 10 EO | 11/13/2017 2:32 PM | EDF File | 272 KB |
| 4 channel FZ PZ C3 C4 08.000.02 AGE 10 EO | 11/13/2017 2:54 PM | EDF File | 474 KB |
| 4 channel FZ PZ C3 C4 09.000.02 AGE 10 EO | 11/13/2017 3:02 PM | EDF File | 702 KB |
| breview | 11/13/2017 3:06 PM | BDB2 File | 125 KB |
| breview | 11/2/2017 10:50 AM | CFG File | 1 KB |
| cur_sess | 11/13/2017 2:56 PM | File | 1 KB |
| e0100101.e04 | 7/31/2014 2:37 PM | E04 File | 0 KB |
| e0200102.e04 | 10/31/2017 10:08 ... | E04 File | 0 KB |
| e0200103.e04 | 10/31/2017 10:18 ... | E04 File | 0 KB |
| e0300102.e04 | 11/1/2017 10:48 AM | E04 File | 0 KB |
| e0300103.e04 | 11/1/2017 10:55 AM | E04 File | 0 KB |
| e0400002.e04 | 11/1/2017 12:27 PM | E04 File | 0 KB |
| e0400102.e04 | 11/1/2017 12:31 PM | E04 File | 0 KB |
| e0500102.e04 | 11/2/2017 10:29 AM | E04 File | 0 KB |
| e0500103.e04 | 11/2/2017 10:31 AM | E04 File | 0 KB |
| e0500104.e04 | 11/2/2017 10:47 AM | E04 File | 0 KB |
| e0600102.e04 | 11/9/2017 10:21 AM | E04 File | 0 KB |
| e0700102.e04 | 11/13/2017 2:30 PM | E04 File | 0 KB |
| e0800102.e04 | 11/13/2017 2:50 PM | E04 File | 0 KB |
| e0900102.e04 | 11/13/2017 2:56 PM | E04 File | 0 KB |
| f0100101.e04 | 7/31/2014 2:37 PM | E04 File | 0 KB |
| f0200102.e04 | 10/31/2017 10:18 ... | E04 File | 12,273 KB |
| f0200103.e04 | 10/31/2017 10:27 ... | E04 File | 11,059 KB |
| f0300102.e04 | 11/1/2017 10:55 AM | E04 File | 7,829 KB |
| f0300103.e04 | 11/1/2017 11:23 AM | E04 File | 32,973 KB |

The EDF, BDF, or DAT file will now be opened inside the BrainAvatar Software. You can now review this file. By clicking the Playback Button at the bottom, this will allow you to Playback the file.


BrainAvatar
File
Data
Display
Freq.Bands
Sound
Themes
Setup
Help
Go
Stop
Window
Client
Setup
00:22:30
655
655
7 uV
10 seconds
Eyes Open
Current Montage
Memory 294.31 / 324.75 MB
Blinks
Moves
Clench Teeth
Drowsy
Awakens
Start Stim
End Stim
Cough/Sneeze
Loose Sensor
Start Task
End Task
Edit
C3-LE
Raw EEG
Fz-LE
Raw EEG
C4-LE
Raw EEG
5.000
6.000
7.000
8.000
9.000
Close
Playback
Amy Rothermel
stopped
BrainAvatar
Z-Score
Tab 2
Tab 3
Tab 4

## Review Playback

### Playback Control Menu



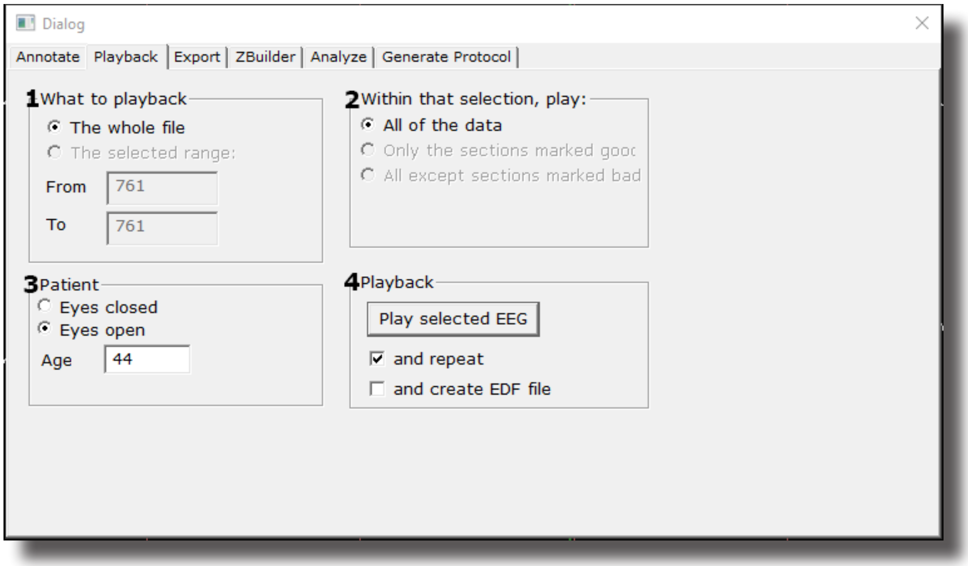
1 What to playback
● The whole file
○ The selected range:
From 761
To 761

2 Within that selection, play:
● All of the data
○ Only the sections marked gooc
○ All except sections marked bad

3 Patient
○ Eyes closed
● Eyes open
Age 44

4 Playback
☑ and repeat
☐ and create EDF file

1. **What To Playback Section –** Section where you can choose what information that you would like to playback
    a. **The Whole File –** Choose this to playback the entire EDF, BDF, or DAT File
    b. **The Selected Range –** Choose this to playback only the selection area chosen through the mouse
2. **Within that selection, play: Section –** Section where you can set a more specific requirement of what you will playback
    a. **All of the Data –** Will playback all of the Data defined by the What To Playback Section
    b. **Only the sections marked good –** Will playback all of the sections that have been annotated good that are within the What To Playback Section. This will be grayed out, if there are no sections marked good within the Playback section
    c. **All except sections marked bad –** Will playback all of the sections that have not been annotated as bad that are within the What To Playback Section. This will be grayed out, if there are no sections marked bad within the Playback section


Dialog
Annotate
Playback
Export
ZBuilder
Analyze
Generate Protocol
1 What to playback
2 Within that selection, play:
3 Patient
4 Playback
Play selected EEG

● The whole file
○ The selected range:
From 761
To 761

● All of the data
○ Only the sections marked goo
○ All except sections marked bad

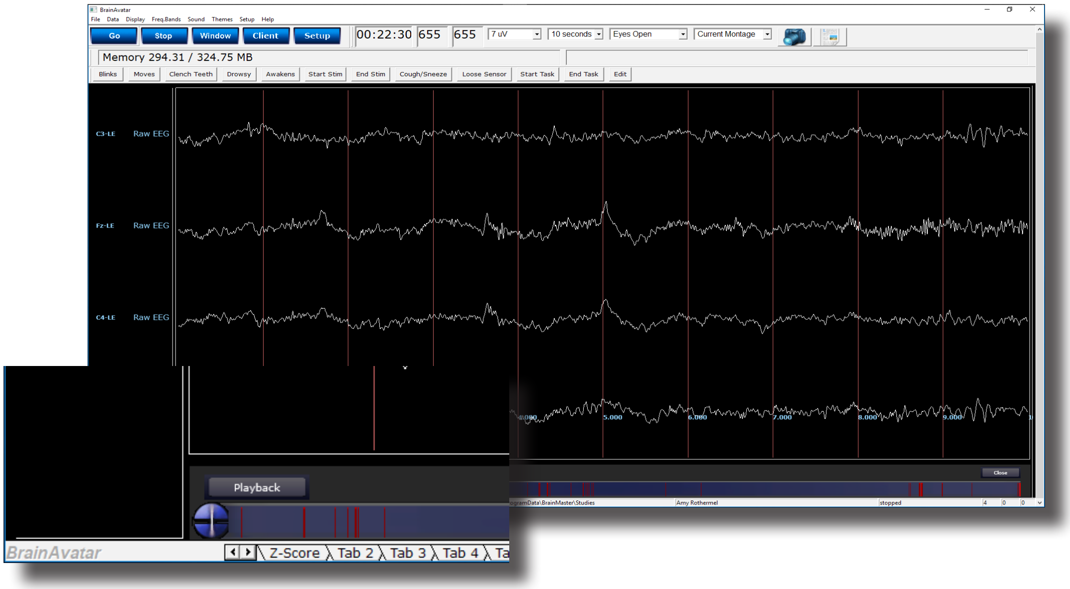
○ Eyes closed
● Eyes open
Age 44

☑ and repeat
☐ and create EDF file

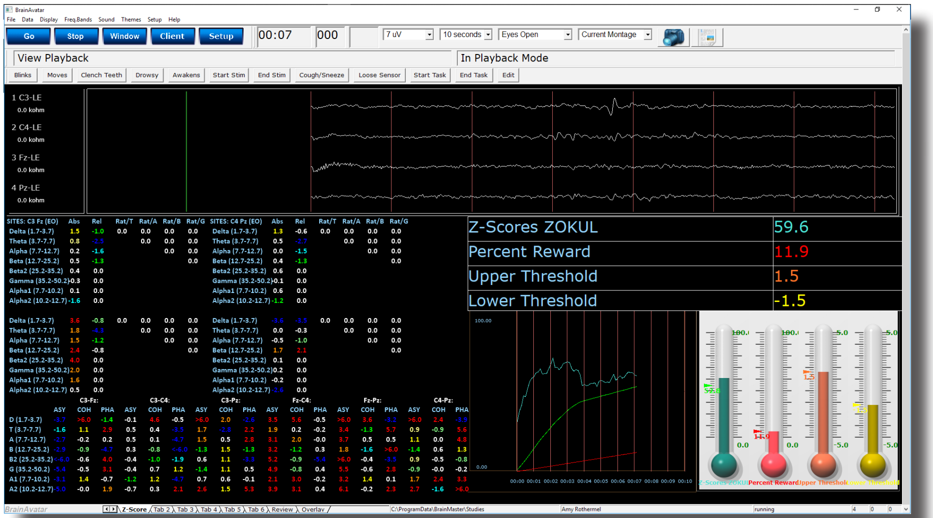
3. **Patient Section –** Section where you can set various Patient Information (This will by default choose the information that was saved in the EDF File)
    a. **Eyes Condition –** This will allow you to select whether this is Eyes Opened or Eyes Closed Data.
    b. **Age –** This will allow you to set the Age of the Patient whose file you are going to playback.
4. **Playback Section**
    a. **Play selected EEG Button –** Plays back the EDF, BDF, or DAT File based on the settings chosen
    b. **And repeat check box –** Will repeat the playing back of the file until the software is stopped.
    c. **And create EDF File Check box –** This will create a new EDF File of the played back EDF.

## Data Playback in the Review Screen (Playback button)

1. After you have opened the EDF, BDF, or DAT file in the BrainAvatar Software, to playback, click the Playback button at the bottom of the screen.


Go
Stop
Window
Client
Setup
00:22:30
655
655
7 uV
10 seconds
Eyes Open
Current Montage
Memory 294.31 / 324.75 MB
Blinks
Moves
Clench Teeth
Drowsy
Awakens
Start Stim
End Stim
Cough/Sneeze
Loose Sensor
Start Task
End Task
Edit
C3-LE
Raw EEG
Fz-LE
Raw EEG
C4-LE
Raw EEG
Playback
BrainAvatar
Z-Score
Tab 2
Tab 3
Tab 4

The EEG Data File will now begin to playback in the currently opened Patient Folder. The EEG Data File will operate exactly as live EEG. All displays will react as if live EEG information is coming in.


Go
Stop
Window
Client
Setup
00:07
000
7 uV
10 seconds
Eyes Open
Current Montage
Blinks
Moves
Clench Teeth
Drowsy
Awakens
Start Stim
End Stim
Cough/Sneeze
Loose Sensor
Start Task
End Task
Edit
1 C3-LE
2 C4-LE
3 Fz-LE
4 Pz-LE
BrainAvatar
Z-Score
Review
Overlay

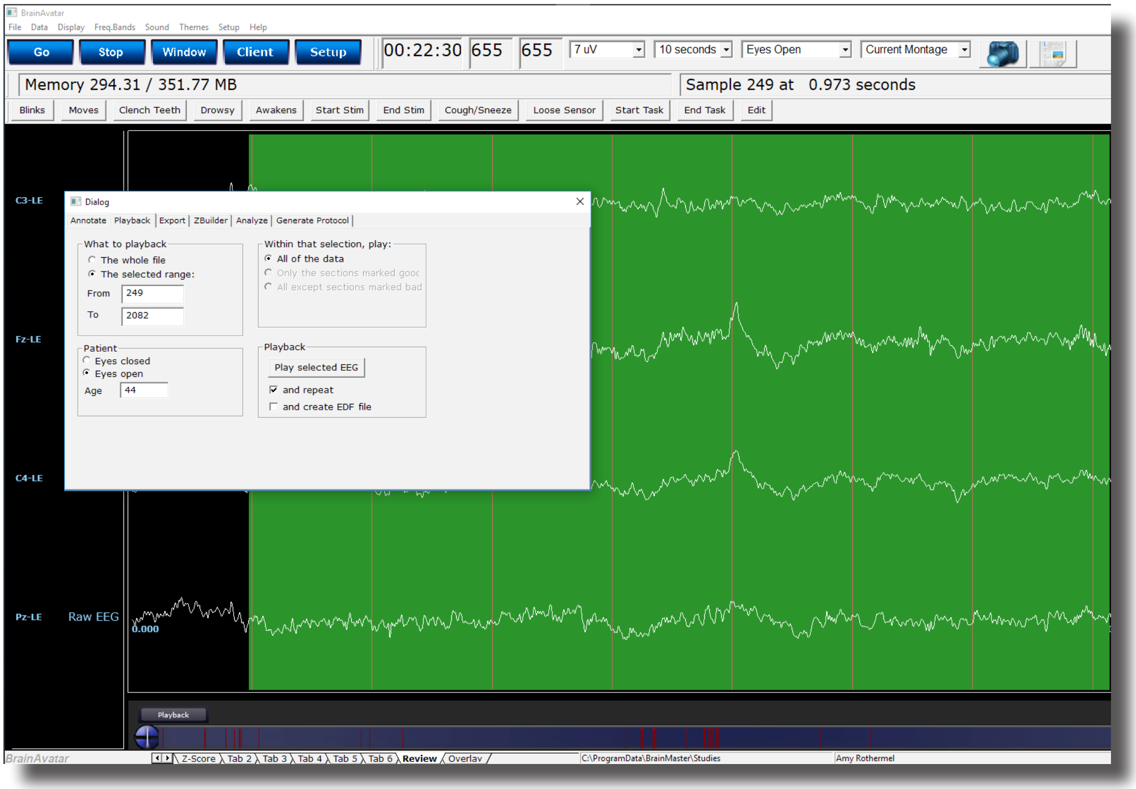
View Playback

In Playback Mode

| | |
|---|---|
| Z-Scores ZOKUL | 59.6 |
| Percent Reward | 11.9 |
| Upper Threshold | 1.5 |
| Lower Threshold | -1.5 |

## Playing back a section of an EDF File

1. Highlight the EEG that you would like to use by holding the Left-Mouse button down, and moving the mouse. This will bring up the Panel Options Menu. On the Panel Options, you have multiple options
    - a. **Data range:** - This will allow you to choose whether you would like to playback the area selected, or to look at the entire EDF File.
    - b. **What to process:** - If the whole file is selected, or you have selected areas that have annotations then you can choose either choose to playback the entire file, Sections marked good, or sections not marked bad.
    - c. **Playback:** - Depending on the information chosen above, you can play what you have selected, and choose to either repeat the playback, or simply playback one time.


BrainAvatar
File Data Display Freq.Bands Sound Themes Setup Help
Go
Stop
Window
Client
Setup
Blinks
Moves
Clench Teeth
Drowsy
Awakens
Start Stim
End Stim
Cough/Sneeze
Loose Sensor
Start Task
End Task
Edit
C3-LE
Fz-LE
C4-LE
Pz-LE
Raw EEG
0.000
Dialog
Annotate
Playback
Export
ZBuilder
Analyze
Generate Protocol
Play selected EEG
Playback
BrainAvatar
Z-Score
Tab 2
Tab 3
Tab 4
Tab 5
Tab 6
Review
Overlay

00:22:30 655 655 7 uV 10 seconds Eyes Open Current Montage

Memory 294.31 / 351.77 MB

Sample 249 at 0.973 seconds

What to playback
○ The whole file
● The selected range:
From 249
To 2082

Within that selection, play:
● All of the data
○ Only the sections marked good
○ All except sections marked bad

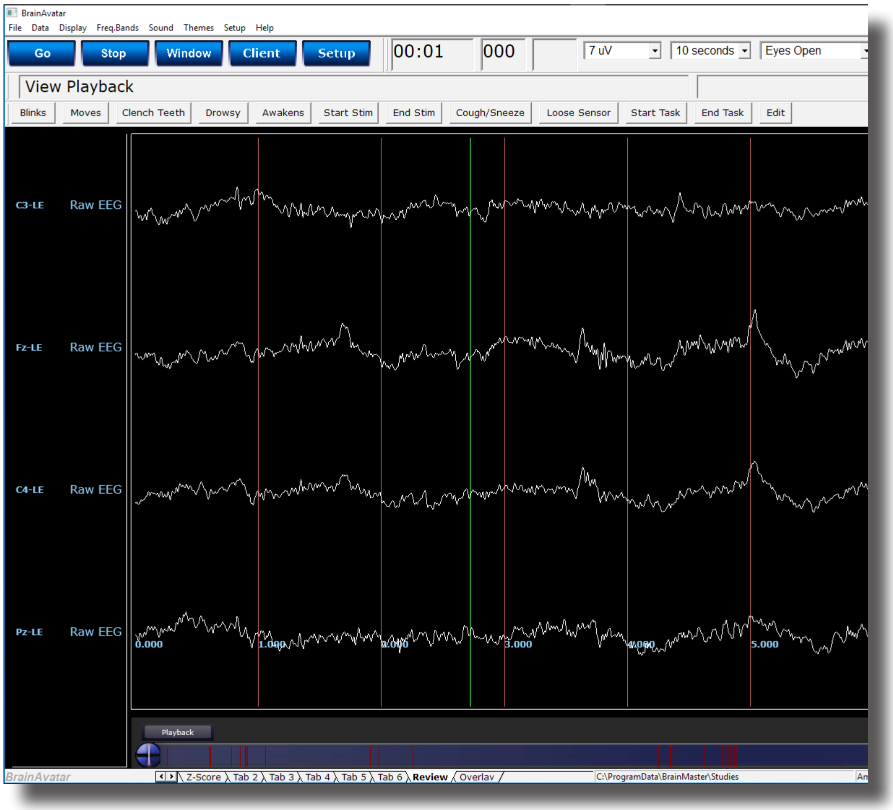
Patient
○ Eyes closed
● Eyes open
Age 44

Playback
☑ and repeat
☐ and create EDF file

C:\ProgramData\BrainMaster\Studies

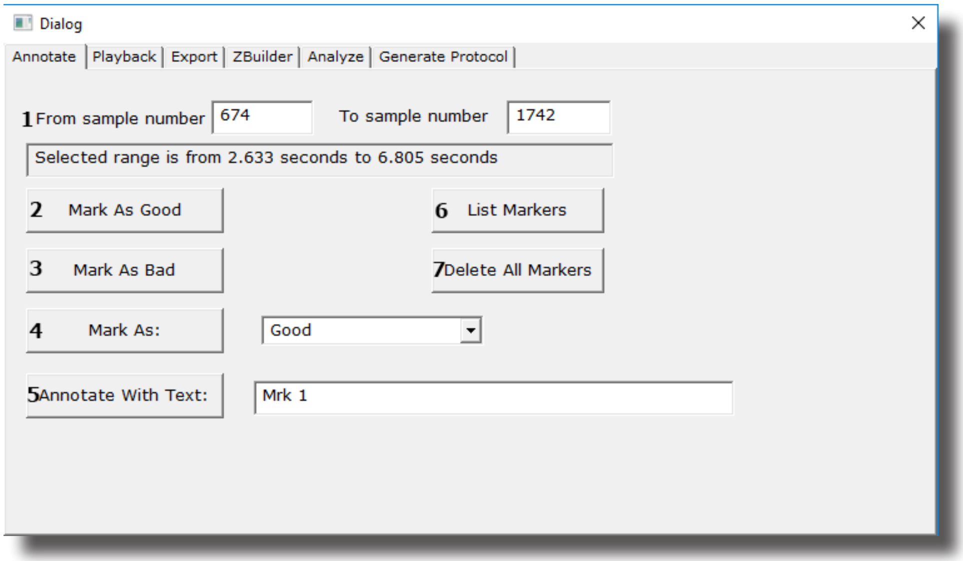
Amy Rothermel

This will now be playing back the EDF file based on the selection that you chose to play.  You will tell this is happening by seeing a green line moving across the Review Screen.


BrainAvatar
File Data Display Freq.Bands Sound Themes Setup Help
Go
Stop
Window
Client
Setup
00:01
000
7 uV
10 seconds
Eyes Open
View Playback
Blinks
Moves
Clench Teeth
Drowsy
Awakens
Start Stim
End Stim
Cough/Sneeze
Loose Sensor
Start Task
End Task
Edit
C3-LE Raw EEG
Fz-LE Raw EEG
C4-LE Raw EEG
Pz-LE Raw EEG
0.000
1.000
2.000
3.000
4.000
5.000
Playback
BrainAvatar
Z-Score
Tab 2
Tab 3
Tab 4
Tab 5
Tab 6
Review
Overlay
C:\ProgramData\BrainMaster\Studies

# EDF Annotation

## Annotation Control Menu



1 From sample number 674 To sample number 1742

Selected range is from 2.633 seconds to 6.805 seconds

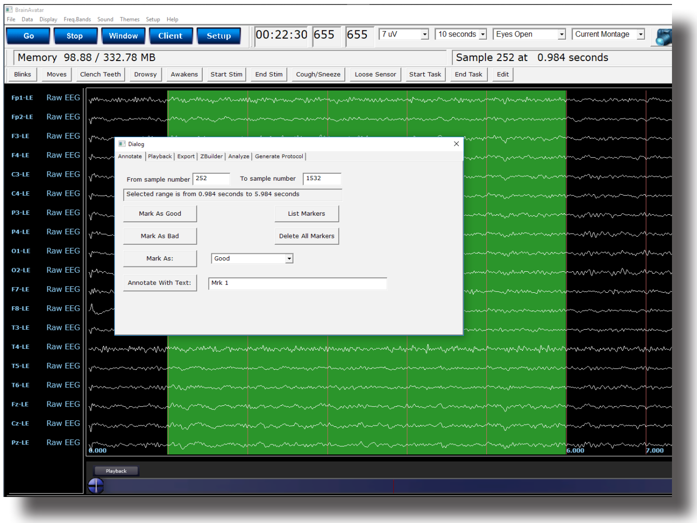
Mark As: Good

Annotate With Text: Mrk 1

1. **Selected Data Section** – Section that displays the data that has been selected. It is displayed in the Sample number that has been selected, as well as the Seconds that have been selected. You can use the Samples to change the data that has been selected.
2. **Mark As Good Button** – Click this to create a Green highlighted section that will cover the area defined in the Selected Data Section. It will also Annotate this section with a Label Good.
3. **Mark Bad Button** – Click this to create a Red highlighted section that will cover the area defined in the Selected Data Section. It will also Annotate this section with a Label Good.
4. **Mark As: Button** – Click this to create a highlighted section that will cover the area defined in the Selected Data Section, and is based on the type of labeling chosen. It will also Annotate this section with a Label based on the type of labeling chosen
    a. **Good –** Green Highlight. Good Label
    b. **Bad –** Red Highlight. Bad Label
    c. **Artifact –** Blue Highlight. Artifact Label
    d. **Eye Blink –** Blue Highlight. Eye Blink Label
5. **Annotate with Text: Button -** Click this to create a Blue highlighted section that will cover the area defined in the Selected Data Section. It will also Annotate this section with the Label defined in the Text box next to the button.
6. **List Markers Button –** Button that Displays the Labels, where they can be found and allows you to edit these labels.
7. **Delete All Markers Button -** Button that will delete all Markers in have been added to an EDF.

## Annotating an EDF

1. Highlight the EEG that you would like to use by holding the Left-Mouse button down, and moving the mouse. This will bring up the Panel Options Menu. On the Panel Options, click the type of annotation that you would like to use.


BrainAvatar
File Data Display Freq.Bands Sound Themes Setup Help
Go
Stop
Window
Client
Setup
Blinks
Moves
Clench Teeth
Drowsy
Awakens
Start Stim
End Stim
Cough/Sneeze
Loose Sensor
Start Task
End Task
Edit
Fp1-LE Raw EEG
Fp2-LE Raw EEG
F3-LE Raw EEG
F4-LE Raw EEG
C3-LE Raw EEG
C4-LE Raw EEG
P3-LE Raw EEG
P4-LE Raw EEG
O1-LE Raw EEG
O2-LE Raw EEG
F7-LE Raw EEG
F8-LE Raw EEG
T3-LE Raw EEG
T4-LE Raw EEG
T5-LE Raw EEG
T6-LE Raw EEG
Fz-LE Raw EEG
Cz-LE Raw EEG
Pz-LE Raw EEG
0.000
6.000
7.000
Playback
Dialog
Annotate
Playback
Export
ZBuilder
Analyze
Generate Protocol
Mark As Good
List Markers
Mark As Bad
Delete All Markers

00:22:30 655 655 7 uV 10 seconds Eyes Open Current Montage

Memory 98.88 / 332.78 MB

Sample 252 at 0.984 seconds

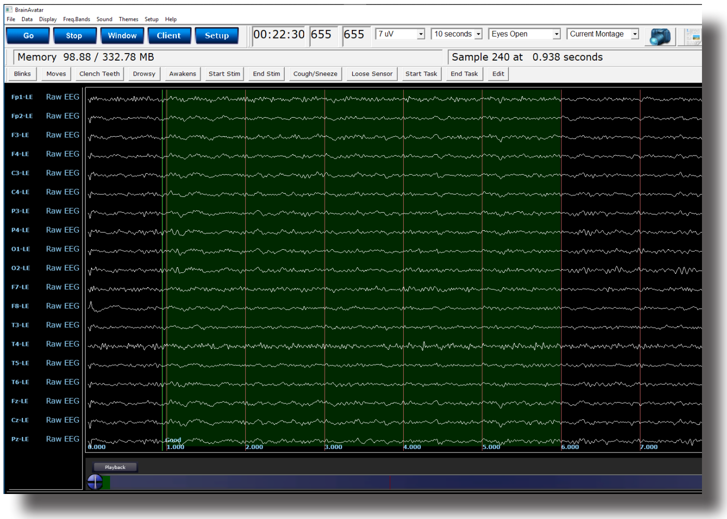
From sample number 252 To sample number 1532

Selected range is from 0.984 seconds to 5.984 seconds

Mark As: Good

Annotate With Text: Mrk 1

The EDF File will now have this Annotation placed on the EDF. You will be able to tell that this has been annotated, by seeing the EEG area will now be highlighted, as well as labeled at the bottom.


BrainAvatar
File Data Display Freq.Bands Sound Themes Setup Help
Go
Stop
Window
Client
Setup
Blinks
Moves
Clench Teeth
Drowsy
Awakens
Start Stim
End Stim
Cough/Sneeze
Loose Sensor
Start Task
End Task
Edit
Fp1-LE Raw EEG
Fp2-LE Raw EEG
F3-LE Raw EEG
F4-LE Raw EEG
C3-LE Raw EEG
C4-LE Raw EEG
P3-LE Raw EEG
P4-LE Raw EEG
O1-LE Raw EEG
O2-LE Raw EEG
F7-LE Raw EEG
F8-LE Raw EEG
T3-LE Raw EEG
T4-LE Raw EEG
T5-LE Raw EEG
T6-LE Raw EEG
Fz-LE Raw EEG
Cz-LE Raw EEG
Pz-LE Raw EEG
0.000
Good
1.000
2.000
3.000
4.000
5.000
6.000
7.000
Playback

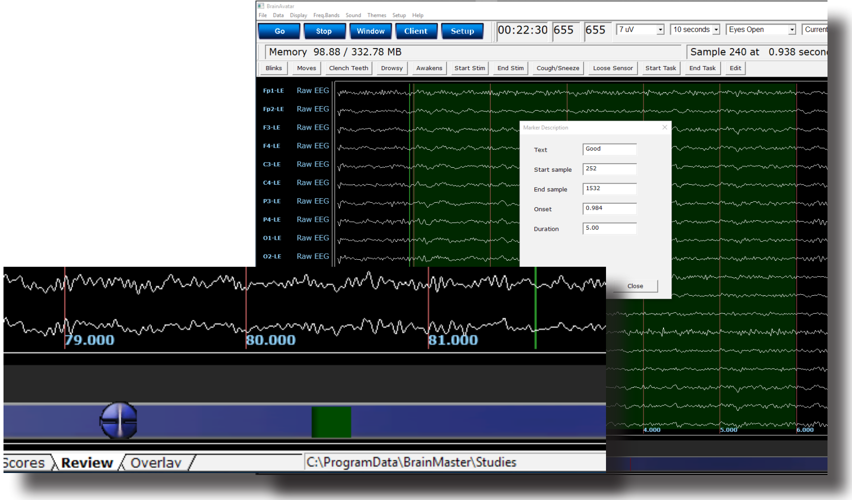
00:22:30 655 655 7 uV 10 seconds Eyes Open Current Montage

Memory 98.88 / 332.78 MB

Sample 240 at 0.938 seconds

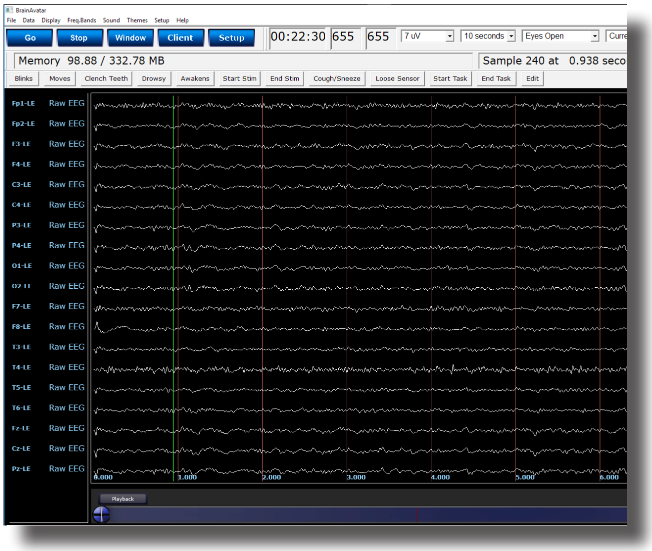
## Deleting an Annotation (Review Tab)

1. On the bar at the bottom of the Review screen, locate the Annotation section you would like to delete. Once it is found, right-click on this annotation to bring up the Marker Description Menu. To delete, click the Delete Marker Button to continue


BrainAvatar
File Data Display Freq.Bands Sound Themes Setup Help
Go
Stop
Window
Client
Setup
00:22:30
655
655
7 uV
10 seconds
Eyes Open
Current
Memory 98.88 / 332.78 MB
Sample 240 at 0.938 second
Blinks
Moves
Clench Teeth
Drowsy
Awakens
Start Stim
End Stim
Cough/Sneeze
Loose Sensor
Start Task
End Task
Edit
Fp1-LE Raw EEG
Fp2-LE Raw EEG
F3-LE Raw EEG
F4-LE Raw EEG
C3-LE Raw EEG
C4-LE Raw EEG
P3-LE Raw EEG
P4-LE Raw EEG
O1-LE Raw EEG
O2-LE Raw EEG
Marker Description
Close
79.000
80.000
81.000
4.000
5.000
6.000
Scores
Review
Overlay
C:\ProgramData\BrainMaster\Studies

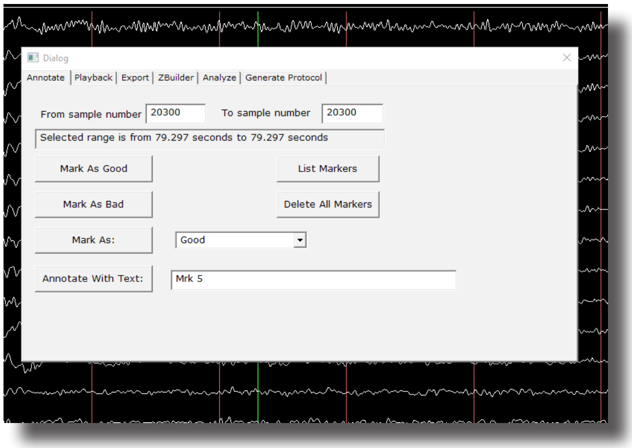
Text: Good
Start sample: 252
End sample: 1532
Onset: 0.984
Duration: 5.00

The EDF File will now have this Annotation removed from the EDF.


BrainAvatar
File Data Display Freq.Bands Sound Themes Setup Help
Go
Stop
Window
Client
Setup
00:22:30
655
655
7 uV
10 seconds
Eyes Open
Curre
Memory 98.88 / 332.78 MB
Sample 240 at 0.938 seco
Blinks
Moves
Clench Teeth
Drowsy
Awakens
Start Stim
End Stim
Cough/Sneeze
Loose Sensor
Start Task
End Task
Edit
Fp1-LE Raw EEG
Fp2-LE Raw EEG
F3-LE Raw EEG
F4-LE Raw EEG
C3-LE Raw EEG
C4-LE Raw EEG
P3-LE Raw EEG
P4-LE Raw EEG
O1-LE Raw EEG
O2-LE Raw EEG
F7-LE Raw EEG
F8-LE Raw EEG
T3-LE Raw EEG
T4-LE Raw EEG
T5-LE Raw EEG
T6-LE Raw EEG
Fz-LE Raw EEG
Cz-LE Raw EEG
Pz-LE Raw EEG
0.000
1.000
2.000
3.000
4.000
5.000
6.000
Playback

## Deleting an Annotation (Review Menu)

1. Open the Review Menu by either Double-clicking the anywhere in the EEG that you are reviewing or using the left mouse and selecting a selection of EEG. After doing this, the menu will open. Navigate to the Annotate Tab. If you would like to remove all Markers. Click the Delete all Markers Button. Or, if you would like to pick and choose, then click the List Markers Button


Dialog
Annotate | Playback | Export | ZBuilder | Analyze | Generate Protocol
Mark As Good
List Markers
Mark As Bad
Delete All Markers
Mark As:
Annotate With Text:

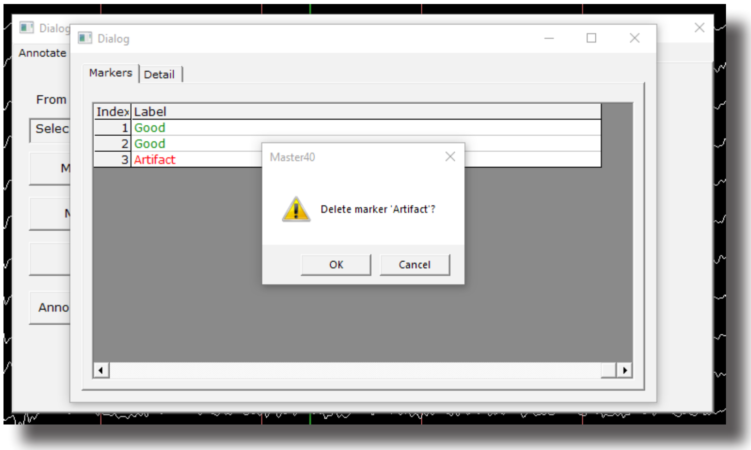
From sample number 20300 To sample number 20300

Selected range is from 79.297 seconds to 79.297 seconds

Mark As: Good

Annotate With Text: Mrk 5

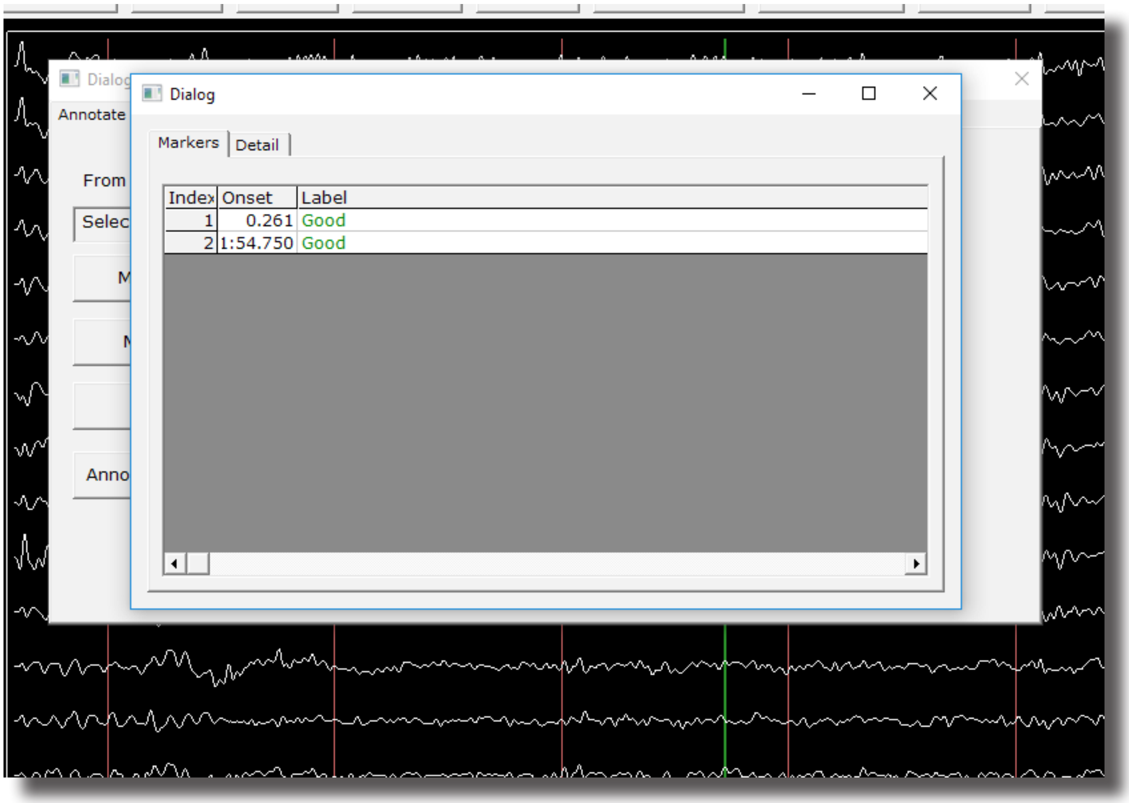
2. On the Marker Menu, move your mouse on the Marker you would like to delete and double-click with the Mouse. This will make a menu appear asking if you would like to delete the Marker. Click OK to continue


Dialog
Annotate
From
Selec
Anno
Dialog
Markers | Detail
Master40
OK
Cancel

| Index | Label |
|---|---|
| 1 | Good |
| 2 | Good |
| 3 | Artifact |

Delete marker 'Artifact'?

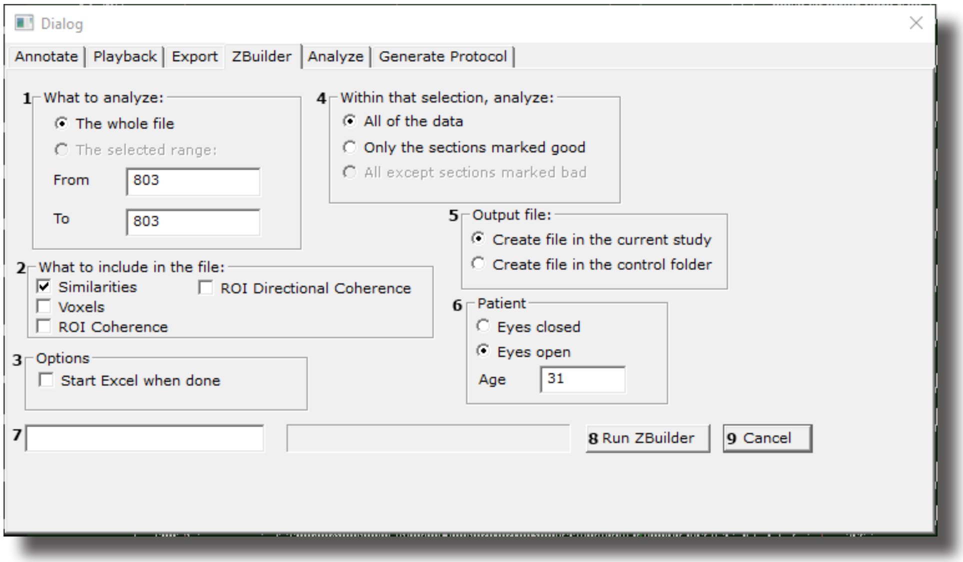
The EDF File will now have this Annotation/s removed from the EDF. You will be able to know that this is complete by viewing the List Markers Menu, and seeing the markers that were deleted are no longer listed.


Dialog
Annotate
From
Selec
M
M
Anno
Dialog
Markers
Detail

| Index | Onset | Label |
|---|---|---|
| 1 | 0.261 | Good |
| 2 | 1:54.750 | Good |

# ZBuilder

## ZBuilder Control Menu



1 What to analyze:
● The whole file
○ The selected range:
From 803
To 803

2 What to include in the file:
☑ Similarities
☐ Voxels
☐ ROI Coherence
☐ ROI Directional Coherence

3 Options
☐ Start Excel when done

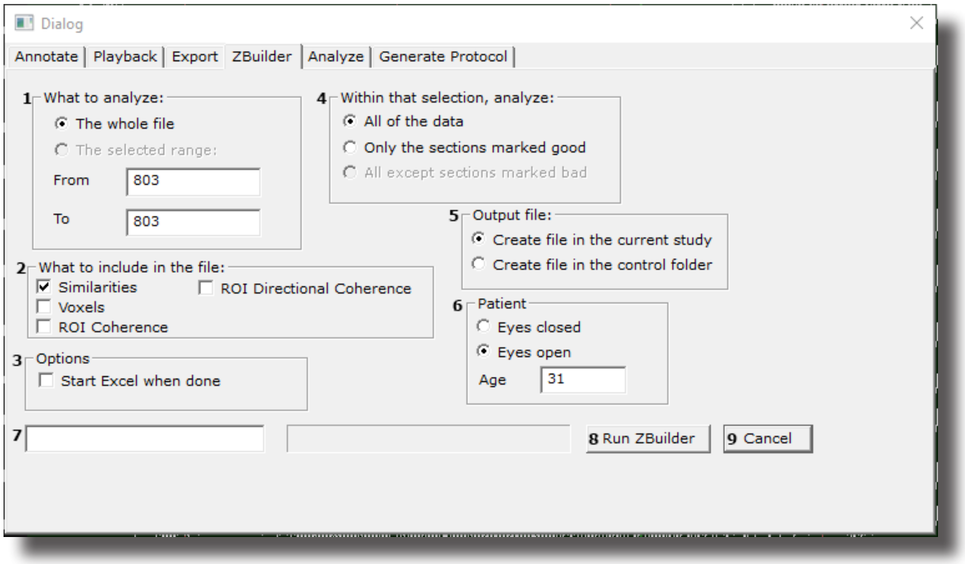
4 Within that selection, analyze:
● All of the data
○ Only the sections marked good
○ All except sections marked bad

5 Output file:
● Create file in the current study
○ Create file in the control folder

6 Patient
○ Eyes closed
● Eyes open
Age 31

7

1. **What To Playback Section –** Section where you can choose what information that you would like to process for the ZBuilder File
    a. **The Whole File –** Choose this to process the entire EDF, BDF, or DAT File
    b. **The Selected Range –** Choose this to process only the selection area chosen through the mouse
2. **What to include in the file: Section –** Section where you can choose what information will be included in the file
    a. **Similarities –** This will include all forms of cross-channel communication for the 19 channels
    b. **Voxels –** This will include the Power information for the 6,239 Voxels
    c. **ROI Coherence -** This will include all of possible ROI Connectivity Combinations
    d. **ROI Directional Coherence -** This will included all of the Possible ROI Directional Coherence Metrics
3. **Options Section –** Section where you can set different Options for the software to do after ZBuilder has been run
    a. **Start Excel when done Checkbox –** Check to have Excel to open the completed file after this has been processed.



1 What to analyze:
● The whole file
○ The selected range:
From 803
To 803

2 What to include in the file:
☑ Similarities
☐ Voxels
☐ ROI Coherence
☐ ROI Directional Coherence

3 Options
☐ Start Excel when done

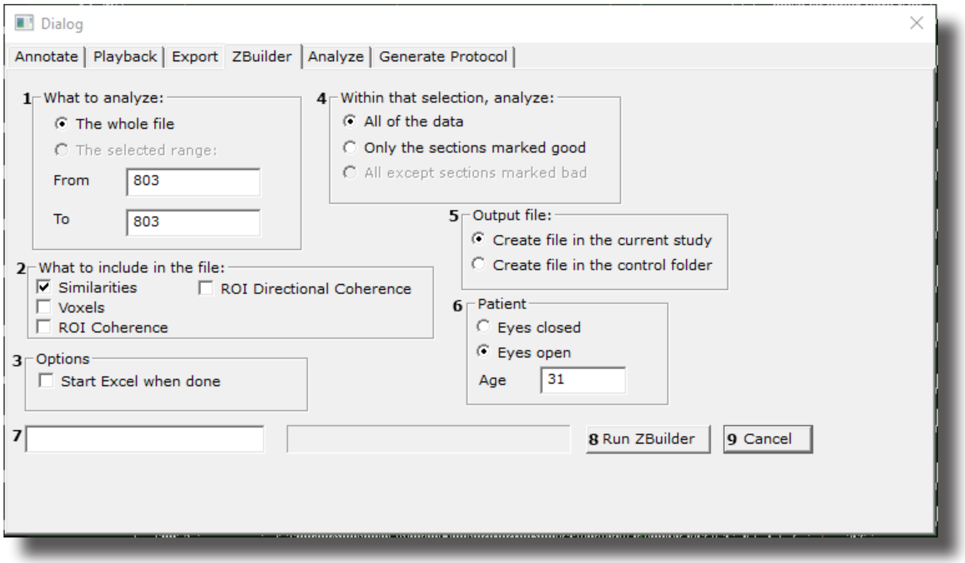
4 Within that selection, analyze:
● All of the data
○ Only the sections marked good
○ All except sections marked bad

5 Output file:
● Create file in the current study
○ Create file in the control folder

6 Patient
○ Eyes closed
● Eyes open
Age 31

7

4. **Within that selection, analyze: Section –** Section where you can set a more specific requirement of what you will playback
    a. **All of the Data –** Will pprocess all of the Data defined by the What To Analyze Section
    b. **Only the sections marked good –** Will process all of the sections that have been annotated good that are within the What To Analyze Section. This will be grayed out, if there are no sections marked good within the Analyze section
    c. **All except sections marked bad –** Will process all of the sections that have not been annotated as bad that are within the What To Analyze Section. This will be grayed out, if there are no sections marked bad within the Analyze section
5. **Output file: Section** – Section where you can set the Output file name/Destination.
    a. **Create file in the current study –** Creates a file named ZBuilderEO or ZBuilder EC in the current Study Folder that you opened the EDF, BDF, or DAT file for Review in.
    b. **Default file name in the control folder -** Creates a file named ZBuilderEO or ZBuilderEC in the directory c:\ProgramData\BrainMaster\Control.


Dialog
Annotate | Playback | Export | ZBuilder | Analyze | Generate Protocol
8 Run ZBuilder
9 Cancel

1 What to analyze:
● The whole file
○ The selected range:
From 803
To 803

2 What to include in the file:
☑ Similarities
☐ ROI Directional Coherence
☐ Voxels
☐ ROI Coherence

3 Options
☐ Start Excel when done

4 Within that selection, analyze:
● All of the data
○ Only the sections marked good
○ All except sections marked bad

5 Output file:
● Create file in the current study
○ Create file in the control folder

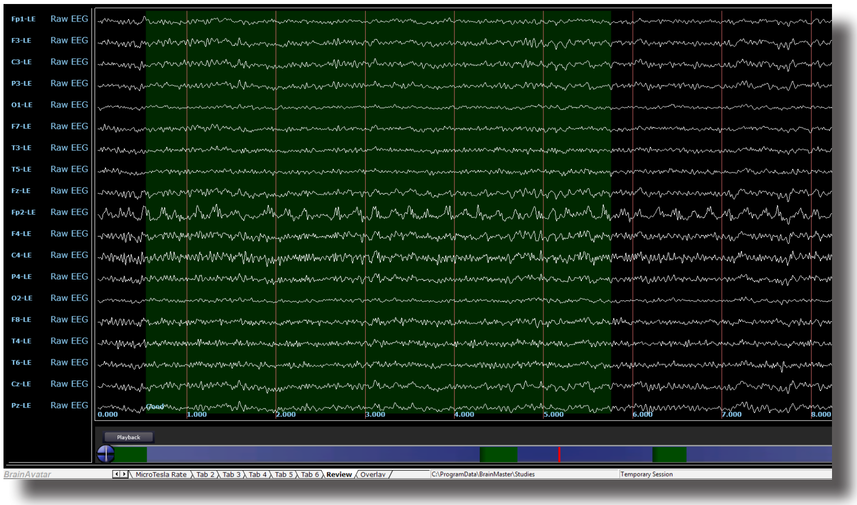
6 Patient
○ Eyes closed
● Eyes open
Age 31

7

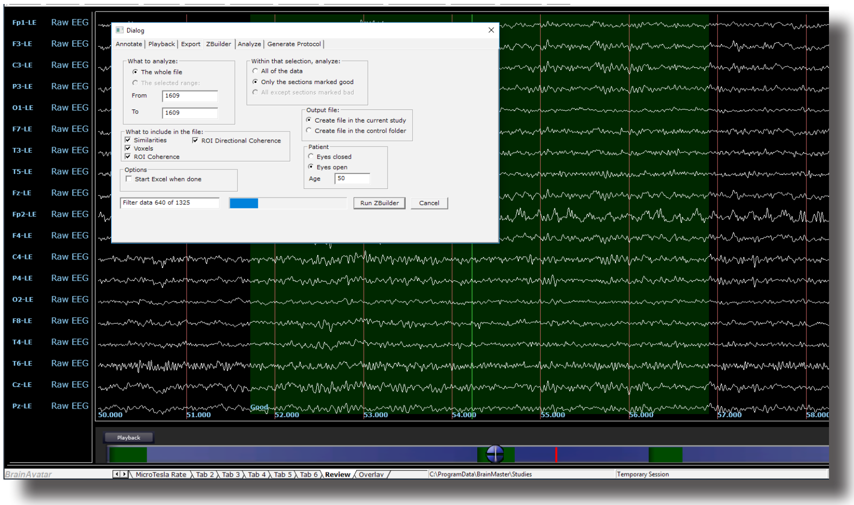
6. **Patient Section–** Section where you can set Patient information if it is different than what was contained in the file, or was not in the file.
    a. **Recording Condition –** Set the Recording condition to Eyes Open (EO) or Eyes Closed (EC) that the Z-Builder file will contain
    b. **Age –** Set the Age that the Z-Builder file will contain.
7. **Display Section -** Displays the status of the Z-Builder production when the Z-Builder is producing a file.
8. **Run ZBuilder Button –** Click to create A ZBuilder File based on the information selected.
9. **Cancel Button –** Click to cancel the ZBuilder File.

## Creating a Z-Builder File

1. Open the File that you would like to work with.Under the Review Tab, you will annotate based off of the instructions from the EDF Annotation Section.


Fp1-LE Raw EEG
F3-LE Raw EEG
C3-LE Raw EEG
P3-LE Raw EEG
O1-LE Raw EEG
F7-LE Raw EEG
T3-LE Raw EEG
T5-LE Raw EEG
Fz-LE Raw EEG
Fp2-LE Raw EEG
F4-LE Raw EEG
C4-LE Raw EEG
P4-LE Raw EEG
O2-LE Raw EEG
F8-LE Raw EEG
T4-LE Raw EEG
T6-LE Raw EEG
Cz-LE Raw EEG
Pz-LE Raw EEG
Good
0.000
1.000
2.000
3.000
4.000
5.000
6.000
7.000
8.000
Playback
BrainAvatar
MicroTesla Rate
Tab 2
Tab 3
Tab 4
Tab 5
Tab 6
Review
Overlay
C:\ProgramData\BrainMaster\Studies
Temporary Session

2. When completed, either Double-Click in the EEG, or Hold down the Left-Click on the mouse, and select a section of data. This will bring up the Panel Options Menu. Navigate to the ZBuilder Tab, and use this menu to set the ZBuilder Settings as needed. When completed, click the Run Z-Builder Button.


Dialog

What to analyze:
● The whole file
○ The selected range:
From 1609
To 1609

Within that selection, analyze:
○ All of the data
● Only the sections marked good
○ All except sections marked bad

Output file:
● Create file in the current study
○ Create file in the control folder

What to include in the file:
☑ Similarities
☑ Voxels
☑ ROI Coherence
☑ ROI Directional Coherence

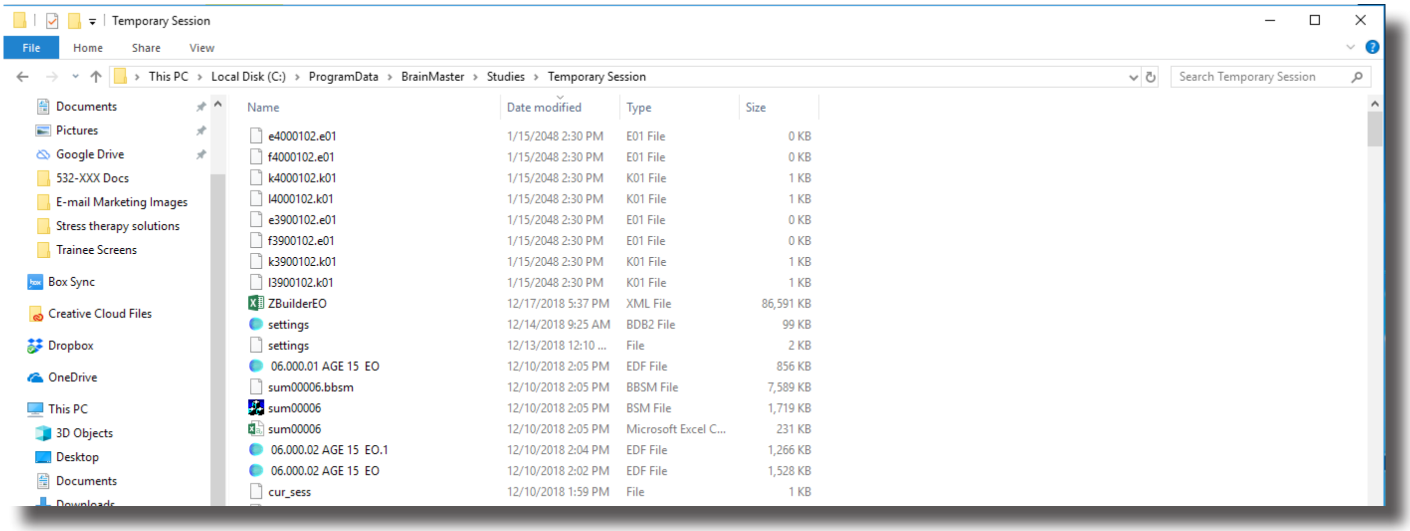
Patient
○ Eyes closed
● Eyes open
Age 50

Options
☐ Start Excel when done

Filter data 640 of 1325

Annotate
Playback
Export
ZBuilder
Analyze
Generate Protocol
Run ZBuilder
Cancel
Fp1-LE Raw EEG
F3-LE Raw EEG
C3-LE Raw EEG
P3-LE Raw EEG
O1-LE Raw EEG
F7-LE Raw EEG
T3-LE Raw EEG
T5-LE Raw EEG
Fz-LE Raw EEG
Fp2-LE Raw EEG
F4-LE Raw EEG
C4-LE Raw EEG
P4-LE Raw EEG
O2-LE Raw EEG
F8-LE Raw EEG
T4-LE Raw EEG
T6-LE Raw EEG
Cz-LE Raw EEG
Pz-LE Raw EEG
Good
50.000
51.000
52.000
53.000
54.000
55.000
56.000
57.000
58.000
Playback
BrainAvatar
MicroTesla Rate
Tab 2
Tab 3
Tab 4
Tab 5
Tab 6
Review
Overlay
C:\ProgramData\BrainMaster\Studies
Temporary Session

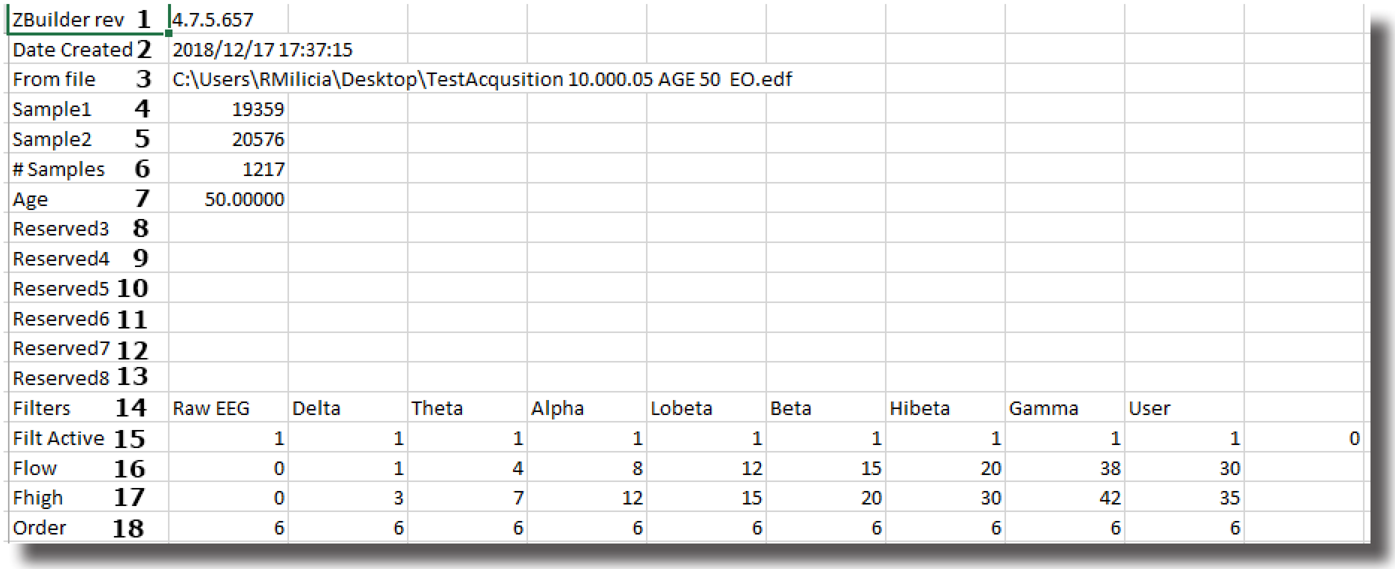
You have now created a ZBuilder File. You will be able to tell this has been created, by using Windows Explorer to locate the file in the directory that you saved this in(if not specified, then it will be saved in the study folder that the EDF File is opened in).


Temporary Session
File
Home
Share
View
This PC › Local Disk (C:) › ProgramData › BrainMaster › Studies › Temporary Session
Search Temporary Session
Documents
Pictures
Google Drive
532-XXX Docs
E-mail Marketing Images
Stress therapy solutions
Trainee Screens
Box Sync
Creative Cloud Files
Dropbox
OneDrive
This PC
3D Objects
Desktop
Documents
Downloads

| Name | Date modified | Type | Size |
|---|---|---|---|
| e4000102.e01 | 1/15/2048 2:30 PM | E01 File | 0 KB |
| f4000102.e01 | 1/15/2048 2:30 PM | E01 File | 0 KB |
| k4000102.k01 | 1/15/2048 2:30 PM | K01 File | 1 KB |
| l4000102.k01 | 1/15/2048 2:30 PM | K01 File | 1 KB |
| e3900102.e01 | 1/15/2048 2:30 PM | E01 File | 0 KB |
| f3900102.e01 | 1/15/2048 2:30 PM | E01 File | 0 KB |
| k3900102.k01 | 1/15/2048 2:30 PM | K01 File | 1 KB |
| l3900102.k01 | 1/15/2048 2:30 PM | K01 File | 1 KB |
| ZBuilderEO | 12/17/2018 5:37 PM | XML File | 86,591 KB |
| settings | 12/14/2018 9:25 AM | BDB2 File | 99 KB |
| settings | 12/13/2018 12:10 ... | File | 2 KB |
| 06.000.01 AGE 15 EO | 12/10/2018 2:05 PM | EDF File | 856 KB |
| sum00006.bbsm | 12/10/2018 2:05 PM | BBSM File | 7,589 KB |
| sum00006 | 12/10/2018 2:05 PM | BSM File | 1,719 KB |
| sum00006 | 12/10/2018 2:05 PM | Microsoft Excel C... | 231 KB |
| 06.000.02 AGE 15 EO.1 | 12/10/2018 2:04 PM | EDF File | 1,266 KB |
| 06.000.02 AGE 15 EO | 12/10/2018 2:02 PM | EDF File | 1,528 KB |
| cur_sess | 12/10/2018 1:59 PM | File | 1 KB |

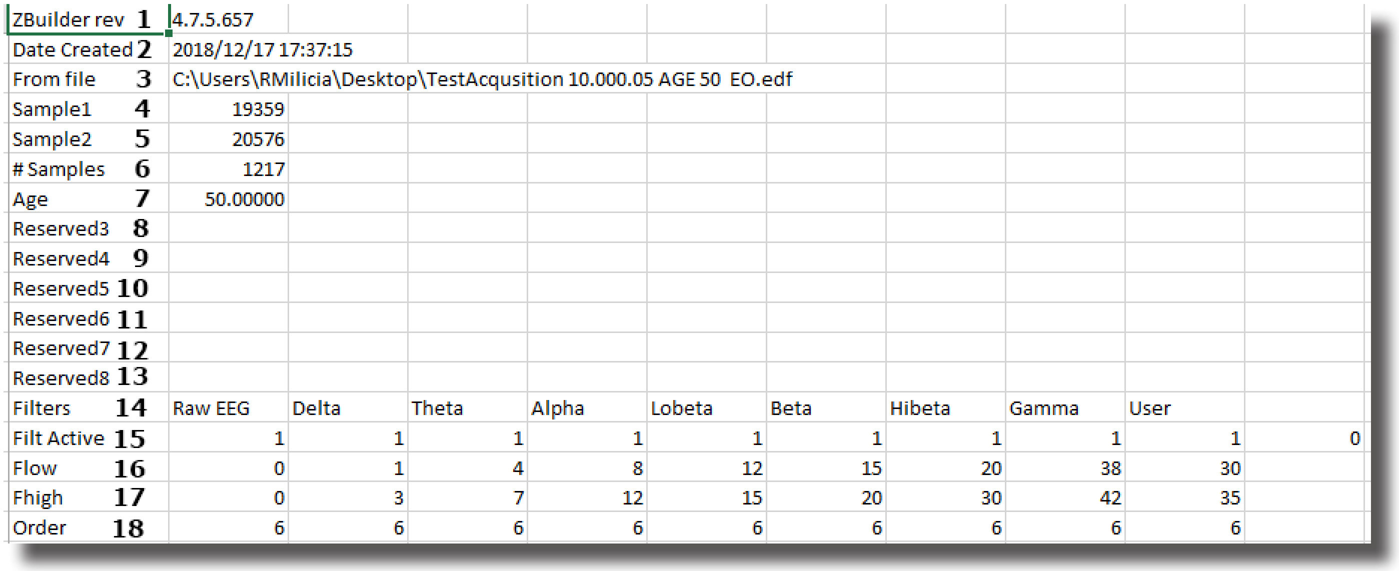
## Sample ZBuilder File & Layout

### Description Section



| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ZBuilder rev **1** | 4.7.5.657 | | | | | | | | | |
| Date Created **2** | 2018/12/17 17:37:15 | | | | | | | | | |
| From file **3** | C:\Users\RMilicia\Desktop\TestAcqusition 10.000.05 AGE 50  EO.edf | | | | | | | | | |
| Sample1 **4** | 19359 | | | | | | | | | |
| Sample2 **5** | 20576 | | | | | | | | | |
| # Samples **6** | 1217 | | | | | | | | | |
| Age **7** | 50.00000 | | | | | | | | | |
| Reserved3 **8** | | | | | | | | | | |
| Reserved4 **9** | | | | | | | | | | |
| Reserved5 **10** | | | | | | | | | | |
| Reserved6 **11** | | | | | | | | | | |
| Reserved7 **12** | | | | | | | | | | |
| Reserved8 **13** | | | | | | | | | | |
| Filters **14** | Raw EEG | Delta | Theta | Alpha | Lobeta | Beta | Hibeta | Gamma | User | |
| Filt Active **15** | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| Flow **16** | 0 | 1 | 4 | 8 | 12 | 15 | 20 | 38 | 30 | |
| Fhigh **17** | 0 | 3 | 7 | 12 | 15 | 20 | 30 | 42 | 35 | |
| Order **18** | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | |

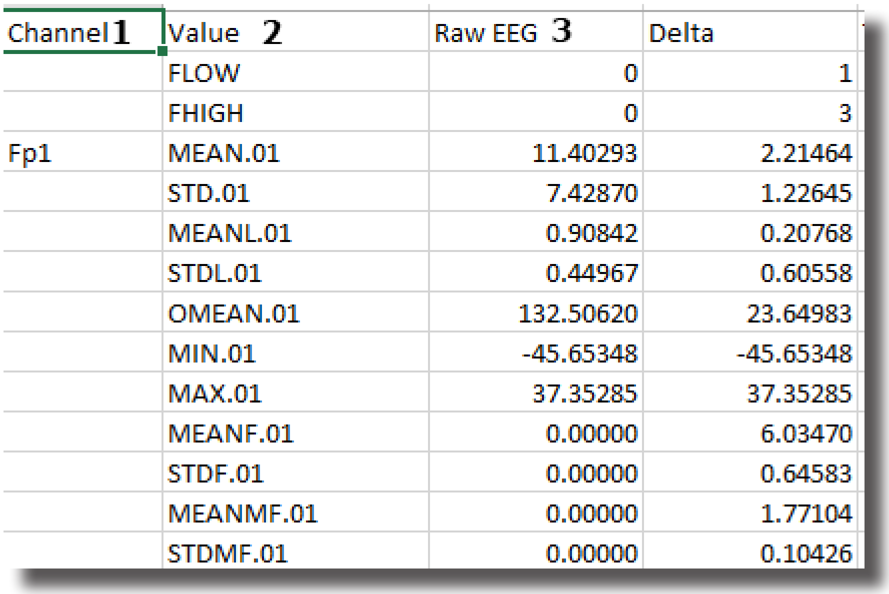
1. **ZBuilder Revision –** Informs you of which version of the BrainAvatar Software was used to create the ZBuilder File.
2. **Date Created -** Lists the Date Created of the ZBuilder File
3. **From File -** Informs you of What EEG File was used to create the ZBuilder File
4. **Sample1 -** Informs you the Starting Sample Number of the last scanned section of the EDF
5. **Sample2 -** Informs you the Ending Sample Number of the last scanned section of the EDF
6. **# Samples -** Informs you the total number of samples of the last scanned Section of the EDF
7. **Age -** Informs you the Age that was utilized for the ZBuilder File
8. **Reserved3 -** Reserved for future use
9. **Reserved4 -** Reserved for future use
10. **Reserved5 -** Reserved for future use
11. **Reserved6 -** Reserved for future use
12. **Reserved7 -** Reserved for future use
13. **Reserved8 -** Reserved for future use
14. **Filters -** Lists the Names of the filtered bands that were included in the ZBuilder File
15. **Filt Active -** Lists whether a Filtered wave form is active or not.  1 means that it is Active and 0 means that it is not active



| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ZBuilder rev | 1 | 4.7.5.657 | | | | | | | | | |
| Date Created | 2 | 2018/12/17 17:37:15 | | | | | | | | | |
| From file | 3 | C:\Users\RMilicia\Desktop\TestAcqusition 10.000.05 AGE 50  EO.edf | | | | | | | | | |
| Sample1 | 4 | 19359 | | | | | | | | | |
| Sample2 | 5 | 20576 | | | | | | | | | |
| # Samples | 6 | 1217 | | | | | | | | | |
| Age | 7 | 50.00000 | | | | | | | | | |
| Reserved3 | 8 | | | | | | | | | | |
| Reserved4 | 9 | | | | | | | | | | |
| Reserved5 | 10 | | | | | | | | | | |
| Reserved6 | 11 | | | | | | | | | | |
| Reserved7 | 12 | | | | | | | | | | |
| Reserved8 | 13 | | | | | | | | | | |
| Filters | 14 | Raw EEG | Delta | Theta | Alpha | Lobeta | Beta | Hibeta | Gamma | User | |
| Filt Active | 15 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| Flow | 16 | 0 | 1 | 4 | 8 | 12 | 15 | 20 | 38 | 30 | |
| Fhigh | 17 | 0 | 3 | 7 | 12 | 15 | 20 | 30 | 42 | 35 | |
| Order | 18 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | |

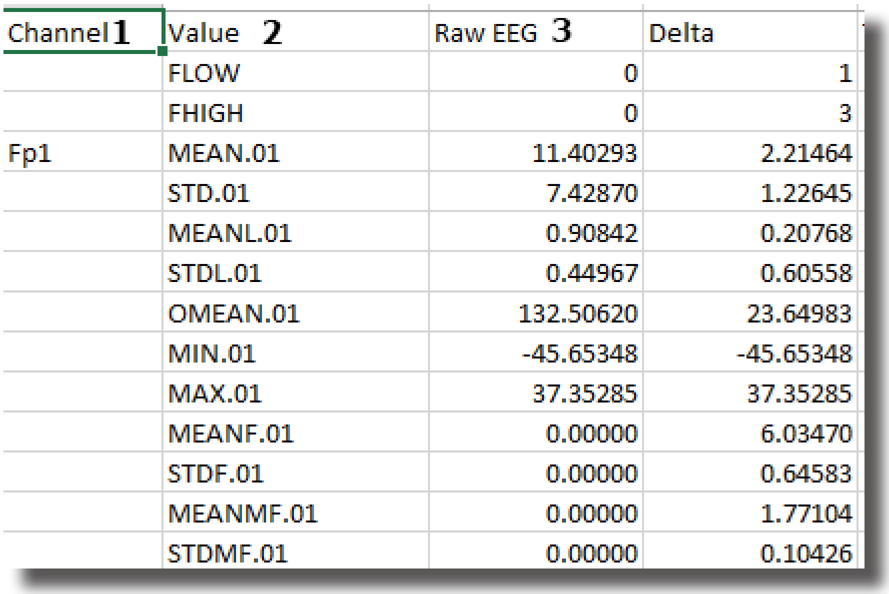
16. **Flow -** Defines the Low Frequency for the Filtered Waveform
17. **FHigh -** Defines the High Frequency for the Filtered Waveform
18. **Order -** Defines What Filter Order was used for the Filtered Waveform

**Scalars Section**



| Channel 1 | Value 2 | Raw EEG 3 | Delta |
|---|---|---|---|
| | FLOW | 0 | 1 |
| | FHIGH | 0 | 3 |
| Fp1 | MEAN.01 | 11.40293 | 2.21464 |
| | STD.01 | 7.42870 | 1.22645 |
| | MEANL.01 | 0.90842 | 0.20768 |
| | STDL.01 | 0.44967 | 0.60558 |
| | OMEAN.01 | 132.50620 | 23.64983 |
| | MIN.01 | -45.65348 | -45.65348 |
| | MAX.01 | 37.35285 | 37.35285 |
| | MEANF.01 | 0.00000 | 6.03470 |
| | STDF.01 | 0.00000 | 0.64583 |
| | MEANMF.01 | 0.00000 | 1.77104 |
| | STDMF.01 | 0.00000 | 0.10426 |

1. **Channel Section** – This section will display the labeling for all of the Channels that have been collected from using the ZBuilder system.
2. **Value Section** – This section will display the label for the information that has been collected in the Frequency Band Section
   a. **FLOW** – Also known as Frequency Low. This is the lowest range of the frequency band
   b. **FHIGH** – Also known as Frequency High. This is the highest range of the frequency band.
   c. **MEAN.X** – This is the average of Amplitude for the particular band, where “X” is that particular Channel number.
   d. **STD.X** – This is the Standard deviation of the Amplitude for the particular band, where “X” is that particular Channel number.
   e. **MEAN_L.X** – This is the Log of the average of amplitude for the particular band, where “X” is that particular Channel number.
   f. **STD_L.X** – This is the Log of the Standard Deviation of the amplitude for the particular band, where “X” is that particular Channel number.
   g. **MIN.X** – This is the minimum value seen for the particular band, where “X” is that particular Channel number.

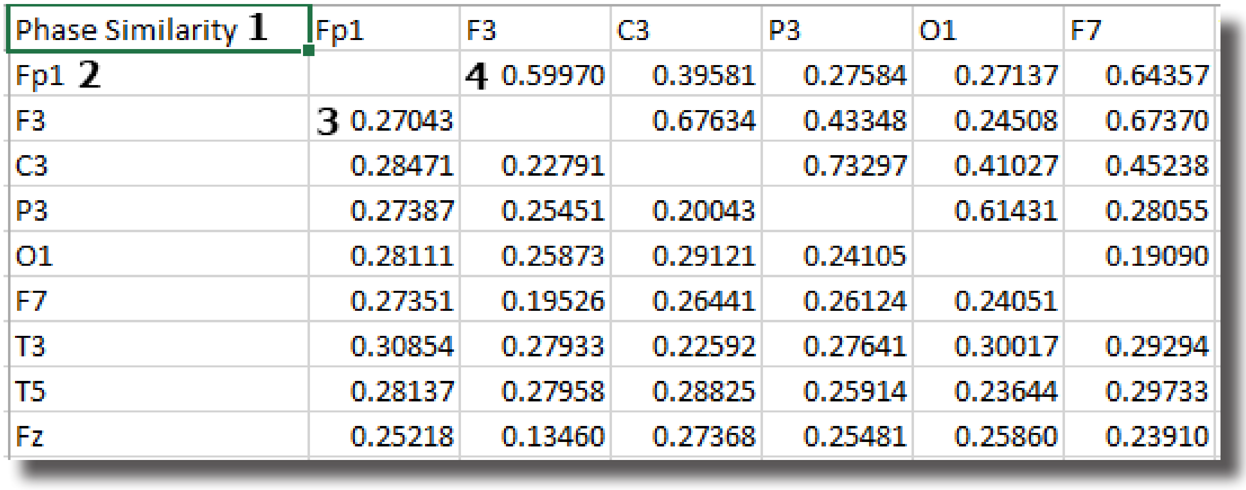


| Channel | Value | Raw EEG | Delta |
|---|---|---|---|
| | FLOW | 0 | 1 |
| | FHIGH | 0 | 3 |
| Fp1 | MEAN.01 | 11.40293 | 2.21464 |
| | STD.01 | 7.42870 | 1.22645 |
| | MEANL.01 | 0.90842 | 0.20768 |
| | STDL.01 | 0.44967 | 0.60558 |
| | OMEAN.01 | 132.50620 | 23.64983 |
| | MIN.01 | -45.65348 | -45.65348 |
| | MAX.01 | 37.35285 | 37.35285 |
| | MEANF.01 | 0.00000 | 6.03470 |
| | STDF.01 | 0.00000 | 0.64583 |
| | MEANMF.01 | 0.00000 | 1.77104 |
| | STDMF.01 | 0.00000 | 0.10426 |

h. **MAX.X** – This is the maximum value seen for the particular band, where “X” is that particular **Channel number.**
i. **MEANF.X** – This is the percent of power for the particular band over the entire frequency range, where “X” is that particular Channel number.
j. **STDF.X** – This is the Standard Deviation of the percent of energy for that particular band, where “X” is that particular Channel number.

3. **Frequency Section** – This section will show all bands (as defined by the Which Filters to use Section), and their collected information.

### Similarities Section

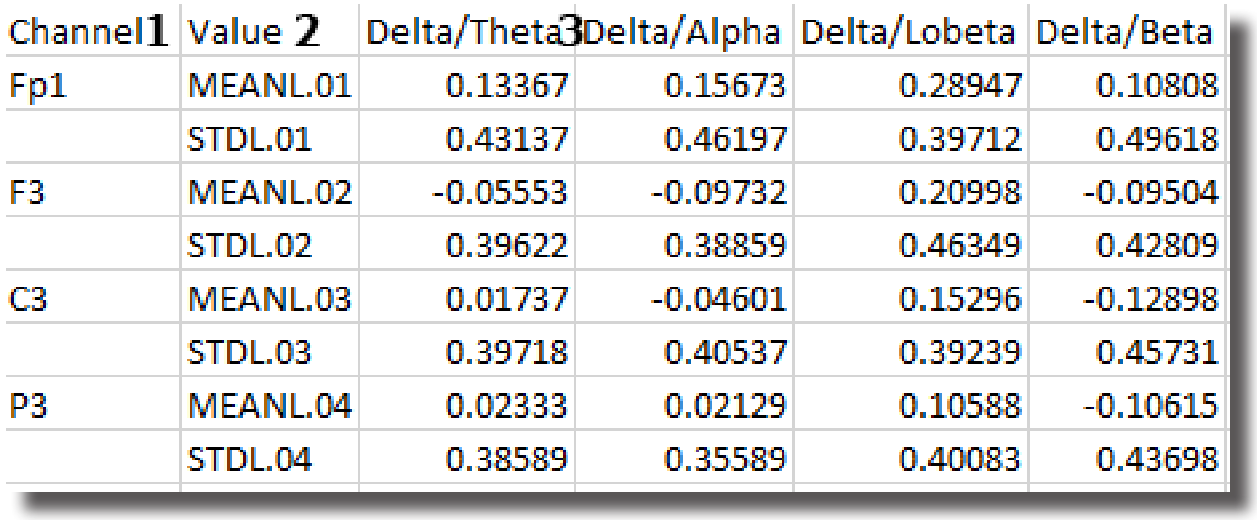


| Phase Similarity 1 | Fp1 | F3 | C3 | P3 | O1 | F7 |
|---|---|---|---|---|---|---|
| Fp1 2 | | 4 0.59970 | 0.39581 | 0.27584 | 0.27137 | 0.64357 |
| F3 | 3 0.27043 | | 0.67634 | 0.43348 | 0.24508 | 0.67370 |
| C3 | 0.28471 | 0.22791 | | 0.73297 | 0.41027 | 0.45238 |
| P3 | 0.27387 | 0.25451 | 0.20043 | | 0.61431 | 0.28055 |
| O1 | 0.28111 | 0.25873 | 0.29121 | 0.24105 | | 0.19090 |
| F7 | 0.27351 | 0.19526 | 0.26441 | 0.26124 | 0.24051 | |
| T3 | 0.30854 | 0.27933 | 0.22592 | 0.27641 | 0.30017 | 0.29294 |
| T5 | 0.28137 | 0.27958 | 0.28825 | 0.25914 | 0.23644 | 0.29733 |
| Fz | 0.25218 | 0.13460 | 0.27368 | 0.25481 | 0.25860 | 0.23910 |

**PLEASE NOTE:** There will be a Tab for each Waveform. In order to see this information, you will have to see them individually.

1. **Similarity Type** – Displays the type of Similarty being viewed. There are seven (7) different types looked at.
   a. **Phase Similarity**
   b. **Training Coherence**
   c. **Correlation**
   d. **Phase Classic**
   e. **Pure Coherence**
   f. **Comodulation**
   g. **Asymmetry**
2. **Site Locations** – Shows the different locations that were used in the ZBuilder.
3. **Mean Information** – The Bottom-Half of the readings gives you the Log of the Average amplitude for the particular site combination.
4. **Standard Deviation Information** – The Top-Half of the readings gives you the Log of the standard deviation of amplitude for the particular site combination.

## Band Ratios Section

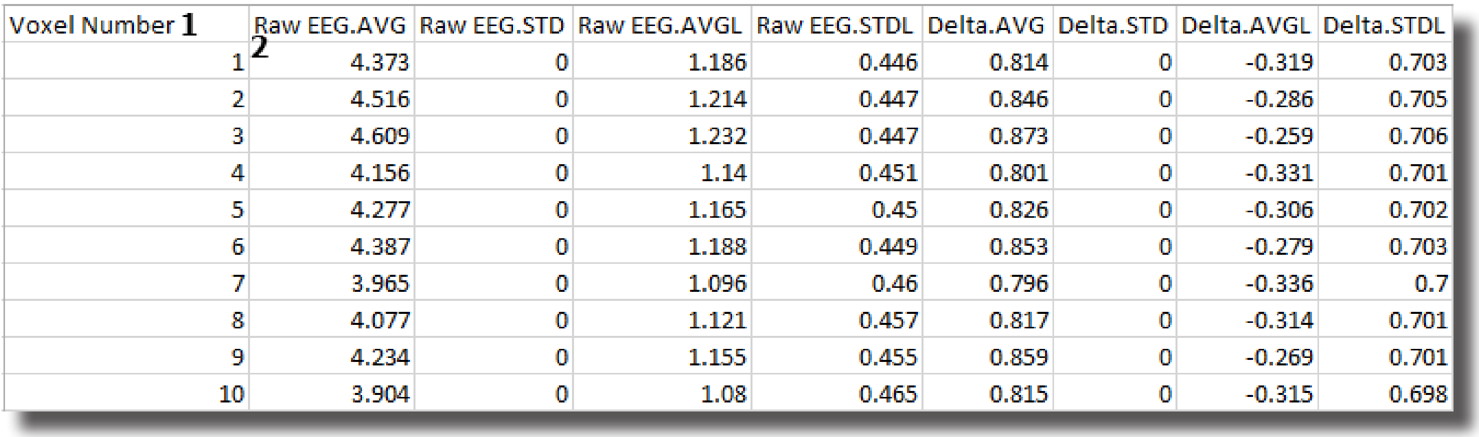


| Channel | Value | Delta/Theta | Delta/Alpha | Delta/Lobeta | Delta/Beta |
|---|---|---|---|---|---|
| Fp1 | MEANL.01 | 0.13367 | 0.15673 | 0.28947 | 0.10808 |
| | STDL.01 | 0.43137 | 0.46197 | 0.39712 | 0.49618 |
| F3 | MEANL.02 | -0.05553 | -0.09732 | 0.20998 | -0.09504 |
| | STDL.02 | 0.39622 | 0.38859 | 0.46349 | 0.42809 |
| C3 | MEANL.03 | 0.01737 | -0.04601 | 0.15296 | -0.12898 |
| | STDL.03 | 0.39718 | 0.40537 | 0.39239 | 0.45731 |
| P3 | MEANL.04 | 0.02333 | 0.02129 | 0.10588 | -0.10615 |
| | STDL.04 | 0.38589 | 0.35589 | 0.40083 | 0.43698 |

1. **Channel Section** – This section will display the labeling for all of the Channels that have been collected from using the ZBuilder system.
2. **Value Section** – This section will display the label for the information that has been collected in the Frequency Band Section
    a. **MEANL.X** – This is the Log of the average of Amplitude for the band ratio, where “X” is that particular Channel number.
    b. **STDL.X** – This is the Log of the Standard deviation of the Amplitude for the band ratio, where “X” is that particular Channel number.

**Ratio Section** – This section will show all band ratios (as defined by the Which Filters to use Section), and their collected information

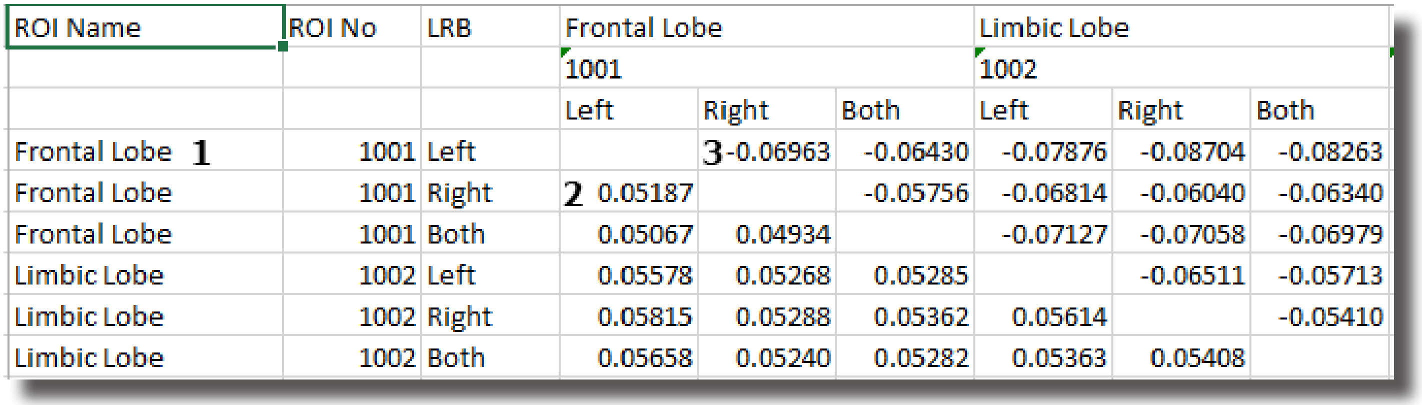
## Voxels Section



| Voxel Number | Raw EEG.AVG | Raw EEG.STD | Raw EEG.AVGL | Raw EEG.STDL | Delta.AVG | Delta.STD | Delta.AVGL | Delta.STDL |
|---|---|---|---|---|---|---|---|---|
| 1 | 4.373 | 0 | 1.186 | 0.446 | 0.814 | 0 | -0.319 | 0.703 |
| 2 | 4.516 | 0 | 1.214 | 0.447 | 0.846 | 0 | -0.286 | 0.705 |
| 3 | 4.609 | 0 | 1.232 | 0.447 | 0.873 | 0 | -0.259 | 0.706 |
| 4 | 4.156 | 0 | 1.14 | 0.451 | 0.801 | 0 | -0.331 | 0.701 |
| 5 | 4.277 | 0 | 1.165 | 0.45 | 0.826 | 0 | -0.306 | 0.702 |
| 6 | 4.387 | 0 | 1.188 | 0.449 | 0.853 | 0 | -0.279 | 0.703 |
| 7 | 3.965 | 0 | 1.096 | 0.46 | 0.796 | 0 | -0.336 | 0.7 |
| 8 | 4.077 | 0 | 1.121 | 0.457 | 0.817 | 0 | -0.314 | 0.701 |
| 9 | 4.234 | 0 | 1.155 | 0.455 | 0.859 | 0 | -0.269 | 0.701 |
| 10 | 3.904 | 0 | 1.08 | 0.465 | 0.815 | 0 | -0.315 | 0.698 |

1. **Voxel Number** – This section contains the labeling for all of the Voxels
2. **Frequency Section** – This section will show all bands (as defined by the Which Filters to use Section), and their collected information.
    a. **BAND.AVG** – This is the average of amplitude for the particular band, where “BAND” is the band as defined by the Description section.
    b. **BAND.STD** – This the standard deviation of the amplitude for the particular band, where “BAND” is the band as defined by the Description section.
    c. **BAND.AVGL** - This is the Log of the average of the amplitude for the particular band, where “BAND” is the band as defined by the Description Section.
    d. **BAND.STDL** - This the Log of the standard deviation of the amplitude for the particular band, where “BAND” is the band as defined by the Description section.

**ROI Coherence Section**



| ROI Name | ROI No | LRB | Frontal Lobe | | | Limbic Lobe | | |
|---|---|---|---|---|---|---|---|---|
| | | | 1001 | | | 1002 | | |
| | | | Left | Right | Both | Left | Right | Both |
| Frontal Lobe 1 | 1001 | Left | | 3 -0.06963 | -0.06430 | -0.07876 | -0.08704 | -0.08263 |
| Frontal Lobe | 1001 | Right | 2 0.05187 | | -0.05756 | -0.06814 | -0.06040 | -0.06340 |
| Frontal Lobe | 1001 | Both | 0.05067 | 0.04934 | | -0.07127 | -0.07058 | -0.06979 |
| Limbic Lobe | 1002 | Left | 0.05578 | 0.05268 | 0.05285 | | -0.06511 | -0.05713 |
| Limbic Lobe | 1002 | Right | 0.05815 | 0.05288 | 0.05362 | 0.05614 | | -0.05410 |
| Limbic Lobe | 1002 | Both | 0.05658 | 0.05240 | 0.05282 | 0.05363 | 0.05408 | |

**PLEASE NOTE:** There will be a Tab for each Waveform. In order to see this information, you will have to see them individually.

1. **Defined ROI Section** – Displays the ROI as well as what section of the ROI:
    a. **Left ROI**
    b. **Right ROI**
    c. **Both**
2. **Mean Information** – The Bottom-Half of the readings gives you the Log of the Average amplitude for the particular site combination.
3. **Standard Deviation Information** – The Top-Half of the readings gives you the Log of the standard deviation of amplitude for the particular site combination.

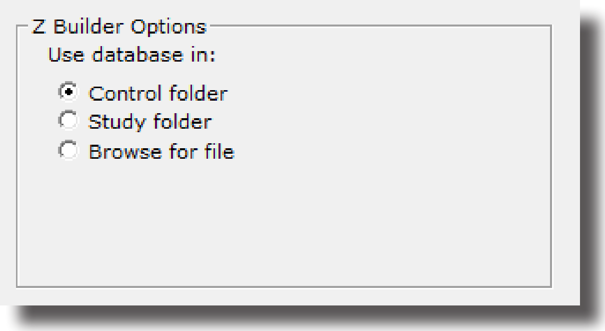
## Training to a ZBuilder File

1. First, you will need to make sure that you have your ZBuilder enabled. You will need to do this in the Setup Menu, by first clicking on the Settings Tab, then clicking on the Z-Scores Tab. Here, you will need to make sure that you are utilizing ZBuilder fo rthe ZScore Type, as well as the Z-Score Options, channels, bands, and values that you would like to train. Based off of the location of the ZBuilder File, in the ZBuilder Options, you will choose:

   A. **Control Folder –** Click if you have your ZBuilder File saved in the Control Directory

   B. **Study Folder -** Click if you have your ZBuilder File saved in the Study Folder that is being utilized

   C. **Browse for file -** Click if you would like to use Windows Explorer to locate the ZBuilder File on your PC



Z Builder Options

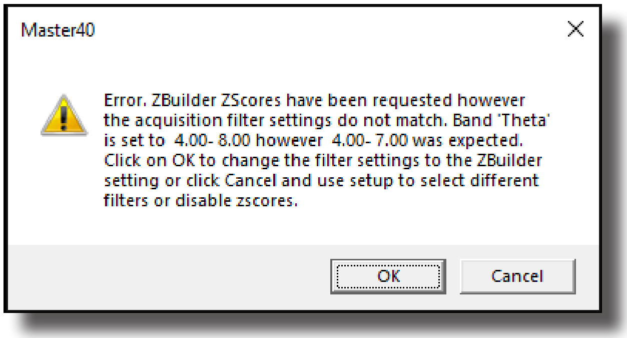
Use database in:

● Control folder

○ Study folder

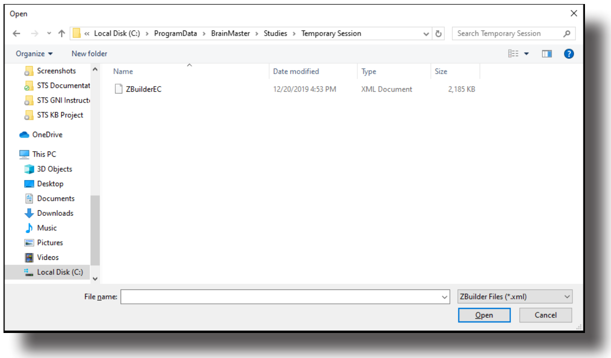
○ Browse for file

2. Depending on the settings, you might see a message stating that the Bands will need to be adjusted to match the Z-Scores that were recorded. The system will adjust itself automatically to the update the filter settings by clicking OK. Or, you click Cancel to change yourself or cancel using Z-Scores Also, you might have to utilize Windows Explorer in order to find the Database File as well, based off of your ZBuilder Options choice.



Master40
OK
Cancel

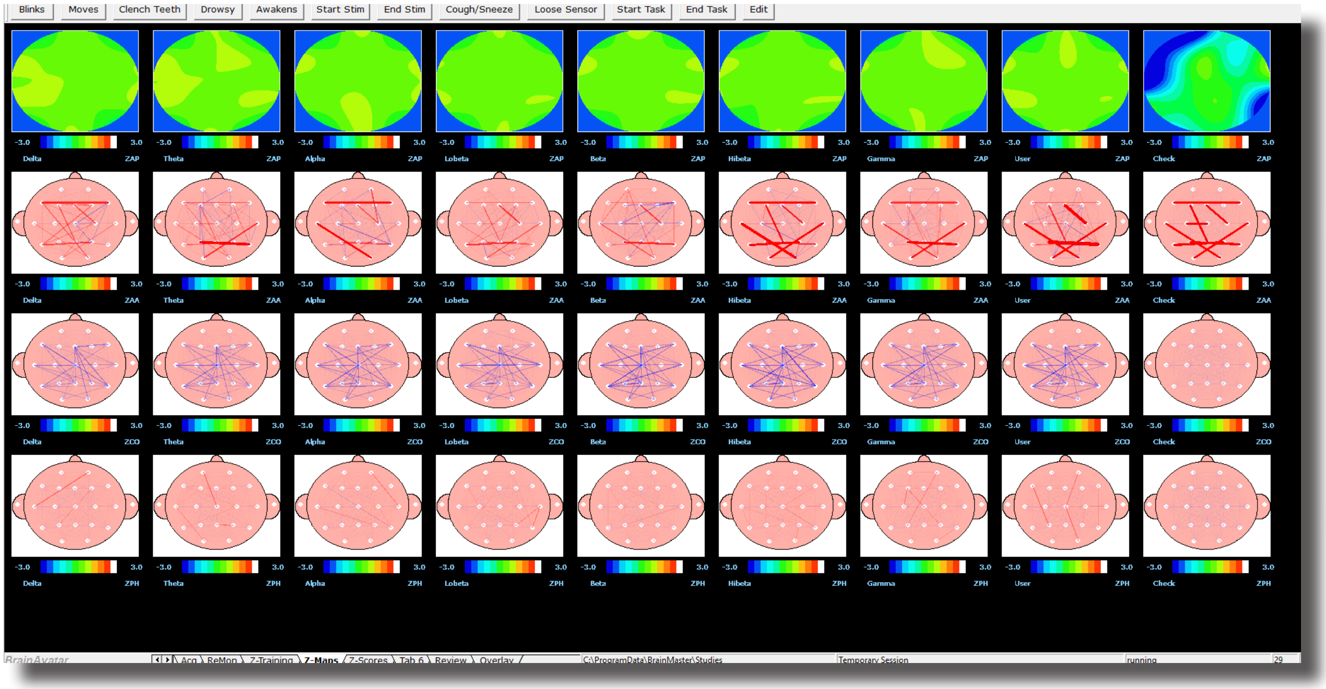
Error. ZBuilder ZScores have been requested however the acquisition filter settings do not match. Band 'Theta' is set to 4.00- 8.00 however 4.00- 7.00 was expected. Click on OK to change the filter settings to the ZBuilder setting or click Cancel and use setup to select different filters or disable zscores.



Open
« Local Disk (C:) › ProgramData › BrainMaster › Studies › Temporary Session
Search Temporary Session
Organize
New folder
Screenshots
STS Documentat
STS GNI Instructi
STS KB Project
OneDrive
This PC
3D Objects
Desktop
Documents
Downloads
Music
Pictures
Videos
Local Disk (C:)
File name:
ZBuilder Files (*.xml)
Open
Cancel

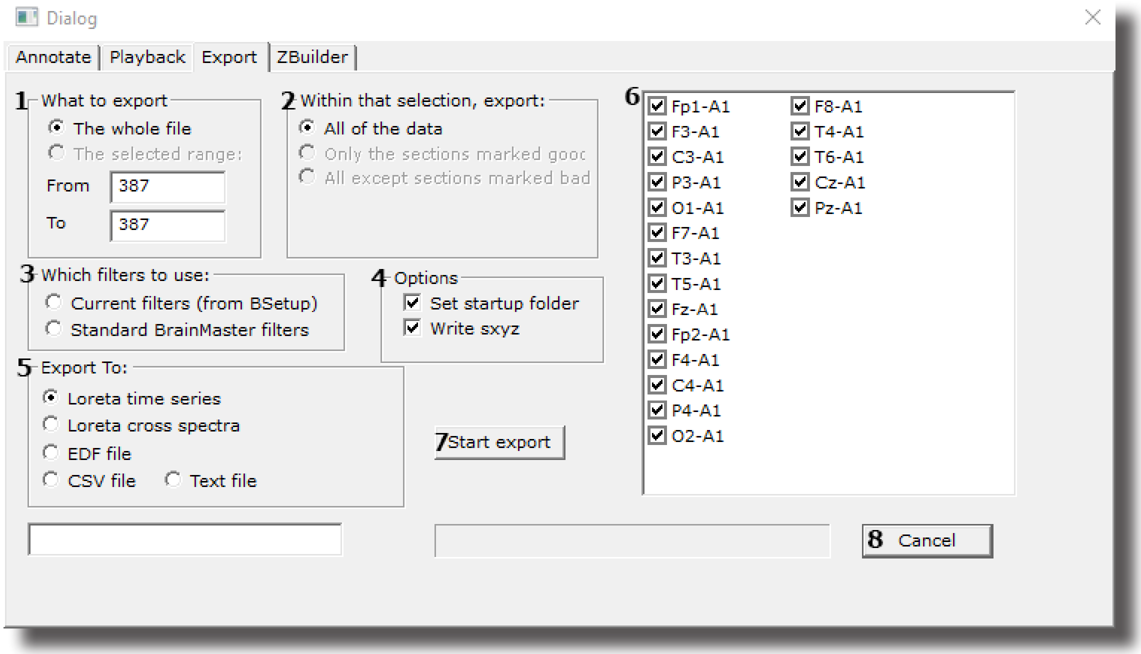
| Name | Date modified | Type | Size |
|---|---|---|---|
| ZBuilderEC | 12/20/2019 4:53 PM | XML Document | 2,185 KB |

You will now be utilizing the Specified ZBuilder File for Z-Score Training or Assessment. You will be able to tell this by viewing any Z-Score Based Displays should be displaying the Z-Scores that are available.


Blinks
Moves
Clench Teeth
Drowsy
Awakens
Start Stim
End Stim
Cough/Sneeze
Loose Sensor
Start Task
End Task
Edit
-3.0
3.0
Delta
Theta
Alpha
Lobeta
Beta
Hibeta
Gamma
User
Check
ZAP
ZAA
ZCO
ZPH
BrainAvatar
Acq
ReMon
Z-Training
Z-Maps
Z-Scores
Tab 6
Review
Overlay
C:\ProgramData\BrainMaster\Studies
Temporary Session
running
29

## Export

### Export Control Menu



1 What to export
● The whole file
○ The selected range:
From 387
To 387

2 Within that selection, export:
● All of the data
○ Only the sections marked gooc
○ All except sections marked bad

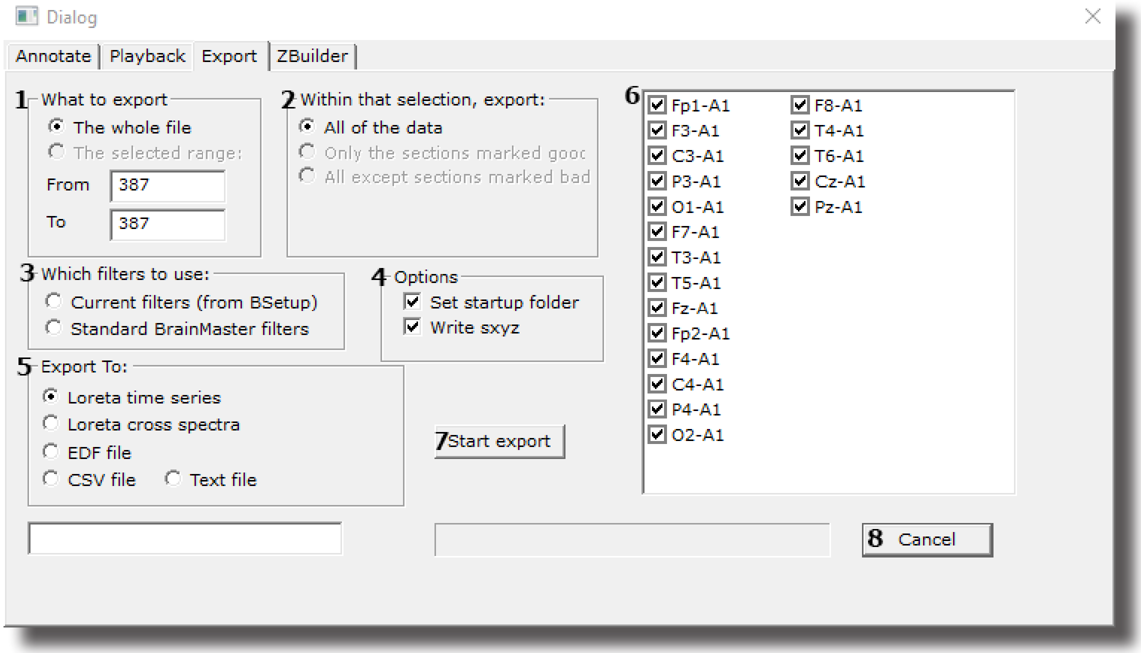
3 Which filters to use:
○ Current filters (from BSetup)
○ Standard BrainMaster filters

4 Options
☑ Set startup folder
☑ Write sxyz

5 Export To:
● Loreta time series
○ Loreta cross spectra
○ EDF file
○ CSV file
○ Text file

6
☑ Fp1-A1
☑ F3-A1
☑ C3-A1
☑ P3-A1
☑ O1-A1
☑ F7-A1
☑ T3-A1
☑ T5-A1
☑ Fz-A1
☑ Fp2-A1
☑ F4-A1
☑ C4-A1
☑ P4-A1
☑ O2-A1
☑ F8-A1
☑ T4-A1
☑ T6-A1
☑ Cz-A1
☑ Pz-A1

1. **What to export Section –** Section where you can choose what information that you would like to include in the file that is compatible in the sLORETA Software File
   - **a. The Whole File –** Choose this to process the entire EDF, BDF, or DAT File
   - **b. The Selected Range –** Choose this to process only the selection area chosen through the mouse
2. **Within that selection, export: Section –** Section where you can set a more specific requirement of what you will export
   - **a. All of the Data –** Will process all of the Data defined by the What to export Section
   - **b. Only the sections marked good –** Will process all of the sections that have been annotated good that are within the What to export Section. This will be grayed out, if there are no sections marked good within the Analyze section
   - **c. All except sections marked bad –** Will process all of the sections that have not been annotated as bad that are within the What To export Section. This will be grayed out, if there are no sections marked bad within the export section
3. **Which filters to use: Section –** Section where you can choose what type of filters to use
   - **a. Current Filters –** This will utilize the Filters that you have defined from the Bands section



Dialog

Annotate | Playback | Export | ZBuilder

1 What to export

● The whole file

○ The selected range:

From 387

To 387

2 Within that selection, export:

● All of the data

○ Only the sections marked gooc

○ All except sections marked bad

3 Which filters to use:

○ Current filters (from BSetup)

○ Standard BrainMaster filters

4 Options

☑ Set startup folder

☑ Write sxyz

5 Export To:

● Loreta time series

○ Loreta cross spectra

○ EDF file

○ CSV file ○ Text file

6

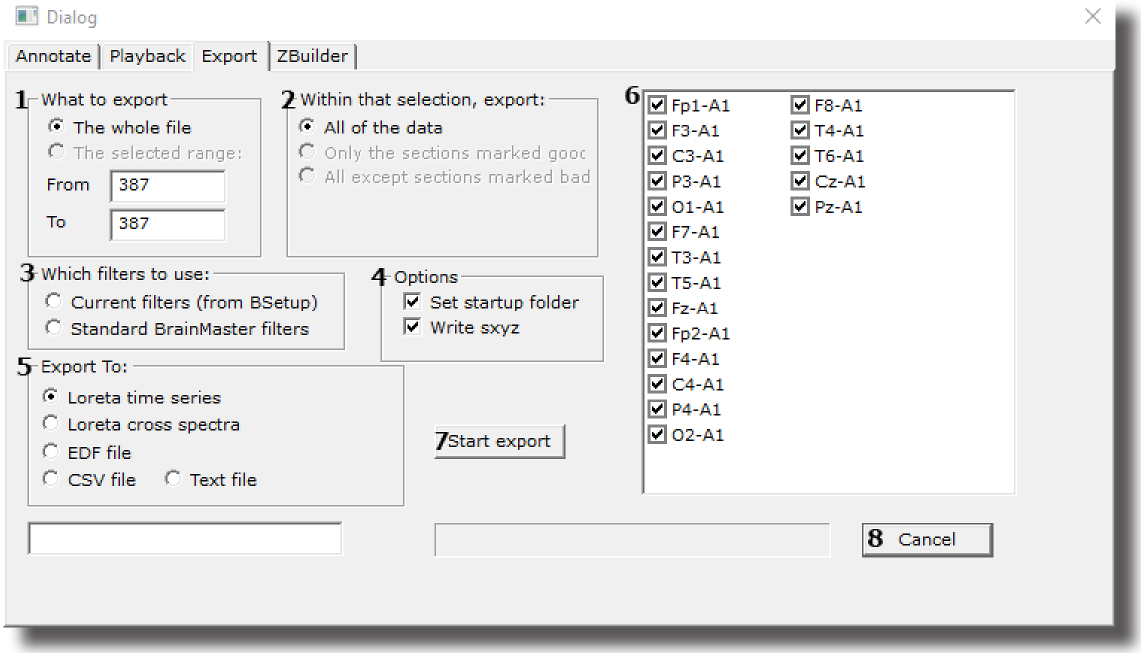
☑ Fp1-A1
☑ F3-A1
☑ C3-A1
☑ P3-A1
☑ O1-A1
☑ F7-A1
☑ T3-A1
☑ T5-A1
☑ Fz-A1
☑ Fp2-A1
☑ F4-A1
☑ C4-A1
☑ P4-A1
☑ O2-A1
☑ F8-A1
☑ T4-A1
☑ T6-A1
☑ Cz-A1
☑ Pz-A1

7 Start export

8 Cancel

   b. **Default Filters –** This will utilize the Standard BrainMaster Filters regardless of the filter settings from the Bands section

4. **Options Section** – Section where you can choose different settings for the Output
   a. **Setup startup folder check box** – Creates the folder located in sLORETA Avatar Imports with the same name as the EDF being reviewed.
   b. **Write sxyz check box** – Creates the sxyz file for use in the sLORETA Software.
5. **Export EEG to Loreta Button –** Click to create the specified file based off of your settings
   a. **Loreta time series Button** – Creates the LORETA Time Series File for use in the sLORETA Software
   b. **Loreta cross spectra Button** – Creates the Cross Spectra file for use in the sLORETA Software.
   c. **EDF File -** Creates a New EDF File that will be located in the Directory currently being used
   d. **CSV File -** Creates a CSV File that will be located in the Directory currently being used
   e. **Text File -** Creates a Text File that will be located in the Directory currently being used



What to export
● The whole file
○ The selected range:
From 387
To 387

Within that selection, export:
● All of the data
○ Only the sections marked gooc
○ All except sections marked bad

Which filters to use:
○ Current filters (from BSetup)
○ Standard BrainMaster filters

Options
☑ Set startup folder
☑ Write sxyz

Export To:
● Loreta time series
○ Loreta cross spectra
○ EDF file
○ CSV file ○ Text file

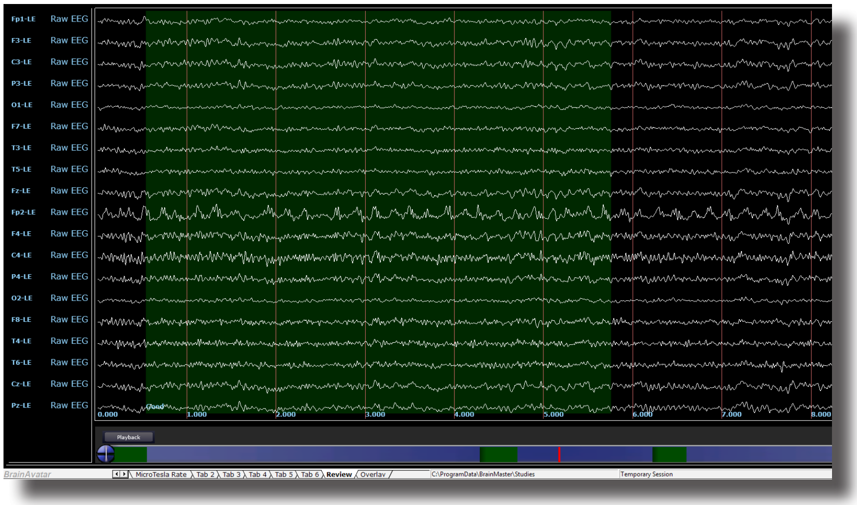
☑ Fp1-A1
☑ F3-A1
☑ C3-A1
☑ P3-A1
☑ O1-A1
☑ F7-A1
☑ T3-A1
☑ T5-A1
☑ Fz-A1
☑ Fp2-A1
☑ F4-A1
☑ C4-A1
☑ P4-A1
☑ O2-A1
☑ F8-A1
☑ T4-A1
☑ T6-A1
☑ Cz-A1
☑ Pz-A1

6. **Channel Selection Box –** Section where you can select the channels to be created in the desired output file.
7. **Start Export Button -** Click to create the specified file.
8. **Cancel Button –** Click to cancel creating the specified file.

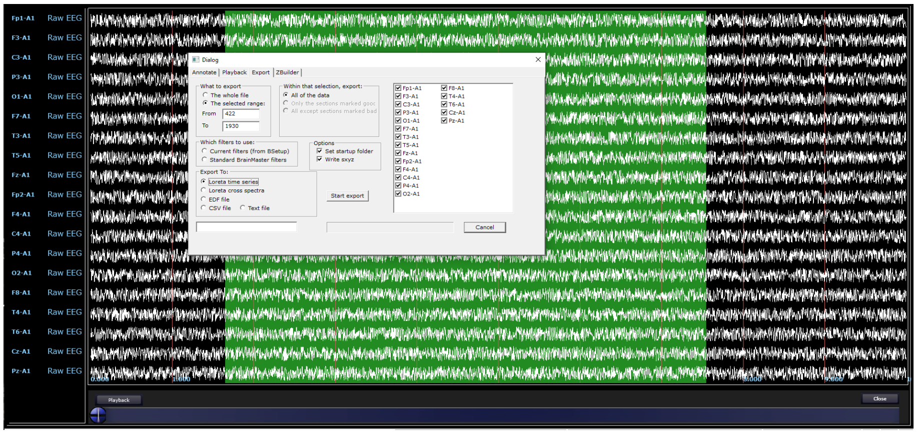
## Exporting LORETA Files

*****PLEASE NOTE:** In order for full functionality of this step, this requires the software released by the Key Institute. This can be found at **www.unizh.ch/keyinst/NewLORETA/Software/Software.htm**.

1. Open the File that you would like to work with. Under the Review Tab, you will annotate based off of the instructions from the EDF Annotation Section.


Fp1-LE Raw EEG
F3-LE Raw EEG
C3-LE Raw EEG
P3-LE Raw EEG
O1-LE Raw EEG
F7-LE Raw EEG
T3-LE Raw EEG
T5-LE Raw EEG
Fz-LE Raw EEG
Fp2-LE Raw EEG
F4-LE Raw EEG
C4-LE Raw EEG
P4-LE Raw EEG
O2-LE Raw EEG
F8-LE Raw EEG
T4-LE Raw EEG
T6-LE Raw EEG
Cz-LE Raw EEG
Pz-LE Raw EEG
0.000
1.000
2.000
3.000
4.000
5.000
6.000
7.000
8.000
Good
Playback
BrainAvatar
MicroTesla Rate
Tab 2
Tab 3
Tab 4
Tab 5
Tab 6
Review
Overlay
C:\ProgramData\BrainMaster\Studies
Temporary Session

2. When completed, either Double-Click in the EEG, or Hold down the Left-Click on the mouse, and select a section of data. This will bring up the Panel Options Menu. Navigate to the Export Tab, and use this menu to set the Settings as needed. When completed, click the Start Export Button.


Dialog
Annotate
Playback
Export
ZBuilder
Start export
Cancel
Playback
Close
Fp1-A1 Raw EEG
F3-A1 Raw EEG
C3-A1 Raw EEG
P3-A1 Raw EEG
O1-A1 Raw EEG
F7-A1 Raw EEG
T3-A1 Raw EEG
T5-A1 Raw EEG
Fz-A1 Raw EEG
Fp2-A1 Raw EEG
F4-A1 Raw EEG
C4-A1 Raw EEG
P4-A1 Raw EEG
O2-A1 Raw EEG
F8-A1 Raw EEG
T4-A1 Raw EEG
T6-A1 Raw EEG
Cz-A1 Raw EEG
Pz-A1 Raw EEG

What to export
○ The whole file
● The selected range:
From 422
To 1930

Within that selection, export:
● All of the data
○ Only the sections marked good
○ All except sections marked bad

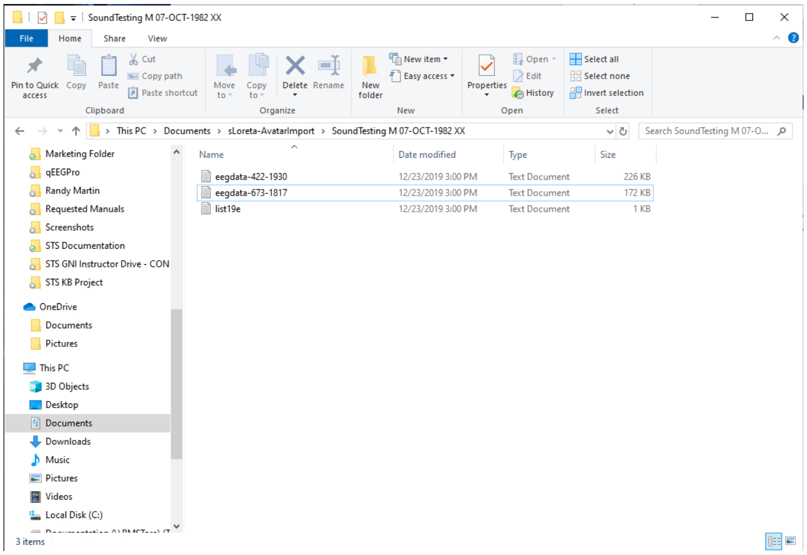
Which filters to use:
○ Current filters (from BSetup)
○ Standard BrainMaster filters

Options
☑ Set startup folder
☑ Write sxyz

Export To:
● Loreta time series
○ Loreta cross spectra
○ EDF file
○ CSV file ○ Text file

☑ Fp1-A1 ☑ F3-A1 ☑ C3-A1 ☑ P3-A1 ☑ O1-A1 ☑ F7-A1 ☑ T3-A1 ☑ T5-A1 ☑ Fz-A1 ☑ Fp2-A1 ☑ F4-A1 ☑ C4-A1 ☑ P4-A1 ☑ O2-A1 ☑ F8-A1 ☑ T4-A1 ☑ T6-A1 ☑ Cz-A1 ☑ Pz-A1

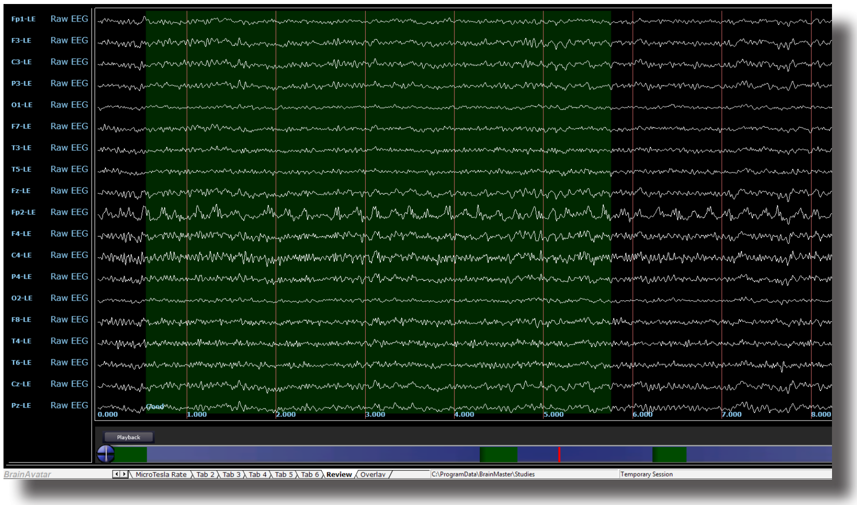
You have now converted this portion of data, into a LORETA export.  This will save the information as a text document located in a folder named for your folder in the Documents Directory in the sLoreta-AvatarImport Folder, in a Folder that shares the name of the EDF Opened.


SoundTesting M 07-OCT-1982 XX
File
Home
Share
View
Pin to Quick access
Copy
Paste
Cut
Copy path
Paste shortcut
Clipboard
Move to
Copy to
Delete
Rename
Organize
New folder
New item
Easy access
New
Properties
Open
Edit
History
Open
Select all
Select none
Invert selection
Select
This PC › Documents › sLoreta-AvatarImport › SoundTesting M 07-OCT-1982 XX
Search SoundTesting M 07-O...
Marketing Folder
qEEGPro
Randy Martin
Requested Manuals
Screenshots
STS Documentation
STS GNI Instructor Drive - CON
STS KB Project
OneDrive
Documents
Pictures
This PC
3D Objects
Desktop
Documents
Downloads
Music
Pictures
Videos
Local Disk (C:)
3 items

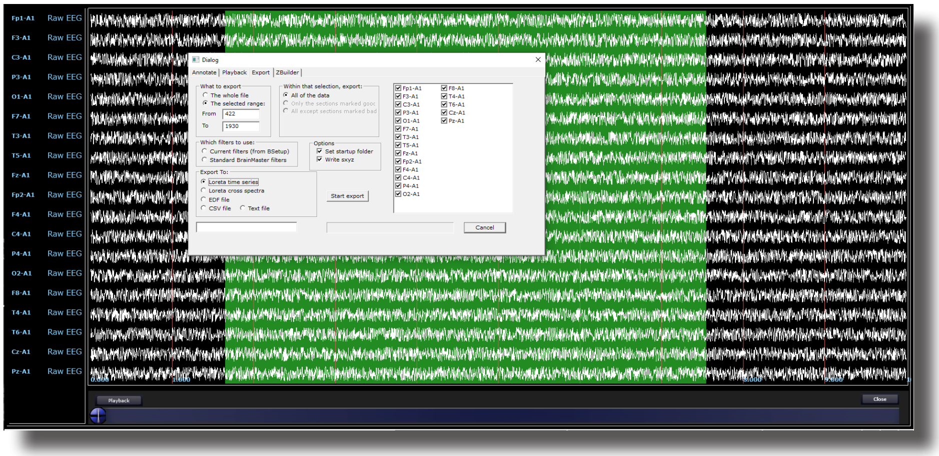
| Name | Date modified | Type | Size |
|---|---|---|---|
| eegdata-422-1930 | 12/23/2019 3:00 PM | Text Document | 226 KB |
| eegdata-673-1817 | 12/23/2019 3:00 PM | Text Document | 172 KB |
| list19e | 12/23/2019 3:00 PM | Text Document | 1 KB |

## Exporting an EDF/CSF/Text File

1. Open the File that you would like to work with. Under the Review Tab, you will annotate based off of the instructions from the EDF Annotation Section.


Fp1-LE Raw EEG
F3-LE Raw EEG
C3-LE Raw EEG
P3-LE Raw EEG
O1-LE Raw EEG
F7-LE Raw EEG
T3-LE Raw EEG
T5-LE Raw EEG
Fz-LE Raw EEG
Fp2-LE Raw EEG
F4-LE Raw EEG
C4-LE Raw EEG
P4-LE Raw EEG
O2-LE Raw EEG
F8-LE Raw EEG
T4-LE Raw EEG
T6-LE Raw EEG
Cz-LE Raw EEG
Pz-LE Raw EEG
0.000
1.000
2.000
3.000
4.000
5.000
6.000
7.000
8.000
Playback
BrainAvatar
MicroTesla Rate
Tab 2
Tab 3
Tab 4
Tab 5
Tab 6
Review
Overlay
C:\ProgramData\BrainMaster\Studies
Temporary Session

2. When completed, either Double-Click in the EEG, or Hold down the Left-Click on the mouse, and select a section of data. This will bring up the Panel Options Menu. Navigate to the Export Tab, and use this menu to set the Settings as needed. When completed, click the Start Export Button.


Fp1-A1 Raw EEG
F3-A1 Raw EEG
C3-A1 Raw EEG
P3-A1 Raw EEG
O1-A1 Raw EEG
F7-A1 Raw EEG
T3-A1 Raw EEG
T5-A1 Raw EEG
Fz-A1 Raw EEG
Fp2-A1 Raw EEG
F4-A1 Raw EEG
C4-A1 Raw EEG
P4-A1 Raw EEG
O2-A1 Raw EEG
F8-A1 Raw EEG
T4-A1 Raw EEG
T6-A1 Raw EEG
Cz-A1 Raw EEG
Pz-A1 Raw EEG
Dialog
Annotate
Playback
Export
ZBuilder
Start export
Cancel
Playback
Close

What to export
○ The whole file
● The selected range:
From 422
To 1930

Within that selection, export:
● All of the data
○ Only the sections marked good
○ All except sections marked bad

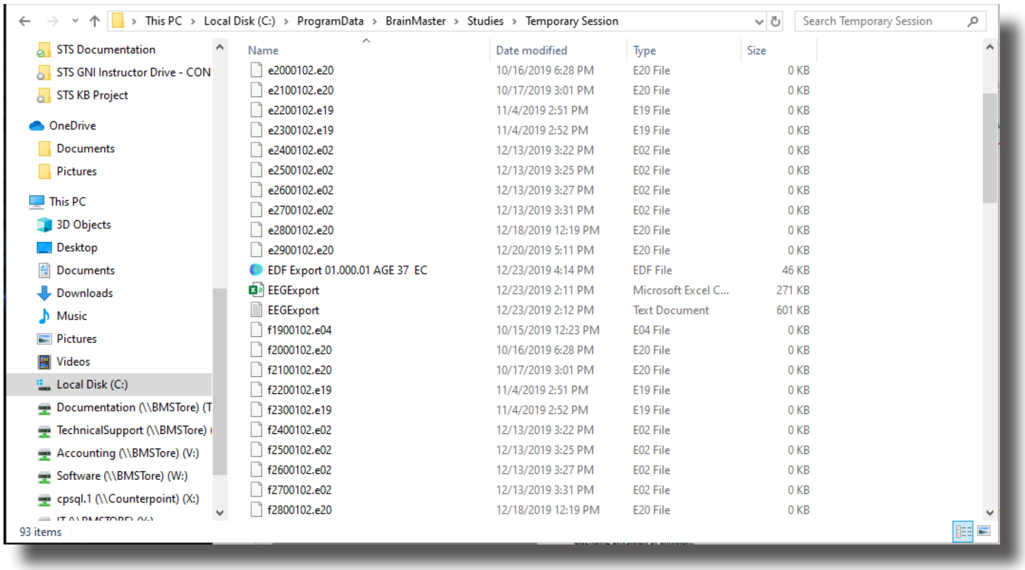
Which filters to use:
○ Current filters (from BSetup)
○ Standard BrainMaster filters

Options
☑ Set startup folder
☑ Write sxyz

Export To:
● Loreta time series
○ Loreta cross spectra
○ EDF file
○ CSV file ○ Text file

☑ Fp1-A1
☑ F3-A1
☑ C3-A1
☑ P3-A1
☑ O1-A1
☑ F7-A1
☑ T3-A1
☑ T5-A1
☑ Fz-A1
☑ Fp2-A1
☑ F4-A1
☑ C4-A1
☑ P4-A1
☑ O2-A1
☑ F8-A1
☑ T4-A1
☑ T6-A1
☑ Cz-A1
☑ Pz-A1

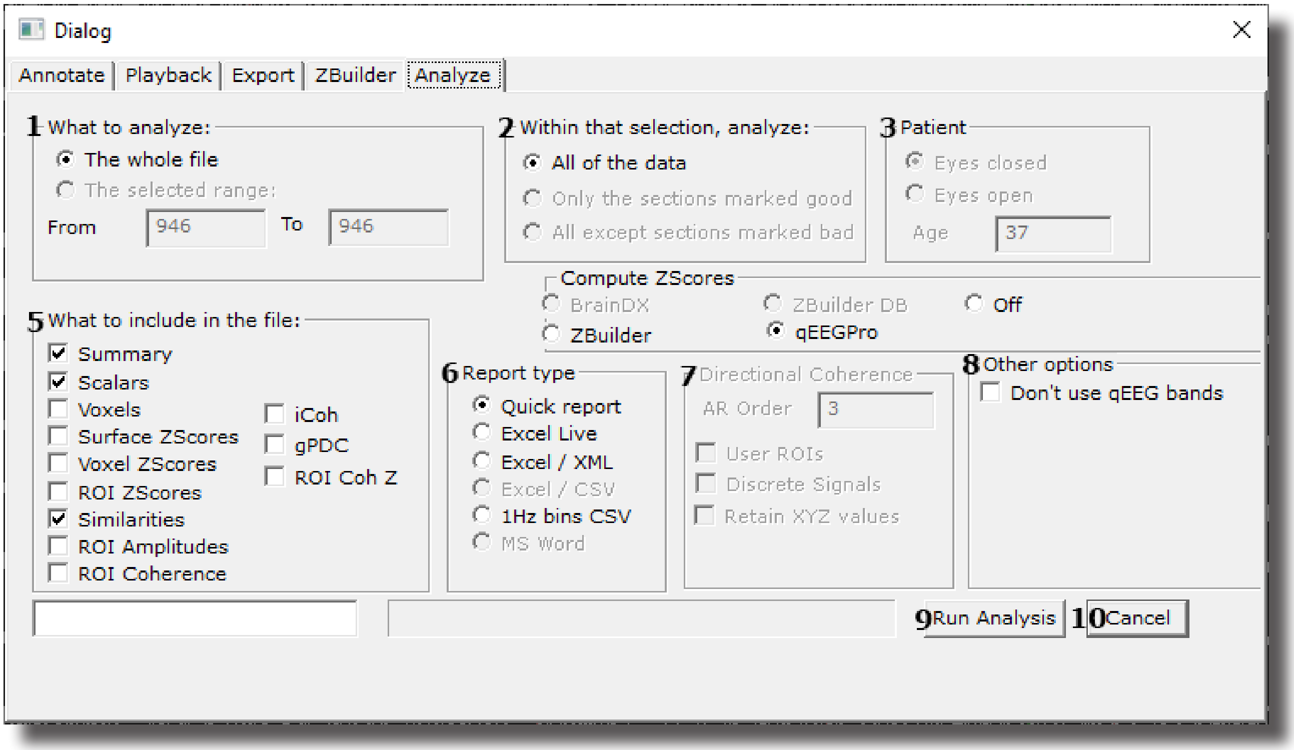
You have now converted this portion of data, into a new EDF,CSV, or Text file. This will save in the Patient folder you reviewed the file in. The file will be named EDF Export with the Age and Recording condition contained within the file.


This PC › Local Disk (C:) › ProgramData › BrainMaster › Studies › Temporary Session
Search Temporary Session
STS Documentation
STS GNI Instructor Drive - CON
STS KB Project
OneDrive
Documents
Pictures
This PC
3D Objects
Desktop
Documents
Downloads
Music
Pictures
Videos
Local Disk (C:)
Documentation (\\BMSTore) (T
TechnicalSupport (\\BMSTore)
Accounting (\\BMSTore) (V:)
Software (\\BMSTore) (W:)
cpsql.1 (\\Counterpoint) (X:)
93 items

| Name | Date modified | Type | Size |
|---|---|---|---|
| e2000102.e20 | 10/16/2019 6:28 PM | E20 File | 0 KB |
| e2100102.e20 | 10/17/2019 3:01 PM | E20 File | 0 KB |
| e2200102.e19 | 11/4/2019 2:51 PM | E19 File | 0 KB |
| e2300102.e19 | 11/4/2019 2:52 PM | E19 File | 0 KB |
| e2400102.e02 | 12/13/2019 3:22 PM | E02 File | 0 KB |
| e2500102.e02 | 12/13/2019 3:25 PM | E02 File | 0 KB |
| e2600102.e02 | 12/13/2019 3:27 PM | E02 File | 0 KB |
| e2700102.e02 | 12/13/2019 3:31 PM | E02 File | 0 KB |
| e2800102.e20 | 12/18/2019 12:19 PM | E20 File | 0 KB |
| e2900102.e20 | 12/20/2019 5:11 PM | E20 File | 0 KB |
| EDF Export 01.000.01 AGE 37 EC | 12/23/2019 4:14 PM | EDF File | 46 KB |
| EEGExport | 12/23/2019 2:11 PM | Microsoft Excel C... | 271 KB |
| EEGExport | 12/23/2019 2:12 PM | Text Document | 601 KB |
| f1900102.e04 | 10/15/2019 12:23 PM | E04 File | 0 KB |
| f2000102.e20 | 10/16/2019 6:28 PM | E20 File | 0 KB |
| f2100102.e20 | 10/17/2019 3:01 PM | E20 File | 0 KB |
| f2200102.e19 | 11/4/2019 2:51 PM | E19 File | 0 KB |
| f2300102.e19 | 11/4/2019 2:52 PM | E19 File | 0 KB |
| f2400102.e02 | 12/13/2019 3:22 PM | E02 File | 0 KB |
| f2500102.e02 | 12/13/2019 3:25 PM | E02 File | 0 KB |
| f2600102.e02 | 12/13/2019 3:27 PM | E02 File | 0 KB |
| f2700102.e02 | 12/13/2019 3:31 PM | E02 File | 0 KB |
| f2800102.e20 | 12/18/2019 12:19 PM | E20 File | 0 KB |

## Analyze (Optional Purchase)

### Analyze Control Menu



1 What to analyze:
● The whole file
○ The selected range:
From 946 To 946

2 Within that selection, analyze:
● All of the data
○ Only the sections marked good
○ All except sections marked bad

3 Patient
● Eyes closed
○ Eyes open
Age 37

Compute ZScores
○ BrainDX
○ ZBuilder
○ ZBuilder DB
● qEEGPro
○ Off

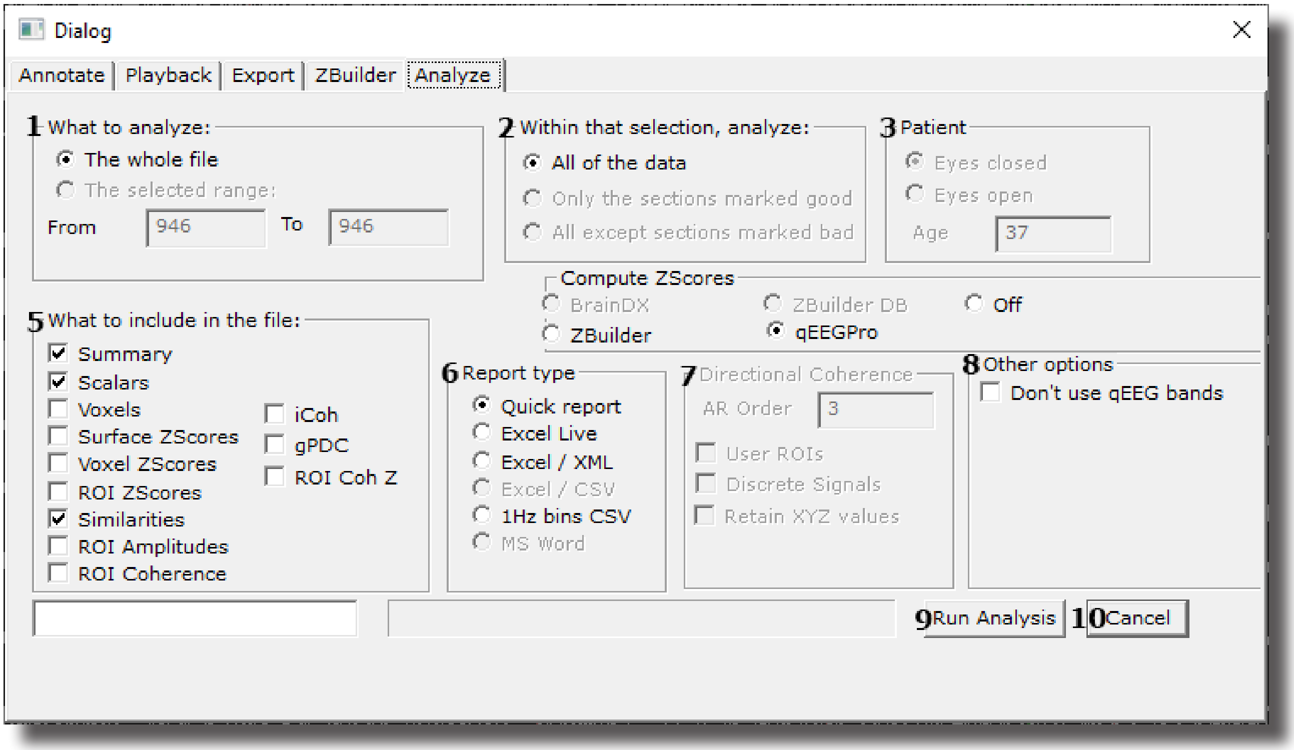
5 What to include in the file:
☑ Summary
☑ Scalars
☐ Voxels
☐ Surface ZScores
☐ Voxel ZScores
☐ ROI ZScores
☑ Similarities
☐ ROI Amplitudes
☐ ROI Coherence
☐ iCoh
☐ gPDC
☐ ROI Coh Z

6 Report type
● Quick report
○ Excel Live
○ Excel / XML
○ Excel / CSV
○ 1Hz bins CSV
○ MS Word

7 Directional Coherence
AR Order 3
☐ User ROIs
☐ Discrete Signals
☐ Retain XYZ values

8 Other options
☐ Don't use qEEG bands

1. **What to analyze Section –** Section where you can choose what information that you would like to analyze.
    - a. **The Whole File –** Choose this to process the entire EDF, BDF, or DAT File
    - b. **The Selected Range –** Choose this to process only the selection area chosen through the mouse
2. **Within that selection, analyze: Section –** Section where you can set a more specific requirement of what you will analyze
    - a. **All of the Data –** Will process all of the Data defined by the What to analyze Section
    - b. **Only the sections marked good –** Will process all of the sections that have been annotated good that are within the What to analyze Section. This will be grayed out, if there are no sections marked good within the analyze section
    - c. **All except sections marked bad –** Will process all of the sections that have not been annotated as bad that are within the What to analyze Section. This will be grayed out, if there are no sections marked bad within the analyze section
3. **Patient Section –** This section will detect the Age and recording condition of the EEG file, and fill this out automatically. Though, if you would like to adjust this, this is where that can be done
4. **Compute Z-Scores Section -** Section where you set what Z-Score DLL (if any) you will use. *****PLEASE NOTE:** This is necessary for Z-Score Metrics to be possible.



1 What to analyze:
● The whole file
○ The selected range:
From 946 To 946

2 Within that selection, analyze:
● All of the data
○ Only the sections marked good
○ All except sections marked bad

3 Patient
● Eyes closed
○ Eyes open
Age 37

Compute ZScores
○ BrainDX ○ ZBuilder DB ○ Off
○ ZBuilder ● qEEGPro

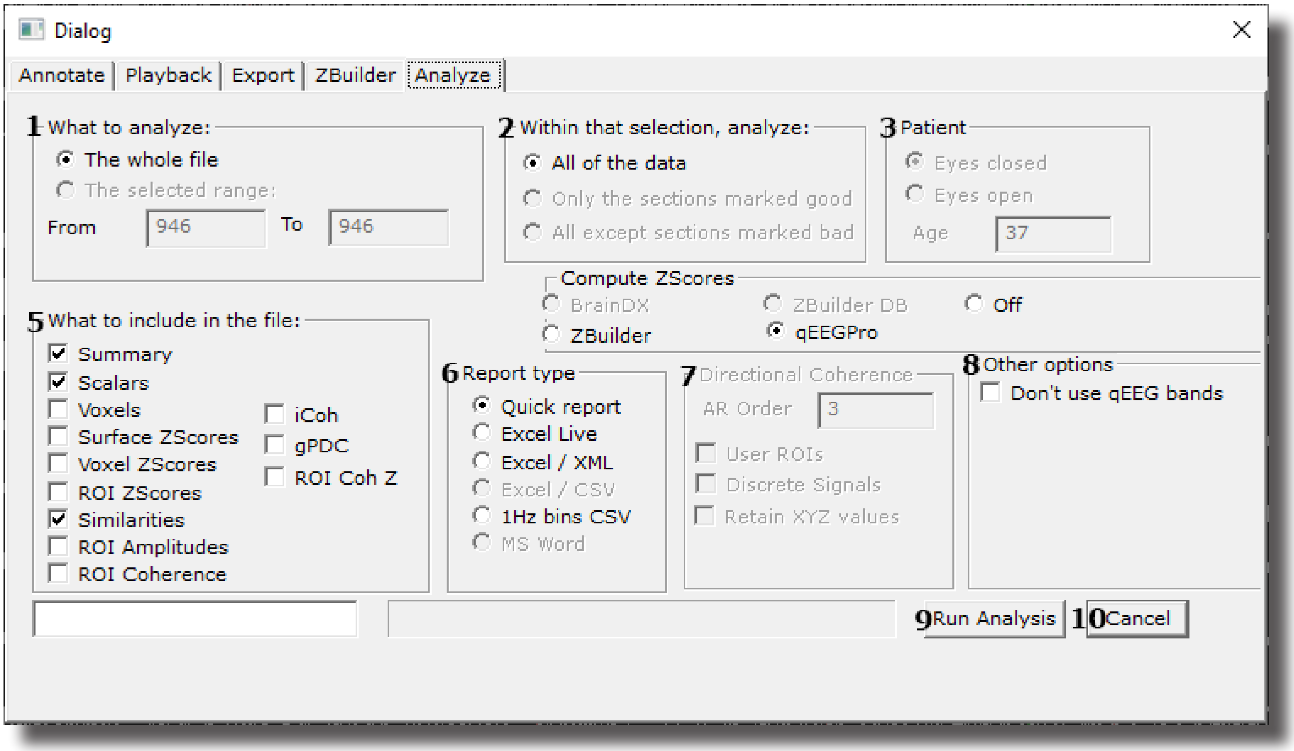
5 What to include in the file:
☑ Summary
☑ Scalars
☐ Voxels
☐ Surface ZScores
☐ Voxel ZScores
☐ ROI ZScores
☑ Similarities
☐ ROI Amplitudes
☐ ROI Coherence
☐ iCoh
☐ gPDC
☐ ROI Coh Z

6 Report type
● Quick report
○ Excel Live
○ Excel / XML
○ Excel / CSV
○ 1Hz bins CSV
○ MS Word

7 Directional Coherence
AR Order 3
☐ User ROIs
☐ Discrete Signals
☐ Retain XYZ values

8 Other options
☐ Don't use qEEG bands

5. **What to include in the file: Section –** Section where you can set what information is included in the file
    a. **Summary –** Click this to create a page with Summary information
    b. **Scalars –** Click this to create a page with Scalar information
    c. **Voxels –** Click this to create a page with raw Voxel information
    d. **Surface Z-Scores –** Click this to create two pages with Surface Z-Score Information
    e. **Voxel ZScores –** Click this to create a page with Voxel Z-Score information
    f. **ROI Z-Scores –** Click this to create a page with ROI Z-Score information
    g. **Similarities –** Click this to create a page for every band of similarities information
    h. **ROI Amplitudes –** Click this to create a page of ROI Amplitudes information
    i. **ROI Coherence -** Click this to create a page for every band of ROI Cohehence information
    j. **iCoh -** Click this to create a page of isolated effective coherence (iCoh) information.
    k. **gPDC -** Click this to create a page of generalized partial directed coherence (gPDC) information.
    l. **ROI Coh Z -** Click this to create a page for every band of ROI Coherence Z-Score Information.



Dialog

Annotate | Playback | Export | ZBuilder | Analyze

1 What to analyze:
● The whole file
○ The selected range:
From 946 To 946

2 Within that selection, analyze:
● All of the data
○ Only the sections marked good
○ All except sections marked bad

3 Patient
● Eyes closed
○ Eyes open
Age 37

Compute ZScores
○ BrainDX ○ ZBuilder DB ○ Off
○ ZBuilder ● qEEGPro

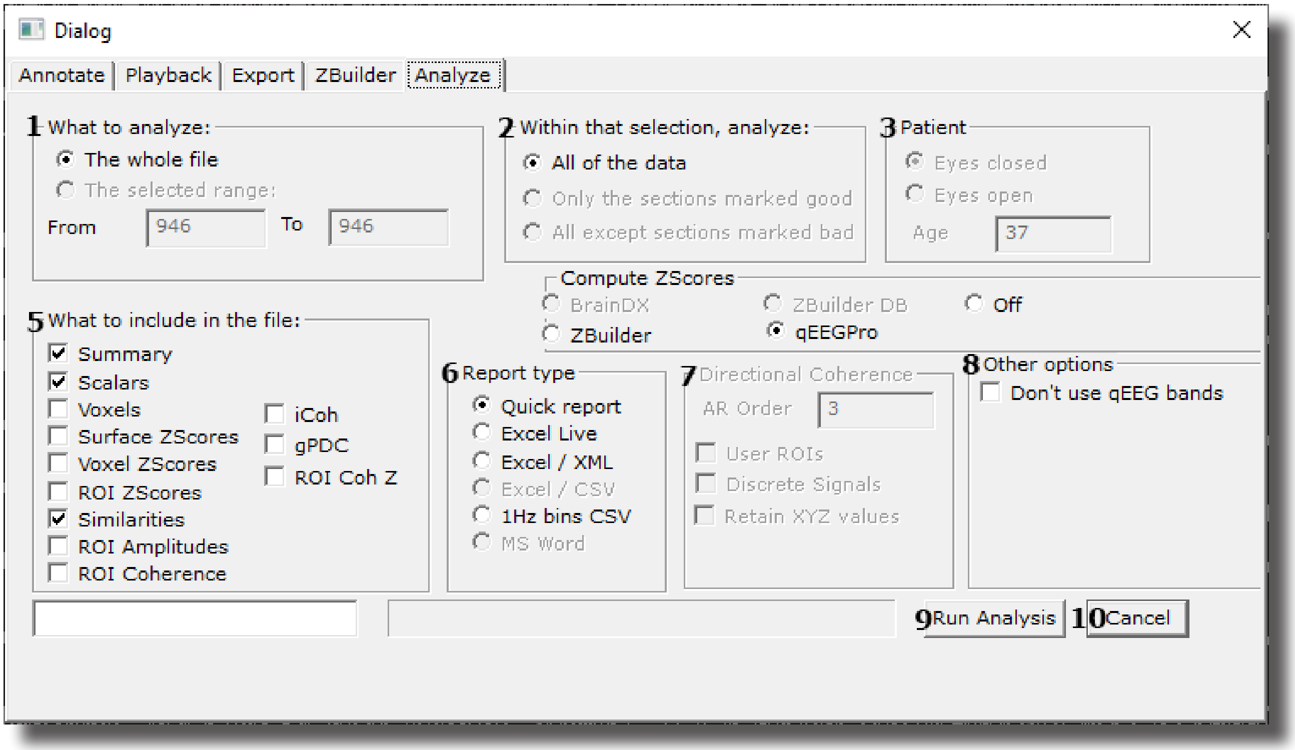
5 What to include in the file:
☑ Summary
☑ Scalars
☐ Voxels
☐ Surface ZScores
☐ Voxel ZScores
☐ ROI ZScores
☑ Similarities
☐ ROI Amplitudes
☐ ROI Coherence
☐ iCoh
☐ gPDC
☐ ROI Coh Z

6 Report type
● Quick report
○ Excel Live
○ Excel / XML
○ Excel / CSV
○ 1Hz bins CSV
○ MS Word

7 Directional Coherence
AR Order 3
☐ User ROIs
☐ Discrete Signals
☐ Retain XYZ values

8 Other options
☐ Don't use qEEG bands

6. **Report type Section –** Section where you can set the type of report that you would like to be created
    a. **Quick report –** Click to utilize the built-in report viewer for the report.
    b. **Excel Live –** Click to create to open the report in Excel after production. This will allow you to name, and save the report where you would like
    c. **Excel / XML –** Click to create an XML report named Analyis with recording condition date and time stamped for the time of the recording in the Study currently being used.
    d. **Excel / CSV –** Click to create a .CSV report named "Report.csv" in the current Study directory currently being used (Coming Soon).
    e. **1 hz bins CSV -** Click to create a .CSV report named Analyis with recording condition date and time stamped for the time of the recording in the Study currently being used. *****PLEASE NOTE:** This report is only available for Voxels and Voxel Z-Scores (qEEGPro Z-Scores only).
    f. **MS Word -** Click to create a Word Report from the data (Coming soon).
7. **Directional Coherence -** Section where you can set the settings for Directional Cohence Processing
    a. **AR Order –** Set the AR () Order here. The Default Order is 3
    b. **User ROIs –** Select to add User created ROIs to the report.
    c. **Discrete Signals –** Select to add Discrete (Surface EEG Channels) Signals to the Report
    d. **Retain XYZ values –** Select to add the X, Y, and Z Coordinate Values to the Report



Dialog

Annotate | Playback | Export | ZBuilder | Analyze

1 What to analyze:
● The whole file
○ The selected range:
From 946 To 946

2 Within that selection, analyze:
● All of the data
○ Only the sections marked good
○ All except sections marked bad

3 Patient
● Eyes closed
○ Eyes open
Age 37

Compute ZScores
○ BrainDX
○ ZBuilder
○ ZBuilder DB
● qEEGPro
○ Off

5 What to include in the file:
☑ Summary
☑ Scalars
☐ Voxels
☐ Surface ZScores
☐ Voxel ZScores
☐ ROI ZScores
☑ Similarities
☐ ROI Amplitudes
☐ ROI Coherence
☐ iCoh
☐ gPDC
☐ ROI Coh Z

6 Report type
● Quick report
○ Excel Live
○ Excel / XML
○ Excel / CSV
○ 1Hz bins CSV
○ MS Word

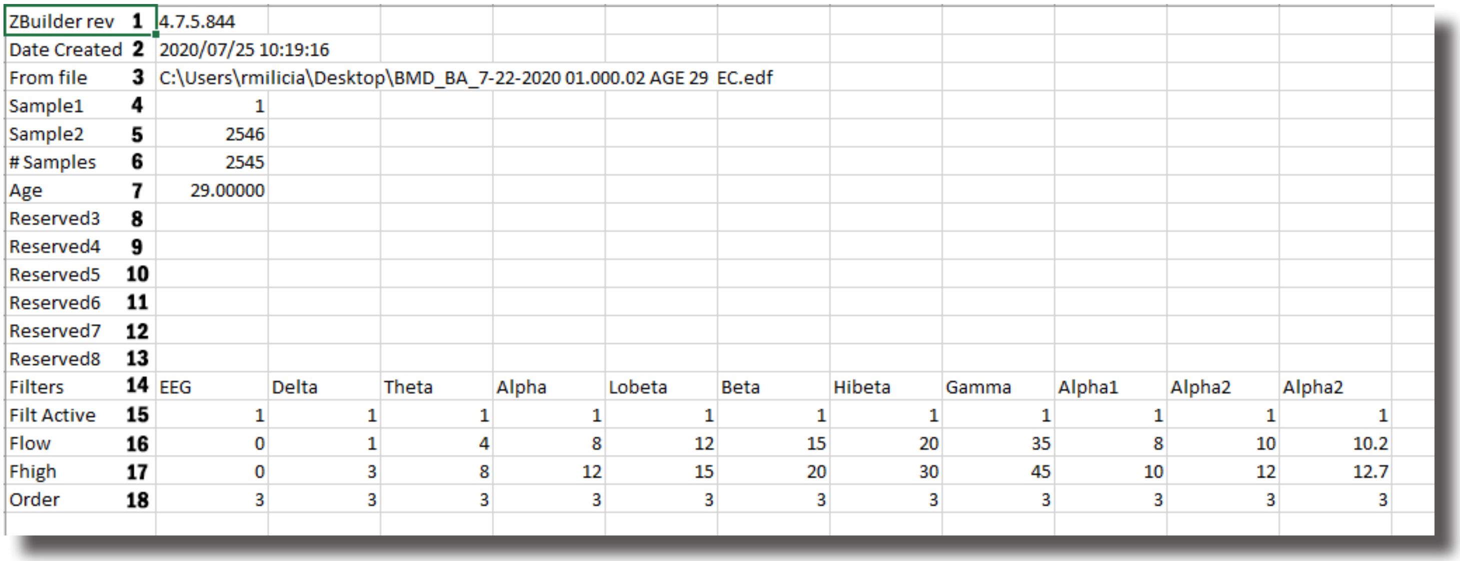
7 Directional Coherence
AR Order 3
☐ User ROIs
☐ Discrete Signals
☐ Retain XYZ values

8 Other options
☐ Don't use qEEG bands

8. **Other Options Section –**
    a. **Don't Use "Database" bands –** Check to choose not to use the default defined bands from a Z-Score Database. ***__Please Note:__ Doing this can cause some Z-Score Values to be reported as 0.0
9. **Run Analysis Button –** Click to create the analysis file based off of all of your selections
10. **Cancel Button -** Click to cancel creating an analysis file and close the Review Panel

## Sample Analyze File & Layout

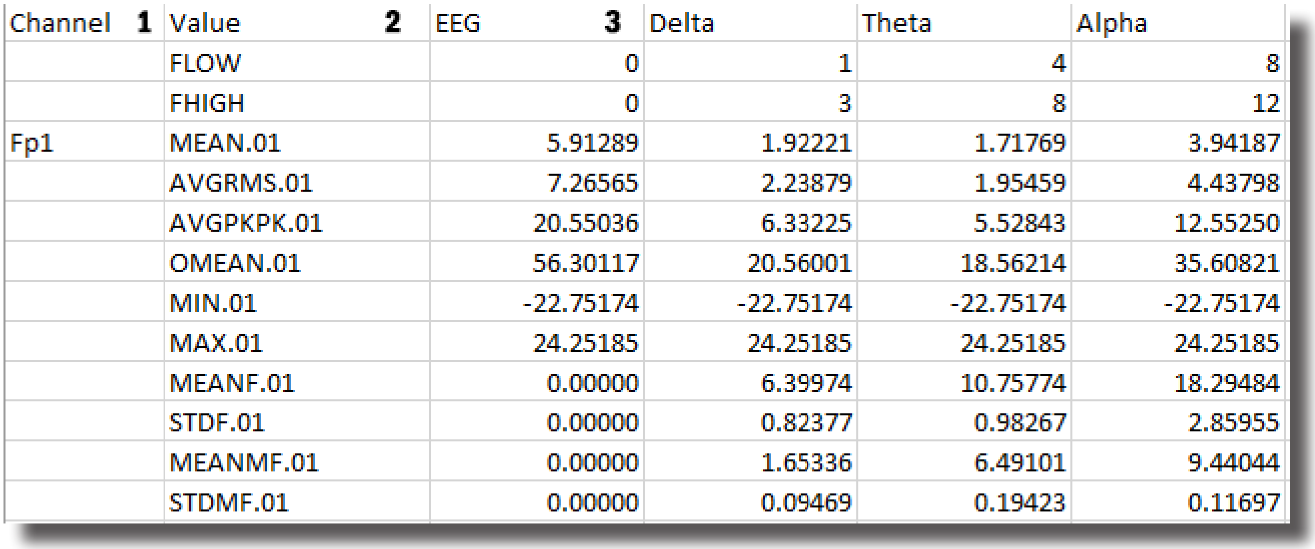
### Description Section



| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ZBuilder rev | 1 | 4.7.5.844 | | | | | | | | | | |
| Date Created | 2 | 2020/07/25 10:19:16 | | | | | | | | | | |
| From file | 3 | C:\Users\rmilicia\Desktop\BMD_BA_7-22-2020 01.000.02 AGE 29 EC.edf | | | | | | | | | | |
| Sample1 | 4 | 1 | | | | | | | | | | |
| Sample2 | 5 | 2546 | | | | | | | | | | |
| # Samples | 6 | 2545 | | | | | | | | | | |
| Age | 7 | 29.00000 | | | | | | | | | | |
| Reserved3 | 8 | | | | | | | | | | | |
| Reserved4 | 9 | | | | | | | | | | | |
| Reserved5 | 10 | | | | | | | | | | | |
| Reserved6 | 11 | | | | | | | | | | | |
| Reserved7 | 12 | | | | | | | | | | | |
| Reserved8 | 13 | | | | | | | | | | | |
| Filters | 14 | EEG | Delta | Theta | Alpha | Lobeta | Beta | Hibeta | Gamma | Alpha1 | Alpha2 | Alpha2 |
| Filt Active | 15 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Flow | 16 | 0 | 1 | 4 | 8 | 12 | 15 | 20 | 35 | 8 | 10 | 10.2 |
| Fhigh | 17 | 0 | 3 | 8 | 12 | 15 | 20 | 30 | 45 | 10 | 12 | 12.7 |
| Order | 18 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |

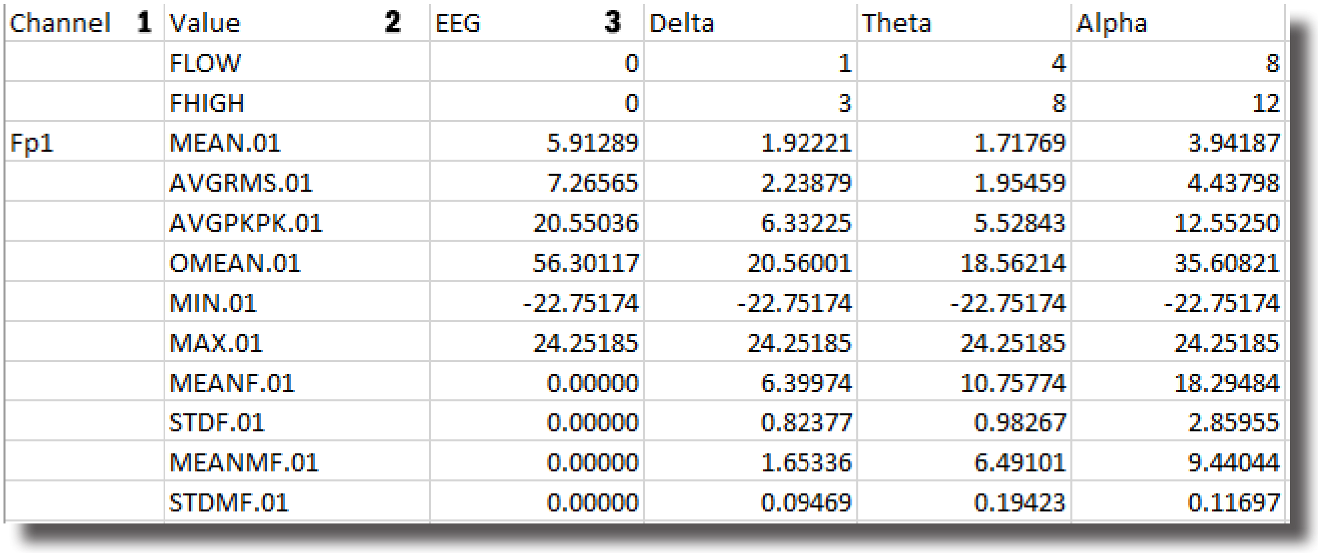
1. **ZBuilder Revision –** Informs you of which version of the BrainAvatar Software was used to create the ZBuilder File.
2. **Date Created -** Lists the Date Created of the ZBuilder File
3. **From File -** Informs you of What EEG File was used to create the ZBuilder File
4. **Sample1 -** Informs you the Starting Sample Number of the last scanned section of the EDF
5. **Sample2 -** Informs you the Ending Sample Number of the last scanned section of the EDF
6. **# Samples -** Informs you the total number of samples of the last scanned Section of the EDF
7. **Age -** Informs you the Age that was utilized for the ZBuilder File
8. **Reserved3 -** Reserved for future use
9. **Reserved4 -** Reserved for future use
10. **Reserved5 -** Reserved for future use
11. **Reserved6 -** Reserved for future use
12. **Reserved7 -** Reserved for future use
13. **Reserved8 -** Reserved for future use
14. **Filters -** Lists the Names of the filtered bands that were included in the ZBuilder File
15. **Filt Active -** Lists whether a Filtered wave form is active or not. 1 means that it is Active and 0 means that it is not active
16. **Flow -** Defines the Low Frequency for the Filtered Waveform
17. **FHigh -** Defines the High Frequency for the Filtered Waveform
18. **Order -** Defines What Filter Order was used for the Filtered Waveform

Scalars Section



| Channel 1 | Value 2 | EEG 3 | Delta | Theta | Alpha |
|---|---|---|---|---|---|
| | FLOW | 0 | 1 | 4 | 8 |
| | FHIGH | 0 | 3 | 8 | 12 |
| Fp1 | MEAN.01 | 5.91289 | 1.92221 | 1.71769 | 3.94187 |
| | AVGRMS.01 | 7.26565 | 2.23879 | 1.95459 | 4.43798 |
| | AVGPKPK.01 | 20.55036 | 6.33225 | 5.52843 | 12.55250 |
| | OMEAN.01 | 56.30117 | 20.56001 | 18.56214 | 35.60821 |
| | MIN.01 | -22.75174 | -22.75174 | -22.75174 | -22.75174 |
| | MAX.01 | 24.25185 | 24.25185 | 24.25185 | 24.25185 |
| | MEANF.01 | 0.00000 | 6.39974 | 10.75774 | 18.29484 |
| | STDF.01 | 0.00000 | 0.82377 | 0.98267 | 2.85955 |
| | MEANMF.01 | 0.00000 | 1.65336 | 6.49101 | 9.44044 |
| | STDMF.01 | 0.00000 | 0.09469 | 0.19423 | 0.11697 |

1. **Channel Section –** This section will display the labeling for all of the Channels that have been collected from using the analyze system.
2. **Value Section –** This section will display the label for the information that has been collected in the Frequency Band Section
    a. **FLOW –** Also known as Frequency Low. This is the lowest range of the frequency band
    b. **FHIGH –** Also known as Frequency High. This is the highest range of the frequency band.
    c. **MEAN.X –** This is the average of Amplitude for the particular band, where “X” is that particular Channel number.
    d. **AVGRMS.X –** This is the average RMS value for the particular band, where “X” is that particular Channel number.
    e. **AVGPKPK.X –** This is the average Peak-To-Peak value for the particular band, where “X” is that particular Channel number.
    f. **MIN.X –** This is the minimum value seen for the particular band, where “X” is that particular Channel number.
    g. **MAX.X –** This is the maximum value seen for the particular band, where “X” is that particular Channel number.
    h. **MEANF.X –** This is the percent of power for the particular band over the entire frequency range, where “X” is that particular Channel number.
    i. **STDF.X –** This is the Standard Deviation of the percent of energy for that particular band, where “X” is that particular Channel number.
    j. **MEANMF.X –** This is the Modal Frequency for the particular band, where “X” is that particular Channel number.

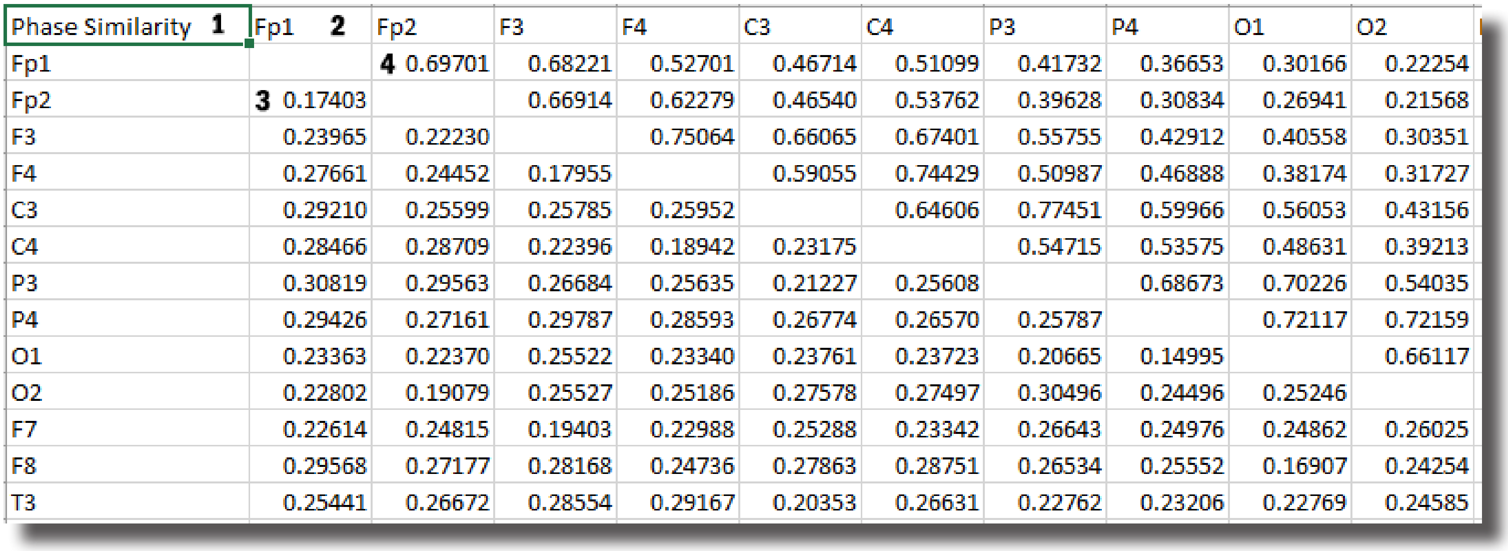


| Channel **1** | Value **2** | EEG **3** | Delta | Theta | Alpha |
|---|---|---|---|---|---|
| | FLOW | 0 | 1 | 4 | 8 |
| | FHIGH | 0 | 3 | 8 | 12 |
| Fp1 | MEAN.01 | 5.91289 | 1.92221 | 1.71769 | 3.94187 |
| | AVGRMS.01 | 7.26565 | 2.23879 | 1.95459 | 4.43798 |
| | AVGPKPK.01 | 20.55036 | 6.33225 | 5.52843 | 12.55250 |
| | OMEAN.01 | 56.30117 | 20.56001 | 18.56214 | 35.60821 |
| | MIN.01 | -22.75174 | -22.75174 | -22.75174 | -22.75174 |
| | MAX.01 | 24.25185 | 24.25185 | 24.25185 | 24.25185 |
| | MEANF.01 | 0.00000 | 6.39974 | 10.75774 | 18.29484 |
| | STDF.01 | 0.00000 | 0.82377 | 0.98267 | 2.85955 |
| | MEANMF.01 | 0.00000 | 1.65336 | 6.49101 | 9.44044 |
| | STDMF.01 | 0.00000 | 0.09469 | 0.19423 | 0.11697 |

   k. **STDMF**.X – This is the Standard Deviation of the Modal Frequency for that particular band, where “X” is that particular Channel number.

3. **Frequency Section** – This section will show all bands (as defined by Z-Score DLL or The Settings File itself), and their collected information.

## Similarities Section

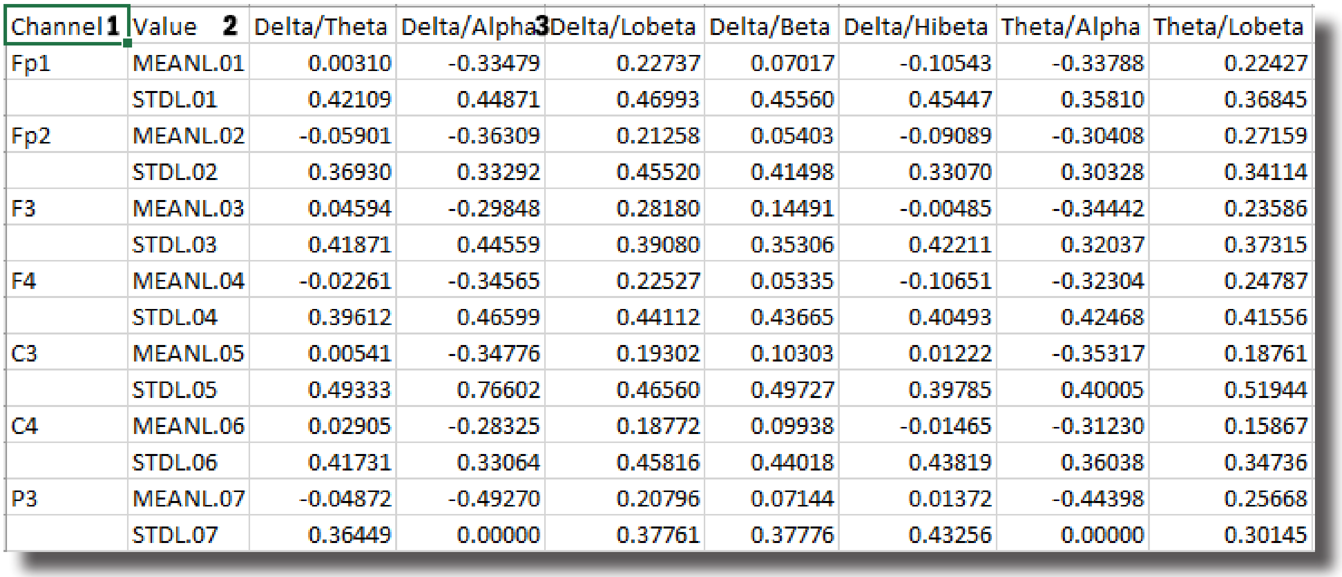


| Phase Similarity 1 | Fp1 2 | Fp2 | F3 | F4 | C3 | C4 | P3 | P4 | O1 | O2 |
|---|---|---|---|---|---|---|---|---|---|---|
| Fp1 | | 4 0.69701 | 0.68221 | 0.52701 | 0.46714 | 0.51099 | 0.41732 | 0.36653 | 0.30166 | 0.22254 |
| Fp2 | 3 0.17403 | | 0.66914 | 0.62279 | 0.46540 | 0.53762 | 0.39628 | 0.30834 | 0.26941 | 0.21568 |
| F3 | 0.23965 | 0.22230 | | 0.75064 | 0.66065 | 0.67401 | 0.55755 | 0.42912 | 0.40558 | 0.30351 |
| F4 | 0.27661 | 0.24452 | 0.17955 | | 0.59055 | 0.74429 | 0.50987 | 0.46888 | 0.38174 | 0.31727 |
| C3 | 0.29210 | 0.25599 | 0.25785 | 0.25952 | | 0.64606 | 0.77451 | 0.59966 | 0.56053 | 0.43156 |
| C4 | 0.28466 | 0.28709 | 0.22396 | 0.18942 | 0.23175 | | 0.54715 | 0.53575 | 0.48631 | 0.39213 |
| P3 | 0.30819 | 0.29563 | 0.26684 | 0.25635 | 0.21227 | 0.25608 | | 0.68673 | 0.70226 | 0.54035 |
| P4 | 0.29426 | 0.27161 | 0.29787 | 0.28593 | 0.26774 | 0.26570 | 0.25787 | | 0.72117 | 0.72159 |
| O1 | 0.23363 | 0.22370 | 0.25522 | 0.23340 | 0.23761 | 0.23723 | 0.20665 | 0.14995 | | 0.66117 |
| O2 | 0.22802 | 0.19079 | 0.25527 | 0.25186 | 0.27578 | 0.27497 | 0.30496 | 0.24496 | 0.25246 | |
| F7 | 0.22614 | 0.24815 | 0.19403 | 0.22988 | 0.25288 | 0.23342 | 0.26643 | 0.24976 | 0.24862 | 0.26025 |
| F8 | 0.29568 | 0.27177 | 0.28168 | 0.24736 | 0.27863 | 0.28751 | 0.26534 | 0.25552 | 0.16907 | 0.24254 |
| T3 | 0.25441 | 0.26672 | 0.28554 | 0.29167 | 0.20353 | 0.26631 | 0.22762 | 0.23206 | 0.22769 | 0.24585 |

**PLEASE NOTE:** There will be a Tab for each Waveform. In order to see this information, you will have to see them individually.

1. **Similarity Type –** Displays the type of Similarty being viewed. There are six (6) different types looked at.
    a. **Phase Similarity**
    b. **Training Coherence**
    c. **Correlation**
    d. **Phase Classic**
    e. **Pure Coherence**
    f. **Comodulation**
2. **Site Locations –** Shows the different locations that were used in the ZBuilder.
3. **Mean Information –** The Bottom-Half of the readings gives you the Average amplitude for the particular site combination.
4. **Standard Deviation Information –** The Top-Half of the readings gives you the standard deviation of amplitude for the particular site combination.

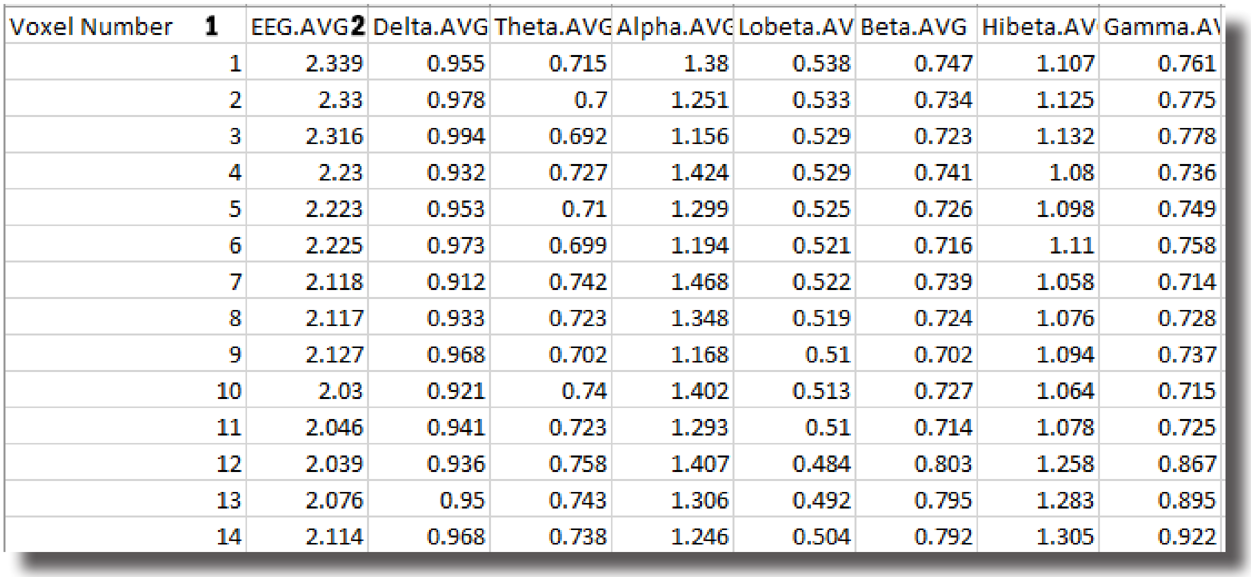
**Band Ratios Section**



| Channel | Value | Delta/Theta | Delta/Alpha | Delta/Lobeta | Delta/Beta | Delta/Hibeta | Theta/Alpha | Theta/Lobeta |
|---|---|---|---|---|---|---|---|---|
| Fp1 | MEANL.01 | 0.00310 | -0.33479 | 0.22737 | 0.07017 | -0.10543 | -0.33788 | 0.22427 |
| | STDL.01 | 0.42109 | 0.44871 | 0.46993 | 0.45560 | 0.45447 | 0.35810 | 0.36845 |
| Fp2 | MEANL.02 | -0.05901 | -0.36309 | 0.21258 | 0.05403 | -0.09089 | -0.30408 | 0.27159 |
| | STDL.02 | 0.36930 | 0.33292 | 0.45520 | 0.41498 | 0.33070 | 0.30328 | 0.34114 |
| F3 | MEANL.03 | 0.04594 | -0.29848 | 0.28180 | 0.14491 | -0.00485 | -0.34442 | 0.23586 |
| | STDL.03 | 0.41871 | 0.44559 | 0.39080 | 0.35306 | 0.42211 | 0.32037 | 0.37315 |
| F4 | MEANL.04 | -0.02261 | -0.34565 | 0.22527 | 0.05335 | -0.10651 | -0.32304 | 0.24787 |
| | STDL.04 | 0.39612 | 0.46599 | 0.44112 | 0.43665 | 0.40493 | 0.42468 | 0.41556 |
| C3 | MEANL.05 | 0.00541 | -0.34776 | 0.19302 | 0.10303 | 0.01222 | -0.35317 | 0.18761 |
| | STDL.05 | 0.49333 | 0.76602 | 0.46560 | 0.49727 | 0.39785 | 0.40005 | 0.51944 |
| C4 | MEANL.06 | 0.02905 | -0.28325 | 0.18772 | 0.09938 | -0.01465 | -0.31230 | 0.15867 |
| | STDL.06 | 0.41731 | 0.33064 | 0.45816 | 0.44018 | 0.43819 | 0.36038 | 0.34736 |
| P3 | MEANL.07 | -0.04872 | -0.49270 | 0.20796 | 0.07144 | 0.01372 | -0.44398 | 0.25668 |
| | STDL.07 | 0.36449 | 0.00000 | 0.37761 | 0.37776 | 0.43256 | 0.00000 | 0.30145 |

1. **Channel Section** – This section will display the labeling for all of the Channels that have been collected from using the ZBuilder system.
2. **Value Section** – This section will display the label for the information that has been collected in the Frequency Band Section
    a. **MEANL.X** – This is the Log of the average of Amplitude for the band ratio, where “X” is that particular Channel number.
    b. **STDL.X** – This is the Log of the Standard deviation of the Amplitude for the band ratio, where “X” is that particular Channel number.
3. R**atio Section** – This section will show all band ratios (as defined by the Which Filters to use Section), and their collected information

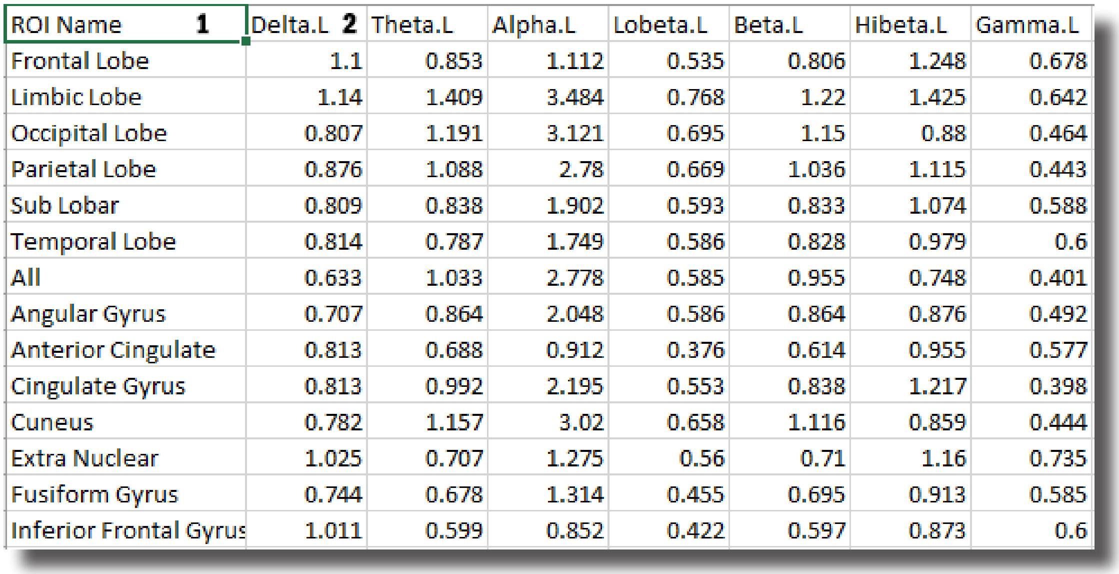
**Voxels Section**



| Voxel Number **1** | EEG.AVG**2** | Delta.AVG | Theta.AVG | Alpha.AVG | Lobeta.AV | Beta.AVG | Hibeta.AV | Gamma.AV |
|---|---|---|---|---|---|---|---|---|
| 1 | 2.339 | 0.955 | 0.715 | 1.38 | 0.538 | 0.747 | 1.107 | 0.761 |
| 2 | 2.33 | 0.978 | 0.7 | 1.251 | 0.533 | 0.734 | 1.125 | 0.775 |
| 3 | 2.316 | 0.994 | 0.692 | 1.156 | 0.529 | 0.723 | 1.132 | 0.778 |
| 4 | 2.23 | 0.932 | 0.727 | 1.424 | 0.529 | 0.741 | 1.08 | 0.736 |
| 5 | 2.223 | 0.953 | 0.71 | 1.299 | 0.525 | 0.726 | 1.098 | 0.749 |
| 6 | 2.225 | 0.973 | 0.699 | 1.194 | 0.521 | 0.716 | 1.11 | 0.758 |
| 7 | 2.118 | 0.912 | 0.742 | 1.468 | 0.522 | 0.739 | 1.058 | 0.714 |
| 8 | 2.117 | 0.933 | 0.723 | 1.348 | 0.519 | 0.724 | 1.076 | 0.728 |
| 9 | 2.127 | 0.968 | 0.702 | 1.168 | 0.51 | 0.702 | 1.094 | 0.737 |
| 10 | 2.03 | 0.921 | 0.74 | 1.402 | 0.513 | 0.727 | 1.064 | 0.715 |
| 11 | 2.046 | 0.941 | 0.723 | 1.293 | 0.51 | 0.714 | 1.078 | 0.725 |
| 12 | 2.039 | 0.936 | 0.758 | 1.407 | 0.484 | 0.803 | 1.258 | 0.867 |
| 13 | 2.076 | 0.95 | 0.743 | 1.306 | 0.492 | 0.795 | 1.283 | 0.895 |
| 14 | 2.114 | 0.968 | 0.738 | 1.246 | 0.504 | 0.792 | 1.305 | 0.922 |

1. **Voxel Number** – This section containsl the labeling for all of the Voxels
2. **Frequency Section** – This section will show all bands (as defined by the Which Filters to use Section), and their collected information.
    a. **BAND.AVG** – This is the average of amplitude for the particular band, where “BAND” is the band as defined by the Which Filters to use section.

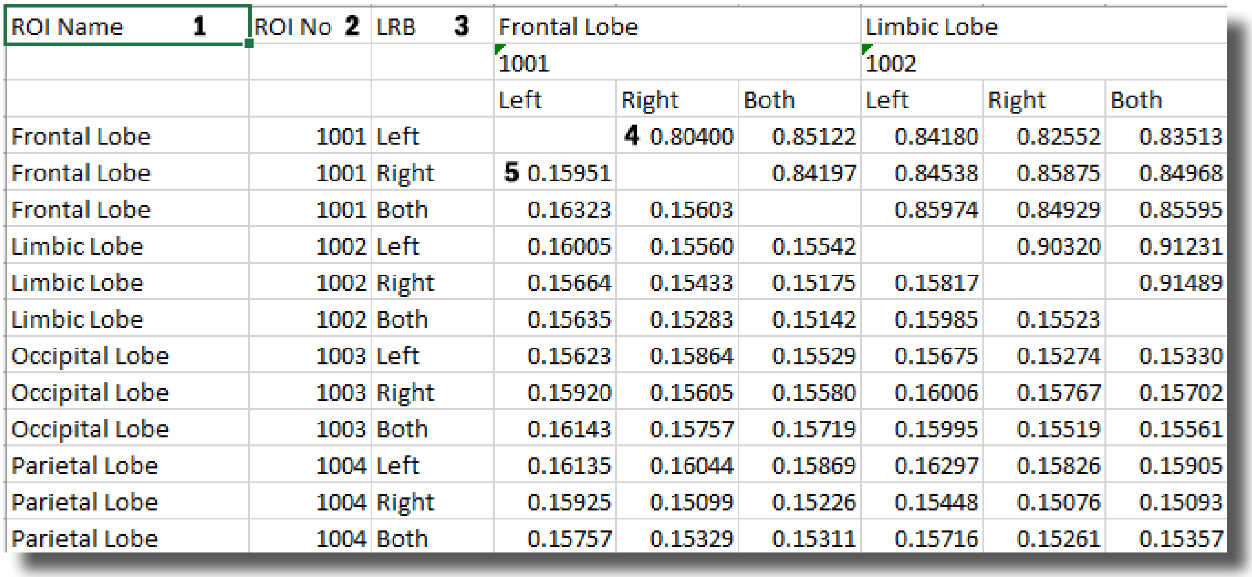
## ROI Amplitudes Section



| ROI Name | Delta.L | Theta.L | Alpha.L | Lobeta.L | Beta.L | Hibeta.L | Gamma.L |
|---|---|---|---|---|---|---|---|
| Frontal Lobe | 1.1 | 0.853 | 1.112 | 0.535 | 0.806 | 1.248 | 0.678 |
| Limbic Lobe | 1.14 | 1.409 | 3.484 | 0.768 | 1.22 | 1.425 | 0.642 |
| Occipital Lobe | 0.807 | 1.191 | 3.121 | 0.695 | 1.15 | 0.88 | 0.464 |
| Parietal Lobe | 0.876 | 1.088 | 2.78 | 0.669 | 1.036 | 1.115 | 0.443 |
| Sub Lobar | 0.809 | 0.838 | 1.902 | 0.593 | 0.833 | 1.074 | 0.588 |
| Temporal Lobe | 0.814 | 0.787 | 1.749 | 0.586 | 0.828 | 0.979 | 0.6 |
| All | 0.633 | 1.033 | 2.778 | 0.585 | 0.955 | 0.748 | 0.401 |
| Angular Gyrus | 0.707 | 0.864 | 2.048 | 0.586 | 0.864 | 0.876 | 0.492 |
| Anterior Cingulate | 0.813 | 0.688 | 0.912 | 0.376 | 0.614 | 0.955 | 0.577 |
| Cingulate Gyrus | 0.813 | 0.992 | 2.195 | 0.553 | 0.838 | 1.217 | 0.398 |
| Cuneus | 0.782 | 1.157 | 3.02 | 0.658 | 1.116 | 0.859 | 0.444 |
| Extra Nuclear | 1.025 | 0.707 | 1.275 | 0.56 | 0.71 | 1.16 | 0.735 |
| Fusiform Gyrus | 0.744 | 0.678 | 1.314 | 0.455 | 0.695 | 0.913 | 0.585 |
| Inferior Frontal Gyrus | 1.011 | 0.599 | 0.852 | 0.422 | 0.597 | 0.873 | 0.6 |

1. **ROI Name –** This section contains the labeling for all of the ROIs
2. **Frequency Section –** This section will show all bands, and their Average Amperage broken down in the following order
    a. **BAND.L –** Average Amperage for the Left portion of the ROI
    b. **BAND.R –** Average Amperage for the Right portion of the ROI
    c. **BAND.LR –** Average Amperage for the entire ROI

### ROI Coherence Section

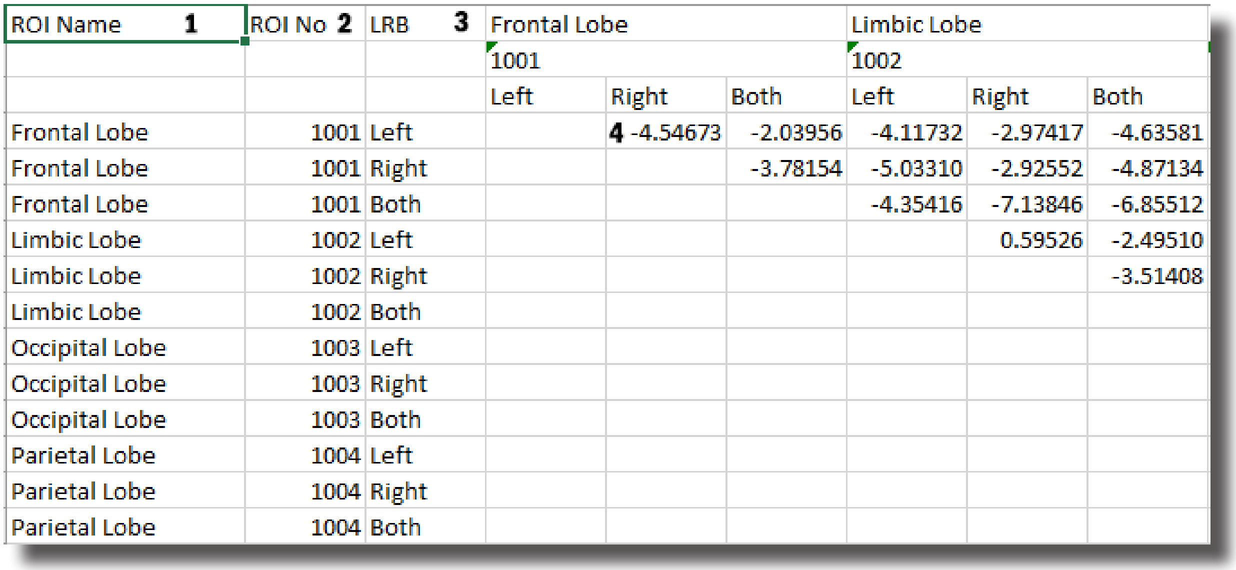


| ROI Name 1 | ROI No 2 | LRB 3 | Frontal Lobe | | | Limbic Lobe | | |
|---|---|---|---|---|---|---|---|---|
| | | | 1001 | | | 1002 | | |
| | | | Left | Right | Both | Left | Right | Both |
| Frontal Lobe | 1001 | Left | | 4 0.80400 | 0.85122 | 0.84180 | 0.82552 | 0.83513 |
| Frontal Lobe | 1001 | Right | 5 0.15951 | | 0.84197 | 0.84538 | 0.85875 | 0.84968 |
| Frontal Lobe | 1001 | Both | 0.16323 | 0.15603 | | 0.85974 | 0.84929 | 0.85595 |
| Limbic Lobe | 1002 | Left | 0.16005 | 0.15560 | 0.15542 | | 0.90320 | 0.91231 |
| Limbic Lobe | 1002 | Right | 0.15664 | 0.15433 | 0.15175 | 0.15817 | | 0.91489 |
| Limbic Lobe | 1002 | Both | 0.15635 | 0.15283 | 0.15142 | 0.15985 | 0.15523 | |
| Occipital Lobe | 1003 | Left | 0.15623 | 0.15864 | 0.15529 | 0.15675 | 0.15274 | 0.15330 |
| Occipital Lobe | 1003 | Right | 0.15920 | 0.15605 | 0.15580 | 0.16006 | 0.15767 | 0.15702 |
| Occipital Lobe | 1003 | Both | 0.16143 | 0.15757 | 0.15719 | 0.15995 | 0.15519 | 0.15561 |
| Parietal Lobe | 1004 | Left | 0.16135 | 0.16044 | 0.15869 | 0.16297 | 0.15826 | 0.15905 |
| Parietal Lobe | 1004 | Right | 0.15925 | 0.15099 | 0.15226 | 0.15448 | 0.15076 | 0.15093 |
| Parietal Lobe | 1004 | Both | 0.15757 | 0.15329 | 0.15311 | 0.15716 | 0.15261 | 0.15357 |

**PLEASE NOTE:** There will be a Tab for each Waveform. In order to see this information, you will have to see them individually.

1. **ROI Name -** This section contains the labeling for all of the ROIs
2. **ROI Number –** This section shows the BrainMasters assigned Internal ROI Number.
3. **LRB –** This section Identifies the ROI's Location, left, right, or both.
4. **Mean Information –** The Bottom-Half of the readings gives you the Average Coherence for the particular ROI combination.
5. **Standard Deviation Information –** The Top-Half of the readings gives you the standard deviation of amplitude for the particular ROI combination.

## ROI Coherence Z-Score Section

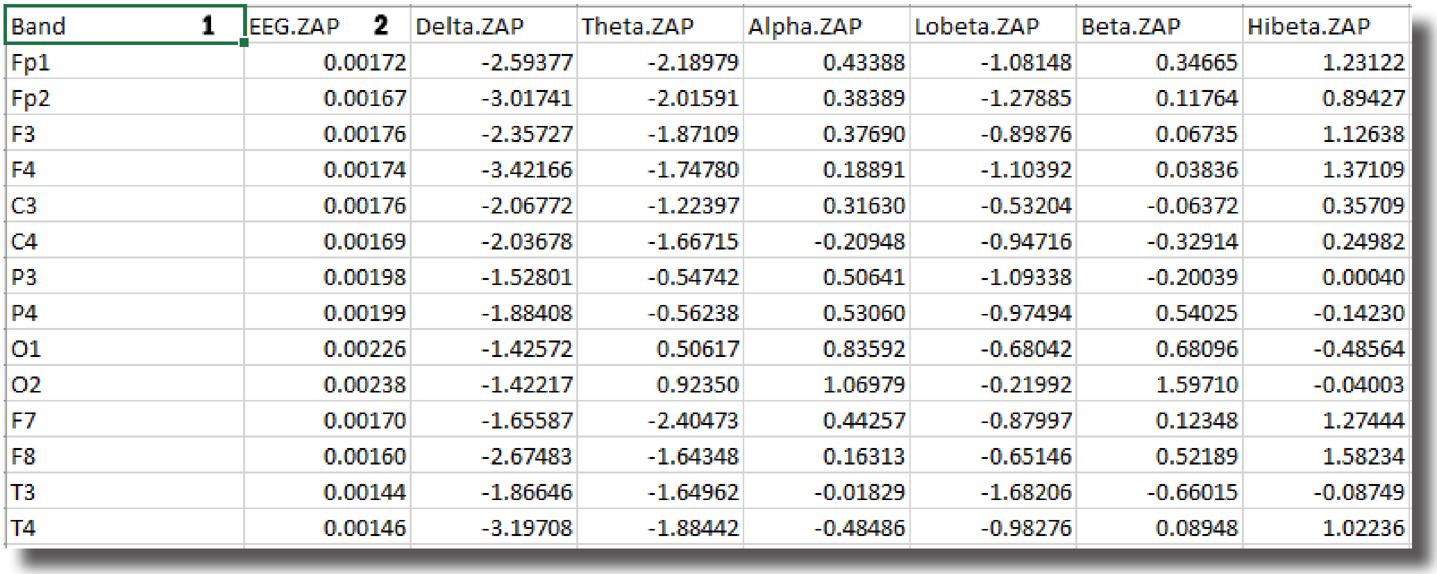


| ROI Name 1 | ROI No 2 | LRB 3 | Frontal Lobe | | | Limbic Lobe | | |
|---|---|---|---|---|---|---|---|---|
| | | | 1001 | | | 1002 | | |
| | | | Left | Right | Both | Left | Right | Both |
| Frontal Lobe | 1001 | Left | | 4 -4.54673 | -2.03956 | -4.11732 | -2.97417 | -4.63581 |
| Frontal Lobe | 1001 | Right | | | -3.78154 | -5.03310 | -2.92552 | -4.87134 |
| Frontal Lobe | 1001 | Both | | | | -4.35416 | -7.13846 | -6.85512 |
| Limbic Lobe | 1002 | Left | | | | | 0.59526 | -2.49510 |
| Limbic Lobe | 1002 | Right | | | | | | -3.51408 |
| Limbic Lobe | 1002 | Both | | | | | | |
| Occipital Lobe | 1003 | Left | | | | | | |
| Occipital Lobe | 1003 | Right | | | | | | |
| Occipital Lobe | 1003 | Both | | | | | | |
| Parietal Lobe | 1004 | Left | | | | | | |
| Parietal Lobe | 1004 | Right | | | | | | |
| Parietal Lobe | 1004 | Both | | | | | | |

**PLEASE NOTE:** There will be a Tab for each Waveform. In order to see this information, you will have to see them individually.

1. **ROI Name -** This section contains the labeling for all of the ROIs
2. **ROI Number –** This section shows the BrainMasters assigned Internal ROI Number.
3. **LRB –** This section Identifies the ROI's Location, left, right, or both.
4. **Standard Deviation Information –** The Top-Half of the readings gives you the standard deviation for the particular ROI combination.

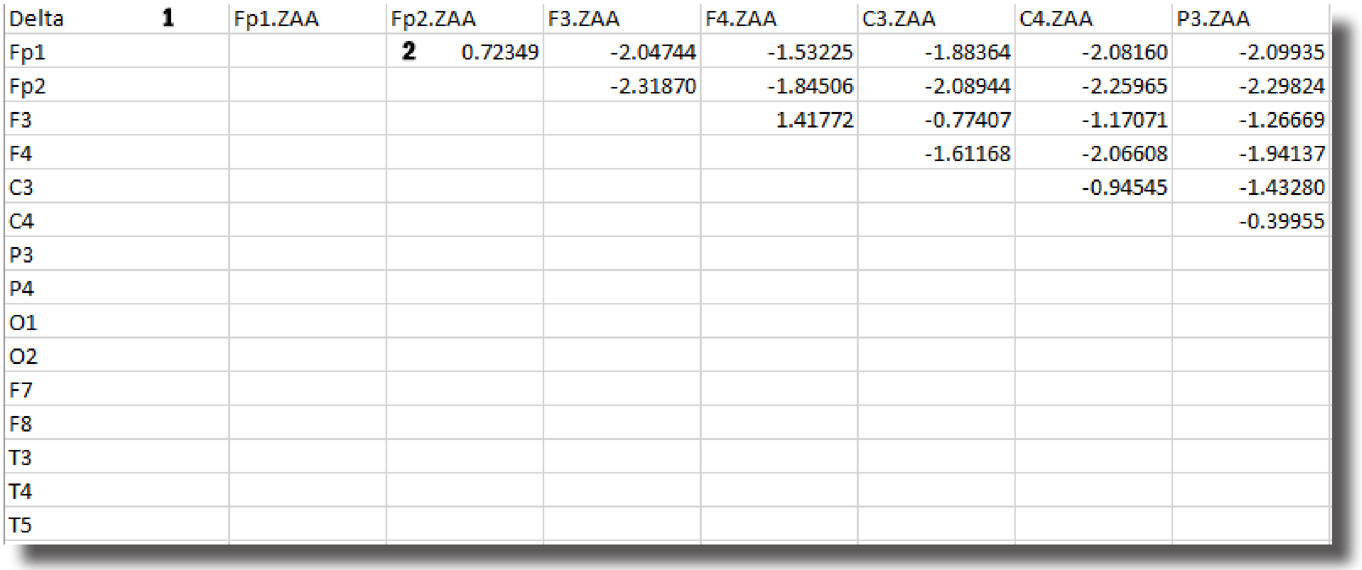
### Surface Z-Score Power Section



| Band | EEG.ZAP | Delta.ZAP | Theta.ZAP | Alpha.ZAP | Lobeta.ZAP | Beta.ZAP | Hibeta.ZAP |
|---|---|---|---|---|---|---|---|
| Fp1 | 0.00172 | -2.59377 | -2.18979 | 0.43388 | -1.08148 | 0.34665 | 1.23122 |
| Fp2 | 0.00167 | -3.01741 | -2.01591 | 0.38389 | -1.27885 | 0.11764 | 0.89427 |
| F3 | 0.00176 | -2.35727 | -1.87109 | 0.37690 | -0.89876 | 0.06735 | 1.12638 |
| F4 | 0.00174 | -3.42166 | -1.74780 | 0.18891 | -1.10392 | 0.03836 | 1.37109 |
| C3 | 0.00176 | -2.06772 | -1.22397 | 0.31630 | -0.53204 | -0.06372 | 0.35709 |
| C4 | 0.00169 | -2.03678 | -1.66715 | -0.20948 | -0.94716 | -0.32914 | 0.24982 |
| P3 | 0.00198 | -1.52801 | -0.54742 | 0.50641 | -1.09338 | -0.20039 | 0.00040 |
| P4 | 0.00199 | -1.88408 | -0.56238 | 0.53060 | -0.97494 | 0.54025 | -0.14230 |
| O1 | 0.00226 | -1.42572 | 0.50617 | 0.83592 | -0.68042 | 0.68096 | -0.48564 |
| O2 | 0.00238 | -1.42217 | 0.92350 | 1.06979 | -0.21992 | 1.59710 | -0.04003 |
| F7 | 0.00170 | -1.65587 | -2.40473 | 0.44257 | -0.87997 | 0.12348 | 1.27444 |
| F8 | 0.00160 | -2.67483 | -1.64348 | 0.16313 | -0.65146 | 0.52189 | 1.58234 |
| T3 | 0.00144 | -1.86646 | -1.64962 | -0.01829 | -1.68206 | -0.66015 | -0.08749 |
| T4 | 0.00146 | -3.19708 | -1.88442 | -0.48486 | -0.98276 | 0.08948 | 1.02236 |

1. **Channel Section –** This section will display the labeling for all of the Channels that have been collected from using the analyze system.
2. **Frequency Section –** This section will show the Standard Deviation values for each band. The following Metrics will be on this page
    a. **Absolute Power**
    b. **Relative Power**

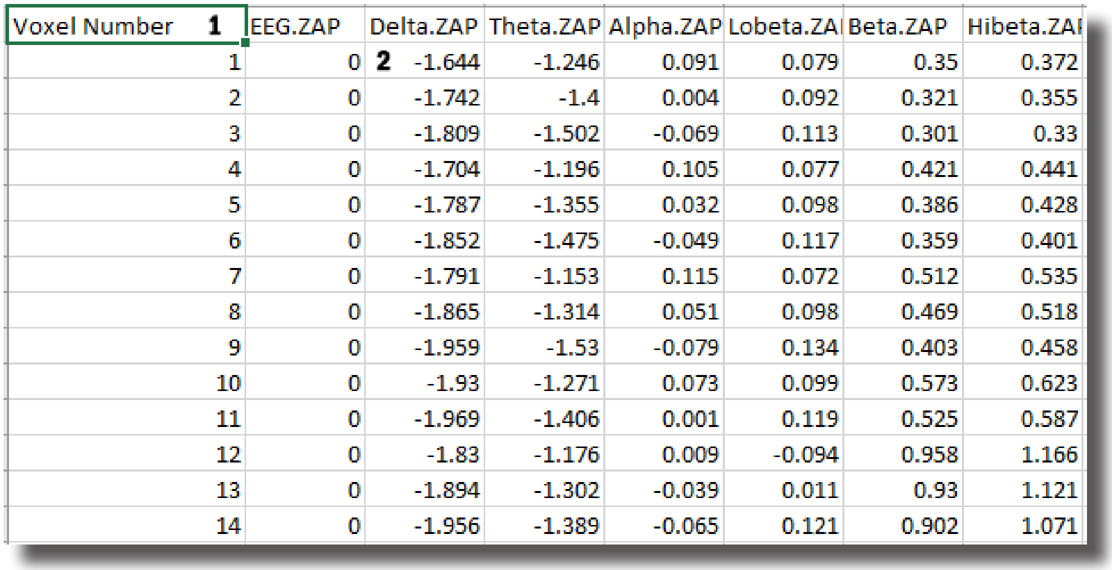
## Surface Z-Score Connectivities Section



| Delta 1 | Fp1.ZAA | Fp2.ZAA | F3.ZAA | F4.ZAA | C3.ZAA | C4.ZAA | P3.ZAA |
|---|---|---|---|---|---|---|---|
| Fp1 | | 2 0.72349 | -2.04744 | -1.53225 | -1.88364 | -2.08160 | -2.09935 |
| Fp2 | | | -2.31870 | -1.84506 | -2.08944 | -2.25965 | -2.29824 |
| F3 | | | | 1.41772 | -0.77407 | -1.17071 | -1.26669 |
| F4 | | | | | -1.61168 | -2.06608 | -1.94137 |
| C3 | | | | | | -0.94545 | -1.43280 |
| C4 | | | | | | | -0.39955 |
| P3 | | | | | | | |
| P4 | | | | | | | |
| O1 | | | | | | | |
| O2 | | | | | | | |
| F7 | | | | | | | |
| F8 | | | | | | | |
| T3 | | | | | | | |
| T4 | | | | | | | |
| T5 | | | | | | | |

1. **Band Section –** This section will display all of the different Standard Deviation for that particular band and Metric.
2. **Channel Section –** This section will show all of the channels that are involved in the cross communication metrics of that particular band. The following Metrics will be on this page
    a. **Asymmetry**
    b. **Coherence**
    c. **Phase**

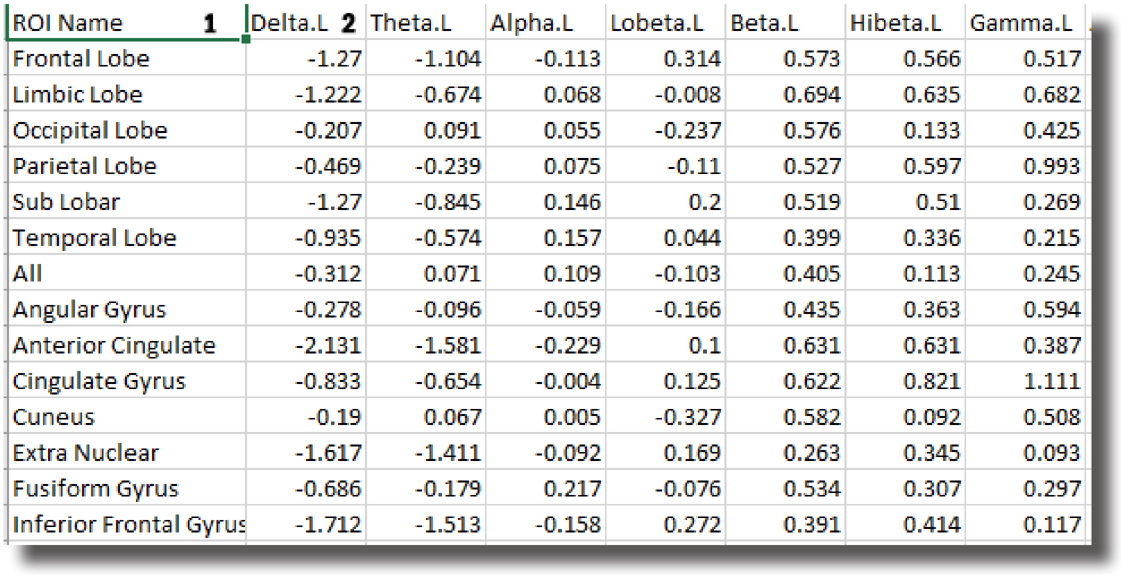
## Voxels Z-Scores



| Voxel Number | EEG.ZAP | Delta.ZAP | Theta.ZAP | Alpha.ZAP | Lobeta.ZA | Beta.ZAP | Hibeta.ZA |
|---|---|---|---|---|---|---|---|
| 1 | 0 | -1.644 | -1.246 | 0.091 | 0.079 | 0.35 | 0.372 |
| 2 | 0 | -1.742 | -1.4 | 0.004 | 0.092 | 0.321 | 0.355 |
| 3 | 0 | -1.809 | -1.502 | -0.069 | 0.113 | 0.301 | 0.33 |
| 4 | 0 | -1.704 | -1.196 | 0.105 | 0.077 | 0.421 | 0.441 |
| 5 | 0 | -1.787 | -1.355 | 0.032 | 0.098 | 0.386 | 0.428 |
| 6 | 0 | -1.852 | -1.475 | -0.049 | 0.117 | 0.359 | 0.401 |
| 7 | 0 | -1.791 | -1.153 | 0.115 | 0.072 | 0.512 | 0.535 |
| 8 | 0 | -1.865 | -1.314 | 0.051 | 0.098 | 0.469 | 0.518 |
| 9 | 0 | -1.959 | -1.53 | -0.079 | 0.134 | 0.403 | 0.458 |
| 10 | 0 | -1.93 | -1.271 | 0.073 | 0.099 | 0.573 | 0.623 |
| 11 | 0 | -1.969 | -1.406 | 0.001 | 0.119 | 0.525 | 0.587 |
| 12 | 0 | -1.83 | -1.176 | 0.009 | -0.094 | 0.958 | 1.166 |
| 13 | 0 | -1.894 | -1.302 | -0.039 | 0.011 | 0.93 | 1.121 |
| 14 | 0 | -1.956 | -1.389 | -0.065 | 0.121 | 0.902 | 1.071 |

1. **Voxel Number –** This section contains the labeling for all of the Voxels
2. **Frequency Section –** This section will show all bands, and their Standard Deviation for that particular voxel

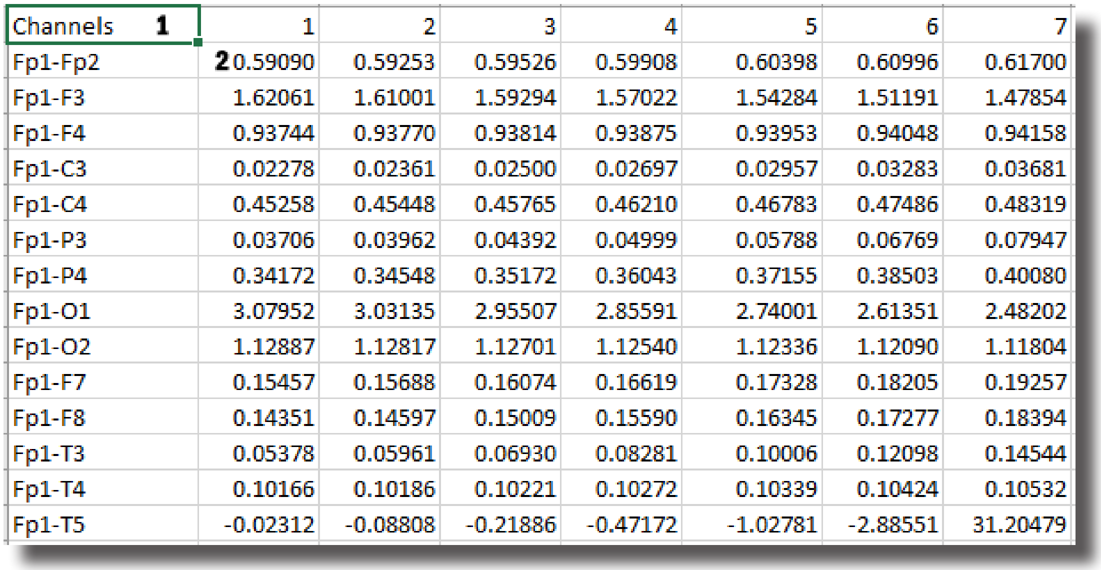
## ROI Z-Scores Section



| ROI Name 1 | Delta.L 2 | Theta.L | Alpha.L | Lobeta.L | Beta.L | Hibeta.L | Gamma.L |
|---|---|---|---|---|---|---|---|
| Frontal Lobe | -1.27 | -1.104 | -0.113 | 0.314 | 0.573 | 0.566 | 0.517 |
| Limbic Lobe | -1.222 | -0.674 | 0.068 | -0.008 | 0.694 | 0.635 | 0.682 |
| Occipital Lobe | -0.207 | 0.091 | 0.055 | -0.237 | 0.576 | 0.133 | 0.425 |
| Parietal Lobe | -0.469 | -0.239 | 0.075 | -0.11 | 0.527 | 0.597 | 0.993 |
| Sub Lobar | -1.27 | -0.845 | 0.146 | 0.2 | 0.519 | 0.51 | 0.269 |
| Temporal Lobe | -0.935 | -0.574 | 0.157 | 0.044 | 0.399 | 0.336 | 0.215 |
| All | -0.312 | 0.071 | 0.109 | -0.103 | 0.405 | 0.113 | 0.245 |
| Angular Gyrus | -0.278 | -0.096 | -0.059 | -0.166 | 0.435 | 0.363 | 0.594 |
| Anterior Cingulate | -2.131 | -1.581 | -0.229 | 0.1 | 0.631 | 0.631 | 0.387 |
| Cingulate Gyrus | -0.833 | -0.654 | -0.004 | 0.125 | 0.622 | 0.821 | 1.111 |
| Cuneus | -0.19 | 0.067 | 0.005 | -0.327 | 0.582 | 0.092 | 0.508 |
| Extra Nuclear | -1.617 | -1.411 | -0.092 | 0.169 | 0.263 | 0.345 | 0.093 |
| Fusiform Gyrus | -0.686 | -0.179 | 0.217 | -0.076 | 0.534 | 0.307 | 0.297 |
| Inferior Frontal Gyrus | -1.712 | -1.513 | -0.158 | 0.272 | 0.391 | 0.414 | 0.117 |

1. **ROI Section –** This section contains the labeling for all of the ROIs
2. **Frequency Section –** This section will show all bands, and their Standard Deviations broken down in the following order
    a. **BAND.L –** Standard Deviation for the Left portion of the ROI
    b. **BAND.R –** Standard Deviation for the Right portion of the ROI
    c. **BAND.LR –** Average Standard Deviation for the entire ROI

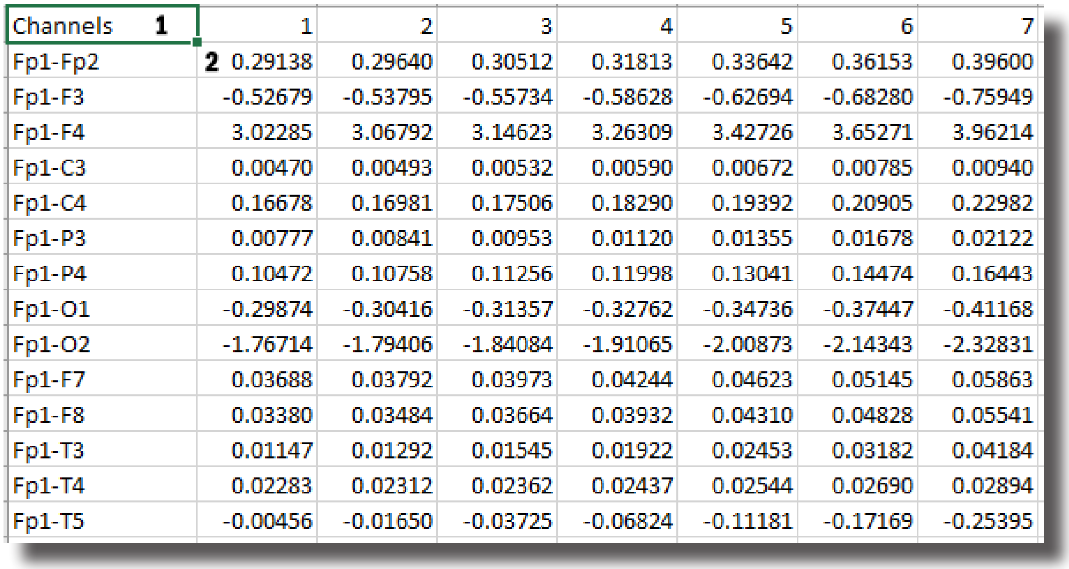
## iCoh Section



| Channels | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|
| Fp1-Fp2 | 0.59090 | 0.59253 | 0.59526 | 0.59908 | 0.60398 | 0.60996 | 0.61700 |
| Fp1-F3 | 1.62061 | 1.61001 | 1.59294 | 1.57022 | 1.54284 | 1.51191 | 1.47854 |
| Fp1-F4 | 0.93744 | 0.93770 | 0.93814 | 0.93875 | 0.93953 | 0.94048 | 0.94158 |
| Fp1-C3 | 0.02278 | 0.02361 | 0.02500 | 0.02697 | 0.02957 | 0.03283 | 0.03681 |
| Fp1-C4 | 0.45258 | 0.45448 | 0.45765 | 0.46210 | 0.46783 | 0.47486 | 0.48319 |
| Fp1-P3 | 0.03706 | 0.03962 | 0.04392 | 0.04999 | 0.05788 | 0.06769 | 0.07947 |
| Fp1-P4 | 0.34172 | 0.34548 | 0.35172 | 0.36043 | 0.37155 | 0.38503 | 0.40080 |
| Fp1-O1 | 3.07952 | 3.03135 | 2.95507 | 2.85591 | 2.74001 | 2.61351 | 2.48202 |
| Fp1-O2 | 1.12887 | 1.12817 | 1.12701 | 1.12540 | 1.12336 | 1.12090 | 1.11804 |
| Fp1-F7 | 0.15457 | 0.15688 | 0.16074 | 0.16619 | 0.17328 | 0.18205 | 0.19257 |
| Fp1-F8 | 0.14351 | 0.14597 | 0.15009 | 0.15590 | 0.16345 | 0.17277 | 0.18394 |
| Fp1-T3 | 0.05378 | 0.05961 | 0.06930 | 0.08281 | 0.10006 | 0.12098 | 0.14544 |
| Fp1-T4 | 0.10166 | 0.10186 | 0.10221 | 0.10272 | 0.10339 | 0.10424 | 0.10532 |
| Fp1-T5 | -0.02312 | -0.08808 | -0.21886 | -0.47172 | -1.02781 | -2.88551 | 31.20479 |

1. **Channels Section –** This section contains the labeling for all of the Channel Combinations
2. **Frequency Section –** This section will show all single hertz frequencies, and their isolated effective coherence (iCoh) value

## gPDC Section

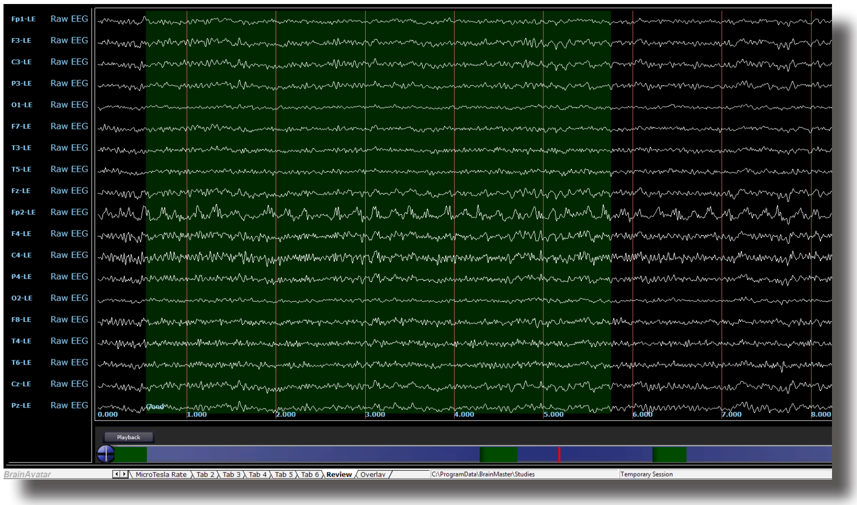


| Channels | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|
| Fp1-Fp2 | 0.29138 | 0.29640 | 0.30512 | 0.31813 | 0.33642 | 0.36153 | 0.39600 |
| Fp1-F3 | -0.52679 | -0.53795 | -0.55734 | -0.58628 | -0.62694 | -0.68280 | -0.75949 |
| Fp1-F4 | 3.02285 | 3.06792 | 3.14623 | 3.26309 | 3.42726 | 3.65271 | 3.96214 |
| Fp1-C3 | 0.00470 | 0.00493 | 0.00532 | 0.00590 | 0.00672 | 0.00785 | 0.00940 |
| Fp1-C4 | 0.16678 | 0.16981 | 0.17506 | 0.18290 | 0.19392 | 0.20905 | 0.22982 |
| Fp1-P3 | 0.00777 | 0.00841 | 0.00953 | 0.01120 | 0.01355 | 0.01678 | 0.02122 |
| Fp1-P4 | 0.10472 | 0.10758 | 0.11256 | 0.11998 | 0.13041 | 0.14474 | 0.16443 |
| Fp1-O1 | -0.29874 | -0.30416 | -0.31357 | -0.32762 | -0.34736 | -0.37447 | -0.41168 |
| Fp1-O2 | -1.76714 | -1.79406 | -1.84084 | -1.91065 | -2.00873 | -2.14343 | -2.32831 |
| Fp1-F7 | 0.03688 | 0.03792 | 0.03973 | 0.04244 | 0.04623 | 0.05145 | 0.05863 |
| Fp1-F8 | 0.03380 | 0.03484 | 0.03664 | 0.03932 | 0.04310 | 0.04828 | 0.05541 |
| Fp1-T3 | 0.01147 | 0.01292 | 0.01545 | 0.01922 | 0.02453 | 0.03182 | 0.04184 |
| Fp1-T4 | 0.02283 | 0.02312 | 0.02362 | 0.02437 | 0.02544 | 0.02690 | 0.02894 |
| Fp1-T5 | -0.00456 | -0.01650 | -0.03725 | -0.06824 | -0.11181 | -0.17169 | -0.25395 |

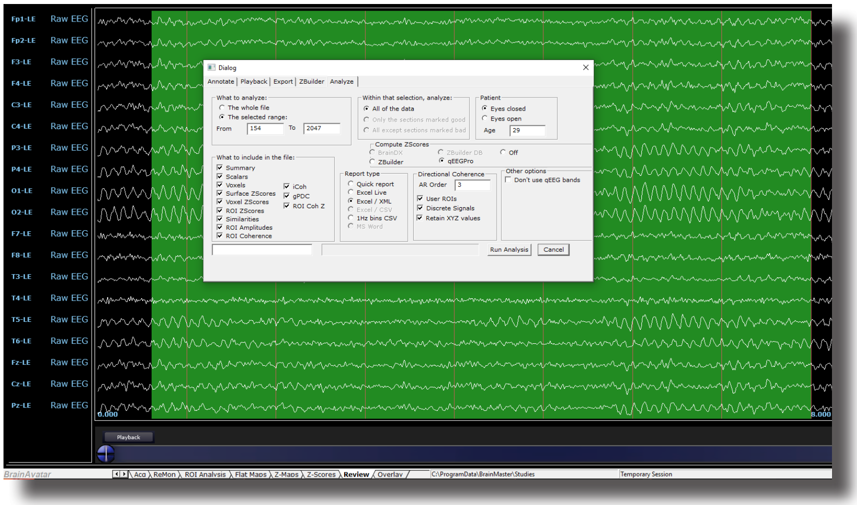
1. **Channels Section –** This section contains the labeling for all of the Channel Combinations
2. **Frequency Section –** This section will show all single hertz frequencies, and their generalized partial directed coherence (gPDC) value

## Creating an Analyze File

1. Open the File that you would like to work with.Under the Review Tab, you will annotate based off of the instructions from the EDF Annotation Section.


Fp1-LE Raw EEG
F3-LE Raw EEG
C3-LE Raw EEG
P3-LE Raw EEG
O1-LE Raw EEG
F7-LE Raw EEG
T3-LE Raw EEG
T5-LE Raw EEG
Fz-LE Raw EEG
Fp2-LE Raw EEG
F4-LE Raw EEG
C4-LE Raw EEG
P4-LE Raw EEG
O2-LE Raw EEG
F8-LE Raw EEG
T4-LE Raw EEG
T6-LE Raw EEG
Cz-LE Raw EEG
Pz-LE Raw EEG
0.000
1.000
2.000
3.000
4.000
5.000
6.000
7.000
8.000
Playback
BrainAvatar
MicroTesla Rate
Tab 2
Tab 3
Tab 4
Tab 5
Tab 6
Review
Overlay
C:\ProgramData\BrainMaster\Studies
Temporary Session

2. When completed, either Double-Click in the EEG, or Hold down the Left-Click on the mouse, and select a section of data. This will bring up the Panel Options Menu. Navigate to the Analyze Tab, and use this menu to set the Analyze Settings as needed. When completed, click the Run Analysis Button.


Fp1-LE Raw EEG
Fp2-LE Raw EEG
F3-LE Raw EEG
F4-LE Raw EEG
C3-LE Raw EEG
C4-LE Raw EEG
P3-LE Raw EEG
P4-LE Raw EEG
O1-LE Raw EEG
O2-LE Raw EEG
F7-LE Raw EEG
F8-LE Raw EEG
T3-LE Raw EEG
T4-LE Raw EEG
T5-LE Raw EEG
T6-LE Raw EEG
Fz-LE Raw EEG
Cz-LE Raw EEG
Pz-LE Raw EEG
0.000
8.000
Playback
BrainAvatar
Acq
ReMon
ROI Analysis
Flat Maps
Z-Maps
Z-Scores
Review
Overlay
C:\ProgramData\BrainMaster\Studies
Temporary Session
Dialog
Annotate
Playback
Export
ZBuilder
Analyze
Run Analysis
Cancel

What to analyze:
○ The whole file
● The selected range:
From 154 To 2047

Within that selection, analyze:
● All of the data
○ Only the sections marked good
○ All except sections marked bad

Patient
● Eyes closed
○ Eyes open
Age 29

Compute ZScores
○ BrainDX ○ ZBuilder DB ○ Off
○ ZBuilder ● qEEGPro

What to include in the file:
☑ Summary
☑ Scalars
☑ Voxels
☑ Surface ZScores
☑ Voxel ZScores
☑ ROI ZScores
☑ Similarities
☑ ROI Amplitudes
☑ ROI Coherence
☑ iCoh
☑ gPDC
☑ ROI Coh Z

Report type
○ Quick report
○ Excel Live
● Excel / XML
○ Excel / CSV
○ 1Hz bins CSV
○ MS Word

Directional Coherence
AR Order 3
☑ User ROIs
☑ Discrete Signals
☑ Retain XYZ values

Other options
☐ Don't use qEEG bands

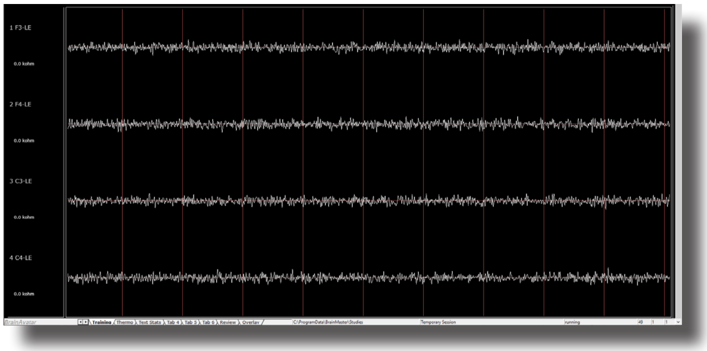
You have now created an Analysis File. You will be able to tell this has been created, based on the Report type that you chose. If Excel/XML or 1Hz bins CSV was chosen, then you will be able to utilize Windows Explorer to navigate to the patients directory and find the created files. If Excel/Live was chosen, then Microsoft Excel will open with the Requested information, for you to save as you would like. If Quick File was chosen, then a Built-in Spreadsheet application will open for you to be able to review the information. *****PLEASE NOTE:** You will not be able to save the information if you choose Quick File.

## Software Themes

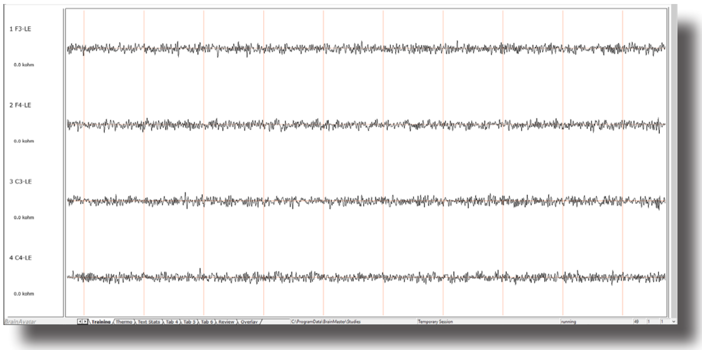
*****PLEASE NOTE:** At this current version of software The Creating custom themes is not fully functioning.

Currently, there are three pre-built Themes to choose from. This can be located on the Training Screen by clicking the Themes Tab, and then choosing the options from the Select built in theme.

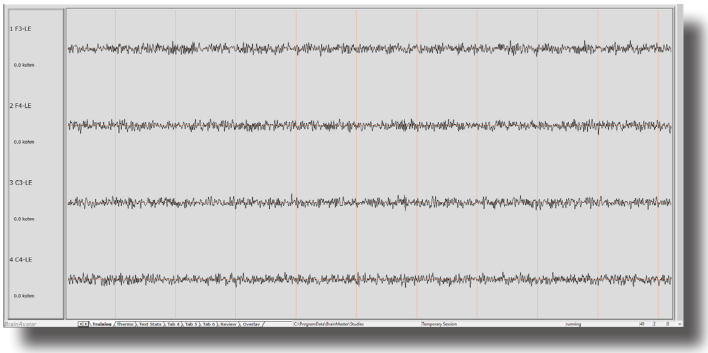
### Built-In Themes


1 F3-LE
0.0 kohm
2 F4-LE
0.0 kohm
3 C3-LE
0.0 kohm
4 C4-LE
0.0 kohm

Black Theme


1 F3-LE
0.0 kohm
2 F4-LE
0.0 kohm
3 C3-LE
0.0 kohm
4 C4-LE
0.0 kohm

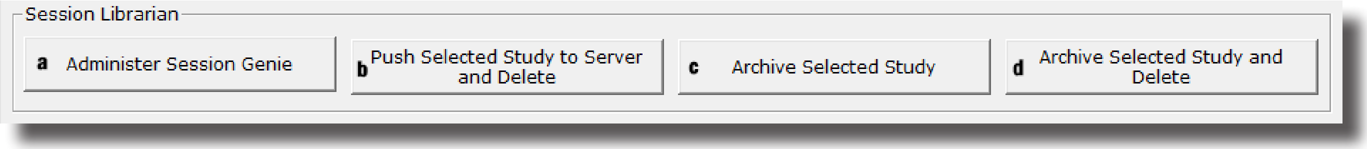
White Theme


1 F3-LE
0.0 kohm
2 F4-LE
0.0 kohm
3 C3-LE
0.0 kohm
4 C4-LE
0.0 kohm

# BMZ Files

## Creating A BMZ from a Study File

1. From the Setup Screen, click the Folder Selection Button or Folder Tab. This will bring you to the Select Folder Screen. On this screen, click the Archiving setting that makes most sense for what you are accomplishing.


Session Librarian
a Administer Session Genie
b Push Selected Study to Server and Delete
c Archive Selected Study
d Archive Selected Study and Delete

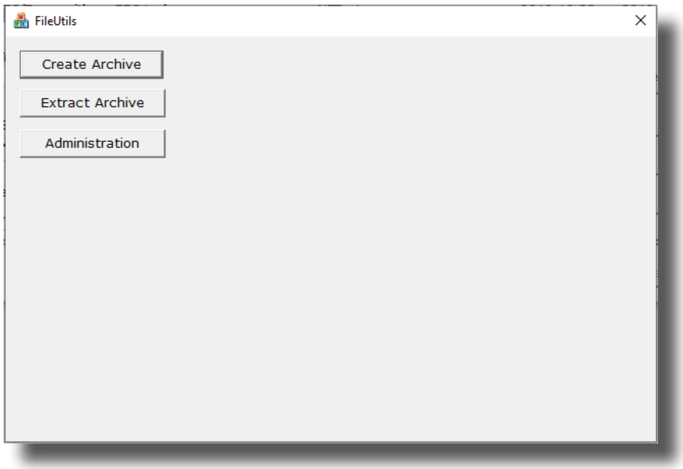
   a. **Administer Session Genie –** Choosing this option will open the BMz System to be operated only through the application. This is an Advanced Option not reccomended for users.

   b. **Push Current/Selected Study to Server and Delete –** This will create a BMZ file for either the Current Study the Software has open, or a Folder that has been selected in the Folder Selection Interface, and will delete the folder from the Patient Directory.

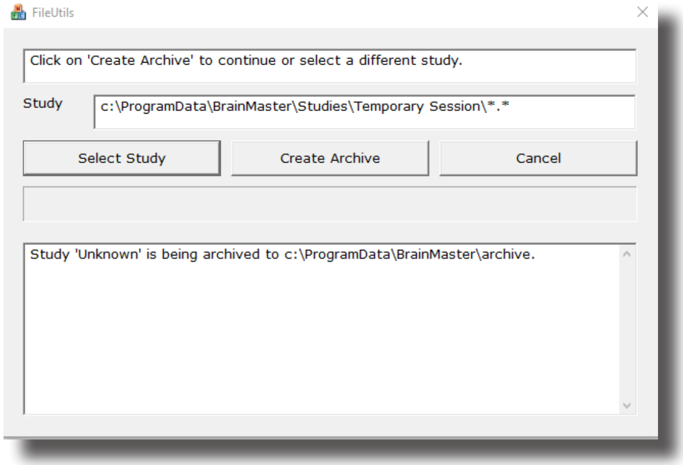
   c. **Archive Current/Selected Study –** This will create a BMZ file for either the Current Study the Software has open, or a Folder that has been selected in the Folder Selection Interface, and walk you through the next steps.

   d. **Archive Current/Selected Study and Delete –** This will create a BMZ file for either the Current Study the Software has open, or a Folder that has been selected in the Folder Selection Interface, and will delete the folder from the Patient Directory.

2. When the BMZ Application Open, choose Create Archive Button (Selection A only).


FileUtils
Create Archive
Extract Archive
Administration

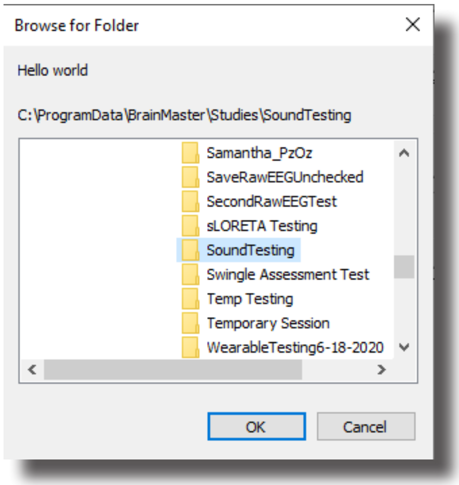
3. On the next screen, click the Select Study Button to utilize the File Selection system to select the proper Folder for Archiving. When selected, click the OK button to return to the BMZ App, aclick Create Archive to continue (Selection A only).


FileUtils
Select Study
Create Archive
Cancel

Click on 'Create Archive' to continue or select a different study.

Study c:\ProgramData\BrainMaster\Studies\Temporary Session*.*

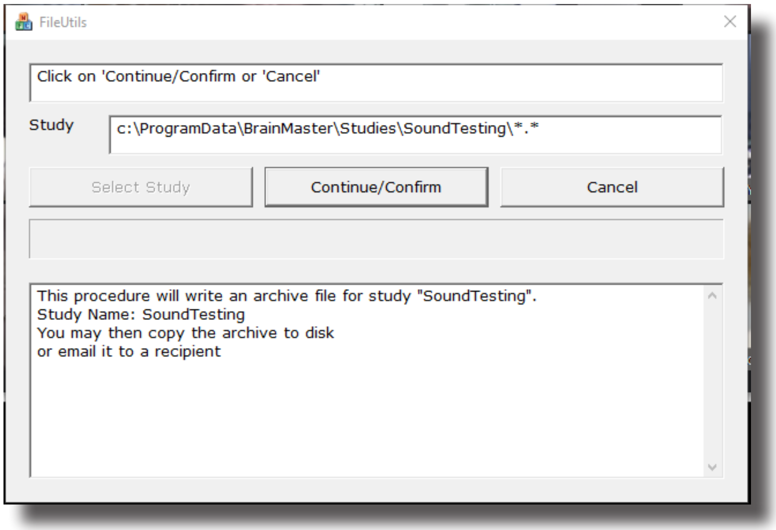
Study 'Unknown' is being archived to c:\ProgramData\BrainMaster\archive.


Browse for Folder
Samantha_PzOz
SaveRawEEGUnchecked
SecondRawEEGTest
sLORETA Testing
SoundTesting
Swingle Assessment Test
Temp Testing
Temporary Session
WearableTesting6-18-2020
OK
Cancel

Hello world

C:\ProgramData\BrainMaster\Studies\SoundTesting

4. The BMZ App will then ask to confirm that you have the proper folder for Archiving. Click Continue/Confirm to begin the Archive Process (Selection A, C, & D).

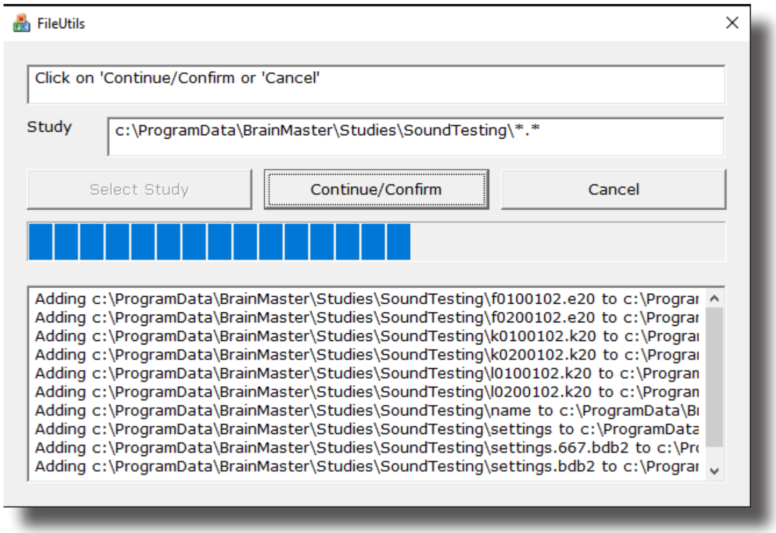


Click on 'Continue/Confirm or 'Cancel'

Study c:\ProgramData\BrainMaster\Studies\SoundTesting\*.*

```
This procedure will write an archive file for study "SoundTesting".
Study Name: SoundTesting
You may then copy the archive to disk
or email it to a recipient
```

5. The Archive system will now begin. Depending on the size of the folder, will be dependent on the length of time this will take. The system will continue when the Archive is complete.



Click on 'Continue/Confirm or 'Cancel'

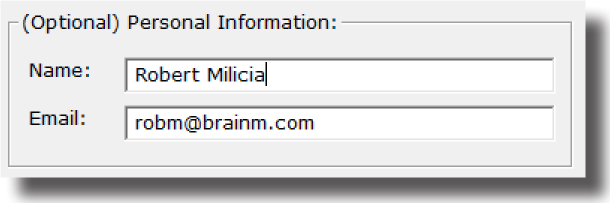
Study c:\ProgramData\BrainMaster\Studies\SoundTesting\*.*

```
Adding c:\ProgramData\BrainMaster\Studies\SoundTesting\f0100102.e20 to c:\Progra
Adding c:\ProgramData\BrainMaster\Studies\SoundTesting\f0200102.e20 to c:\Progra
Adding c:\ProgramData\BrainMaster\Studies\SoundTesting\k0100102.k20 to c:\Progra
Adding c:\ProgramData\BrainMaster\Studies\SoundTesting\k0200102.k20 to c:\Progra
Adding c:\ProgramData\BrainMaster\Studies\SoundTesting\l0100102.k20 to c:\Progran
Adding c:\ProgramData\BrainMaster\Studies\SoundTesting\l0200102.k20 to c:\Progran
Adding c:\ProgramData\BrainMaster\Studies\SoundTesting\name to c:\ProgramData\B
Adding c:\ProgramData\BrainMaster\Studies\SoundTesting\settings to c:\ProgramData
Adding c:\ProgramData\BrainMaster\Studies\SoundTesting\settings.667.bdb2 to c:\Pr
Adding c:\ProgramData\BrainMaster\Studies\SoundTesting\settings.bdb2 to c:\Progra
```

6. When the Archive has been created, the system will ask what you (Selection A, C, & D):

   A. **Copy Archive to Disk** – This option will allow you to direct where the bmz file is saved. If you choose this option, an extra screen will appear that you will have to confirm what you have done on.

   B. **Email Archive** – In order for this to work properly, two things are needed. First, proper E-mail information needs to be filled in from the Login page(See attached Picture). Second, the E-Mail account has to be tied through Microsoft Outlook.



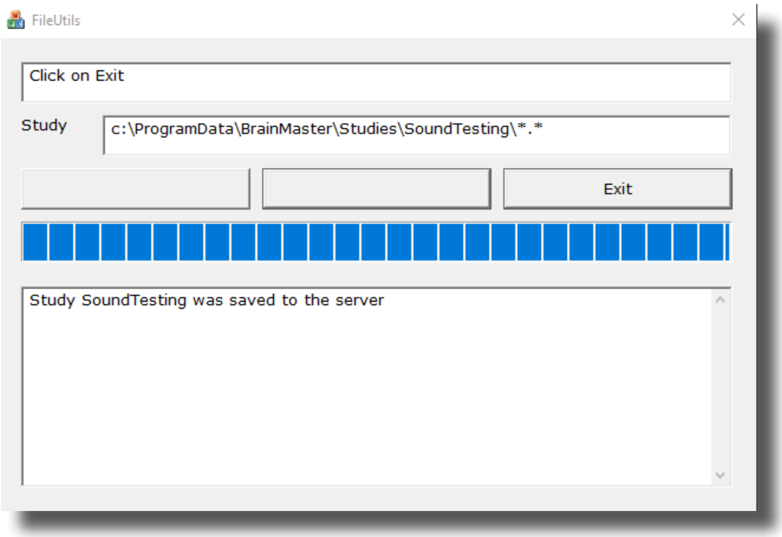
(Optional) Personal Information:

Name: Robert Milicia

Email: robm@brainm.com

   C. **Copy Archive to Server** – This is the option that most people will use. This will still create the BMZ, but it will not E-Mail it, or save it to a specified location, it will simply create the BMZ File at C:\ProgramData\BrainMaster\archive

7. After you have made your selection, it will now finalize the Archive process. Depending on the size of the folder, will be dependent on the lenght of time this will take. The system will continue when the Archive is complete



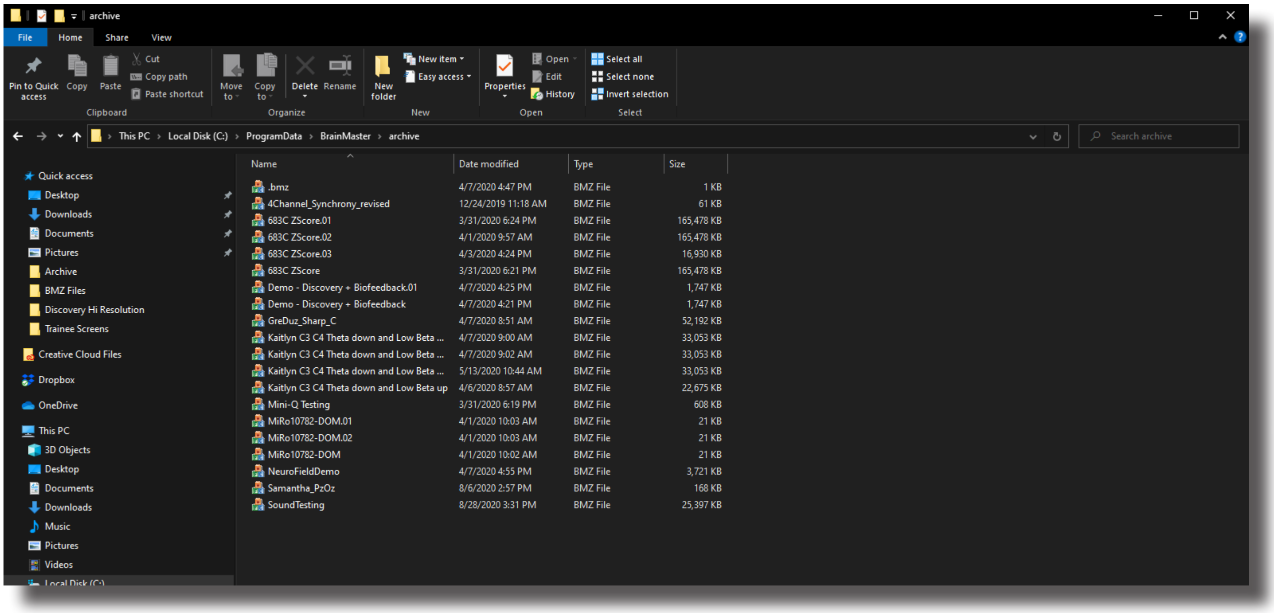
Click on Exit

Study c:\ProgramData\BrainMaster\Studies\SoundTesting\*.*

Study SoundTesting was saved to the server

# BMZ Files

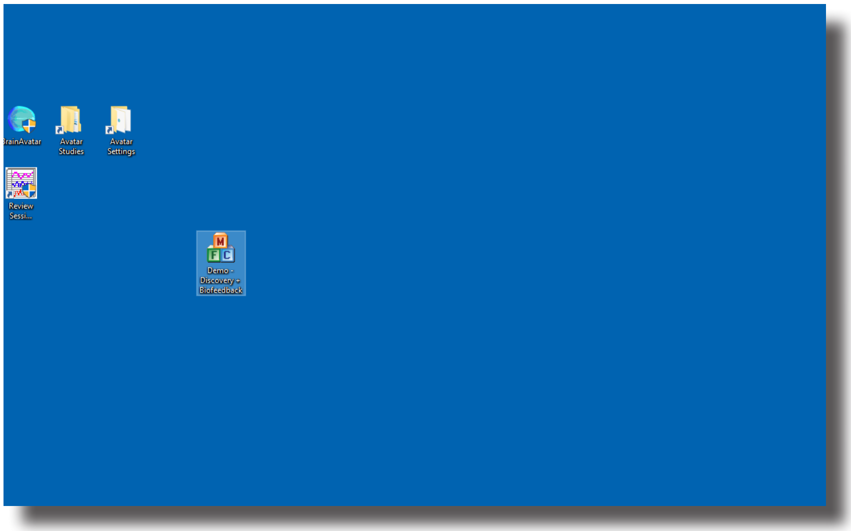
You now have a BMZ file created.  You will be able to tell this is complete by seeing the achive of the folder in c:\ProgramData\BrainMaster\archive.  Or, if you directed to another location, you will be able to find this file in this location.


archive
File
Home
Share
View
Pin to Quick access
Copy
Paste
Cut
Copy path
Paste shortcut
Clipboard
Move to
Copy to
Delete
Rename
Organize
New folder
New item
Easy access
New
Properties
Open
Edit
History
Open
Select all
Select none
Invert selection
Select
This PC › Local Disk (C:) › ProgramData › BrainMaster › archive
Search archive
Quick access
Desktop
Downloads
Documents
Pictures
Archive
BMZ Files
Discovery Hi Resolution
Trainee Screens
Creative Cloud Files
Dropbox
OneDrive
This PC
3D Objects
Desktop
Documents
Downloads
Music
Pictures
Videos
Local Disk (C:)

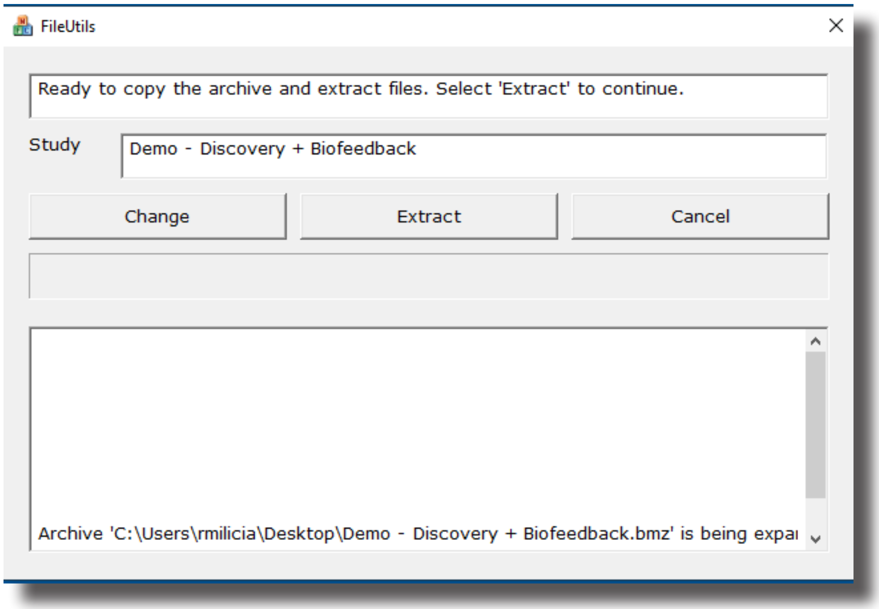
| Name | Date modified | Type | Size |
|---|---|---|---|
| .bmz | 4/7/2020 4:47 PM | BMZ File | 1 KB |
| 4Channel_Synchrony_revised | 12/24/2019 11:18 AM | BMZ File | 61 KB |
| 683C ZScore.01 | 3/31/2020 6:24 PM | BMZ File | 165,478 KB |
| 683C ZScore.02 | 4/1/2020 9:57 AM | BMZ File | 165,478 KB |
| 683C ZScore.03 | 4/3/2020 4:24 PM | BMZ File | 16,930 KB |
| 683C ZScore | 3/31/2020 6:21 PM | BMZ File | 165,478 KB |
| Demo - Discovery + Biofeedback.01 | 4/7/2020 4:25 PM | BMZ File | 1,747 KB |
| Demo - Discovery + Biofeedback | 4/7/2020 4:21 PM | BMZ File | 1,747 KB |
| GreDuz_Sharp_C | 4/7/2020 8:51 AM | BMZ File | 52,192 KB |
| Kaitlyn C3 C4 Theta down and Low Beta ... | 4/7/2020 9:00 AM | BMZ File | 33,053 KB |
| Kaitlyn C3 C4 Theta down and Low Beta ... | 4/7/2020 9:02 AM | BMZ File | 33,053 KB |
| Kaitlyn C3 C4 Theta down and Low Beta ... | 5/13/2020 10:44 AM | BMZ File | 33,053 KB |
| Kaitlyn C3 C4 Theta down and Low Beta up | 4/6/2020 8:57 AM | BMZ File | 22,675 KB |
| Mini-Q Testing | 3/31/2020 6:19 PM | BMZ File | 608 KB |
| MiRo10782-DOM.01 | 4/1/2020 10:03 AM | BMZ File | 21 KB |
| MiRo10782-DOM.02 | 4/1/2020 10:03 AM | BMZ File | 21 KB |
| MiRo10782-DOM | 4/1/2020 10:02 AM | BMZ File | 21 KB |
| NeuroFieldDemo | 4/7/2020 4:55 PM | BMZ File | 3,721 KB |
| Samantha_PzOz | 8/6/2020 2:57 PM | BMZ File | 168 KB |
| SoundTesting | 8/28/2020 3:31 PM | BMZ File | 25,397 KB |

## Import Received/Downloaded BMZ Files

1. There are multiple ways that you might receive a BMZ file, which can be, but are not limited to Email, Removable Media, or Cloud Storage System. You will need to utilize the Windows Operating System to place the BMZ onto your PC, then Double-click the file to begin the Session Librarian System.


BrainAvatar
Avatar Studies
Avatar Settings
Review Sessi...
Demo - Discovery + Biofeedback

2. The following message will pop up and ask what you would like to do. Click the extract button to continue.

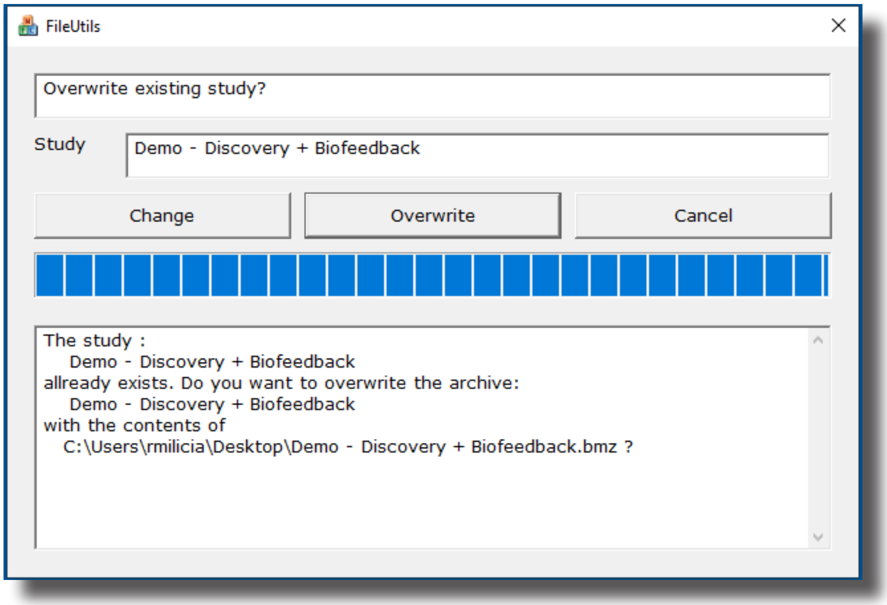

FileUtils
Change
Extract
Cancel

Ready to copy the archive and extract files. Select 'Extract' to continue.

Study: Demo - Discovery + Biofeedback

Archive 'C:\Users\rmilicia\Desktop\Demo - Discovery + Biofeedback.bmz' is being expai

3. If you have a Study folder, with the exact name, then you will have click Overwrite to overwrite the existing folder.  Click the Overwrite Button to continue

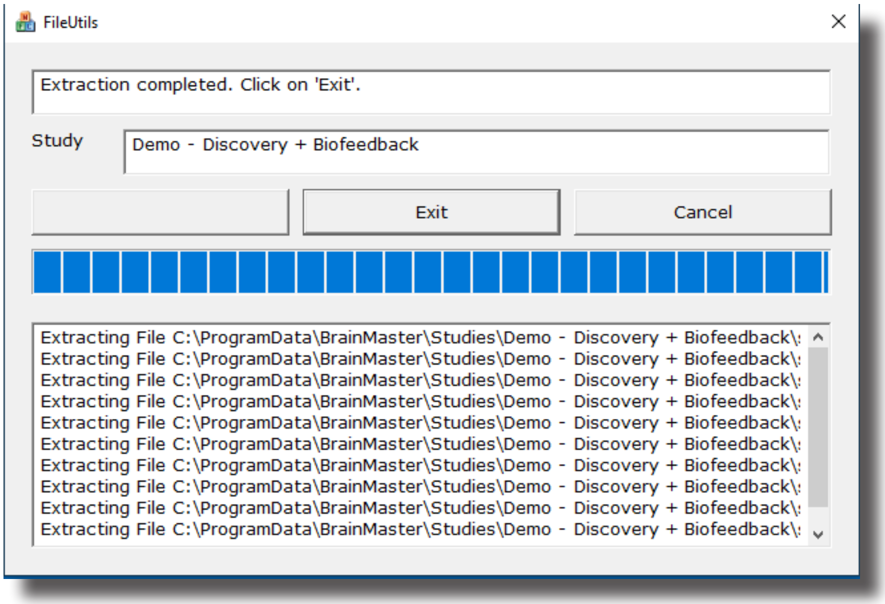


Overwrite existing study?

Study: Demo - Discovery + Biofeedback

```
The study :
   Demo - Discovery + Biofeedback
allready exists. Do you want to overwrite the archive:
   Demo - Discovery + Biofeedback
with the contents of
  C:\Users\rmilicia\Desktop\Demo - Discovery + Biofeedback.bmz ?
```

4. The system will go through its process of extracting to the required location.  When it is completed, click the Exit Button to continue.



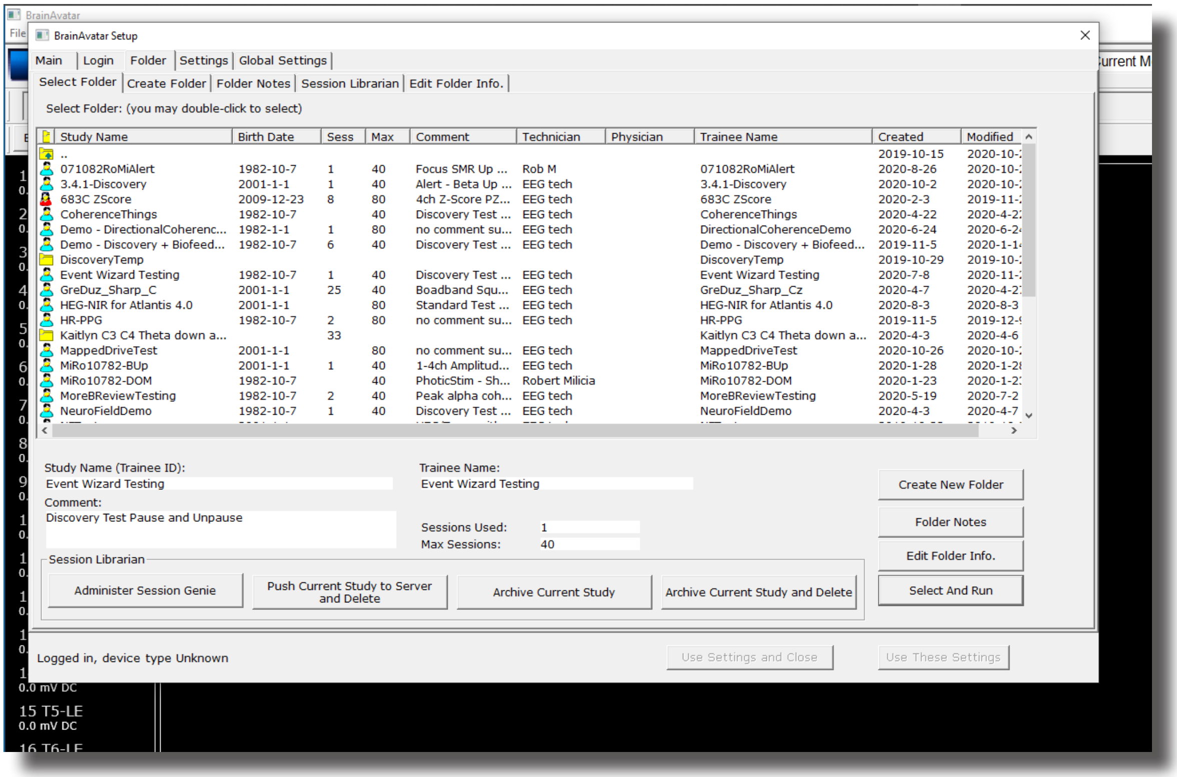
Extraction completed. Click on 'Exit'.

Study: Demo - Discovery + Biofeedback

```
Extracting File C:\ProgramData\BrainMaster\Studies\Demo - Discovery + Biofeedback\:
Extracting File C:\ProgramData\BrainMaster\Studies\Demo - Discovery + Biofeedback\:
Extracting File C:\ProgramData\BrainMaster\Studies\Demo - Discovery + Biofeedback\:
Extracting File C:\ProgramData\BrainMaster\Studies\Demo - Discovery + Biofeedback\:
Extracting File C:\ProgramData\BrainMaster\Studies\Demo - Discovery + Biofeedback\:
Extracting File C:\ProgramData\BrainMaster\Studies\Demo - Discovery + Biofeedback\:
Extracting File C:\ProgramData\BrainMaster\Studies\Demo - Discovery + Biofeedback\:
Extracting File C:\ProgramData\BrainMaster\Studies\Demo - Discovery + Biofeedback\:
Extracting File C:\ProgramData\BrainMaster\Studies\Demo - Discovery + Biofeedback\:
Extracting File C:\ProgramData\BrainMaster\Studies\Demo - Discovery + Biofeedback\:
```

# BMZ Files

The folder is now expanded for use in your studies folder. You can access this folder by clicking Folder Selection Button on the BrainMaster Setup/Home Screen.



BrainAvatar
File
BrainAvatar Setup
Main
Login
Folder
Settings
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 |
|---|---|---|---|---|---|---|---|---|---|
| .. | | | | | | | | 2019-10-15 | 2020-10- |
| 071082RoMiAlert | 1982-10-7 | 1 | 40 | Focus SMR Up ... | Rob M | | 071082RoMiAlert | 2020-8-26 | 2020-10- |
| 3.4.1-Discovery | 2001-1-1 | 1 | 40 | Alert - Beta Up ... | EEG tech | | 3.4.1-Discovery | 2020-10-2 | 2020-10- |
| 683C ZScore | 2009-12-23 | 8 | 80 | 4ch Z-Score PZ... | EEG tech | | 683C ZScore | 2020-2-3 | 2019-11- |
| CoherenceThings | 1982-10-7 | | 40 | Discovery Test ... | EEG tech | | CoherenceThings | 2020-4-22 | 2020-4-2 |
| Demo - DirectionalCoherenc... | 1982-1-1 | 1 | 80 | no comment su... | EEG tech | | DirectionalCoherenceDemo | 2020-6-24 | 2020-6-2 |
| Demo - Discovery + Biofeed... | 1982-10-7 | 6 | 40 | Discovery Test ... | EEG tech | | Demo - Discovery + Biofeed... | 2019-11-5 | 2020-1-1 |
| DiscoveryTemp | | | | | | | DiscoveryTemp | 2019-10-29 | 2019-10- |
| Event Wizard Testing | 1982-10-7 | 1 | 40 | Discovery Test ... | EEG tech | | Event Wizard Testing | 2020-7-8 | 2020-11- |
| GreDuz_Sharp_C | 2001-1-1 | 25 | 40 | Boadband Squ... | EEG tech | | GreDuz_Sharp_Cz | 2020-4-7 | 2020-4-2 |
| HEG-NIR for Atlantis 4.0 | 2001-1-1 | | 80 | Standard Test ... | EEG tech | | HEG-NIR for Atlantis 4.0 | 2020-8-3 | 2020-8-3 |
| HR-PPG | 1982-10-7 | 2 | 80 | no comment su... | EEG tech | | HR-PPG | 2019-11-5 | 2019-12- |
| Kaitlyn C3 C4 Theta down a... | | 33 | | | | | Kaitlyn C3 C4 Theta down a... | 2020-4-3 | 2020-4-6 |
| MappedDriveTest | 2001-1-1 | | 80 | no comment su... | EEG tech | | MappedDriveTest | 2020-10-26 | 2020-10- |
| MiRo10782-BUp | 2001-1-1 | 1 | 40 | 1-4ch Amplitud... | EEG tech | | MiRo10782-BUp | 2020-1-28 | 2020-1-2 |
| MiRo10782-DOM | 1982-10-7 | | 40 | PhoticStim - Sh... | Robert Milicia | | MiRo10782-DOM | 2020-1-23 | 2020-1-2 |
| MoreBReviewTesting | 1982-10-7 | 2 | 40 | Peak alpha coh... | EEG tech | | MoreBReviewTesting | 2020-5-19 | 2020-7-2 |
| NeuroFieldDemo | 1982-10-7 | 1 | 40 | Discovery Test ... | EEG tech | | NeuroFieldDemo | 2020-4-3 | 2020-4-7 |

Study Name (Trainee ID): Event Wizard Testing

Trainee Name: Event Wizard Testing

Comment: Discovery Test Pause and Unpause

Sessions Used: 1

Max Sessions: 40

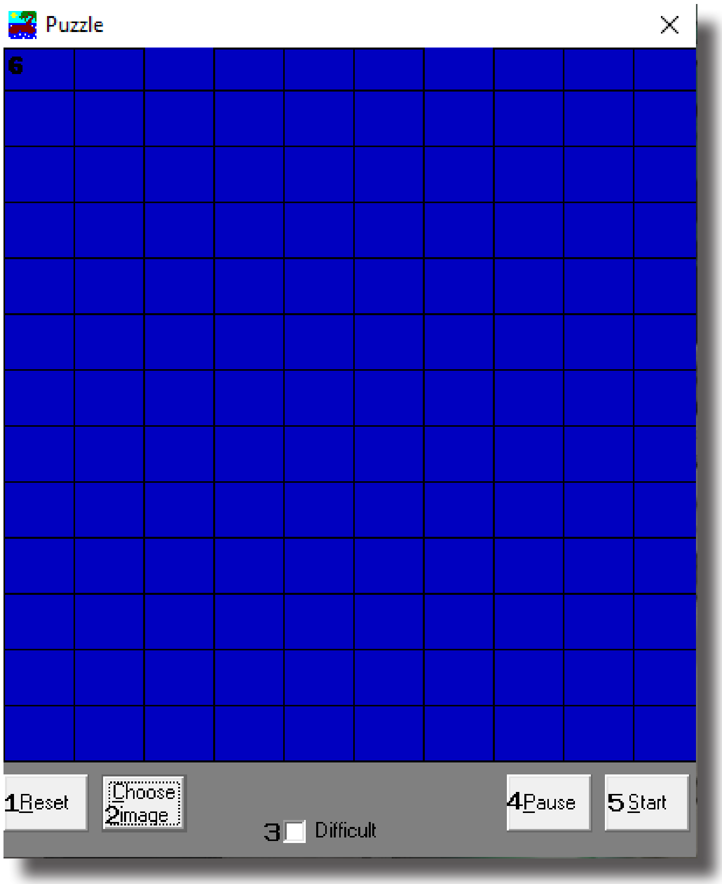
Create New Folder
Folder Notes
Edit Folder Info.
Select And Run
Session Librarian
Administer Session Genie
Push Current Study to Server and Delete
Archive Current Study
Archive Current Study and Delete
Use Settings and Close
Use These Settings
Current M
15 T5-LE
0.0 mV DC
16 T6-LE

Logged in, device type Unknown

# BMr Extras

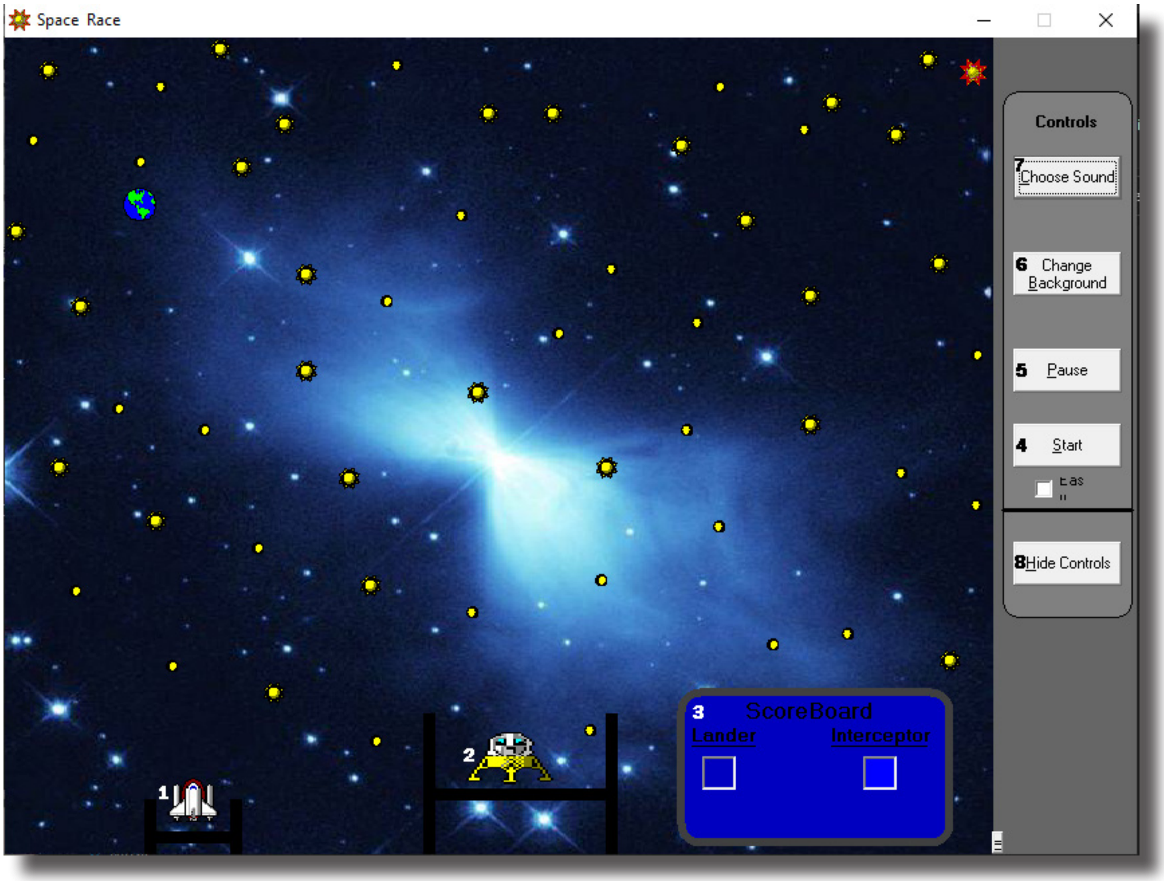
## BMr Contributed Games

### Puzzle



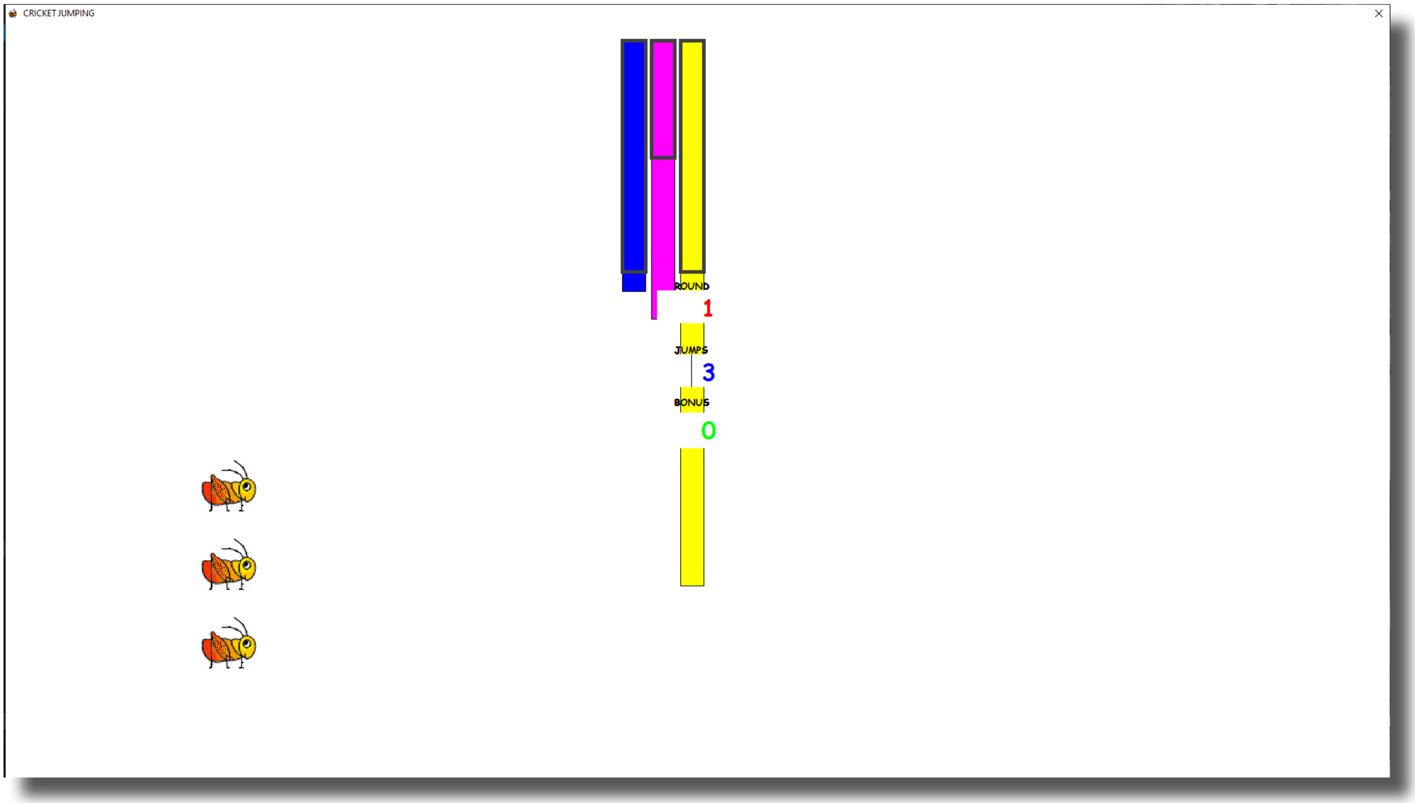
1. **Reset Button** – Click to make the blue squares visible. This can also be performed by clicking Alt + R.
2. **Choose Image Button** – Click to place a new image behind the blue squares. This can also be done by clicking Alt + C.
3. **Difficulty Check Box** – Check to change the difficulty. If the difficulty is checked on, then the customer must score two points to reveal a piece of the picture.
4. **Pause Button** – Click to pause the game in progress. This can also be performed by clicking Alt + P.
5. **Start Button** – Click to start the game. This can also be performed by clicking Alt + S.
6. **Display** – This is display, which is a square covered with 130 small blue squares. The puzzle will be revealed one square every time a point(depending on difficulty) is scored in the Brain-Master software.

## Space Race


Space Race
Controls
7 Choose Sound
6 Change Background
5 Pause
4 Start
8 Hide Controls
3 ScoreBoard
Lander
Interceptor
1
2

1. **Interceptor –** The Interceptor Rocket will advance when points are not being scored.
2. **Lunar Lander –** The Lunar Lander will advance whenever points are scored. The object is to get the lander to the top of the screen before the interceptor.
3. **Score Board –** Section that keeps track of how many times each ship wins the race.
4. **Start Button –** Click to start the game. This can also be performed by clicking Alt + S.
5. **Pause Button –** Click to pause the game. This can also be performed by clicking Alt + P.
6. **Change Background Button –** Click to choose between several background images for the screen. This can also be performed by clicking Alt + B.
7. **Choose Sound Button –** Click to choose an explosion sound(if you desire) for when the lander wins the race. There are several that are included. This can also be performed by clicking Alt + C.
8. **Hide Controls Button –** Click to shrink the screen and obscure the control buttons. This can also be performed by clicking the Alt + H. To get the controls back, click Alt + "=".

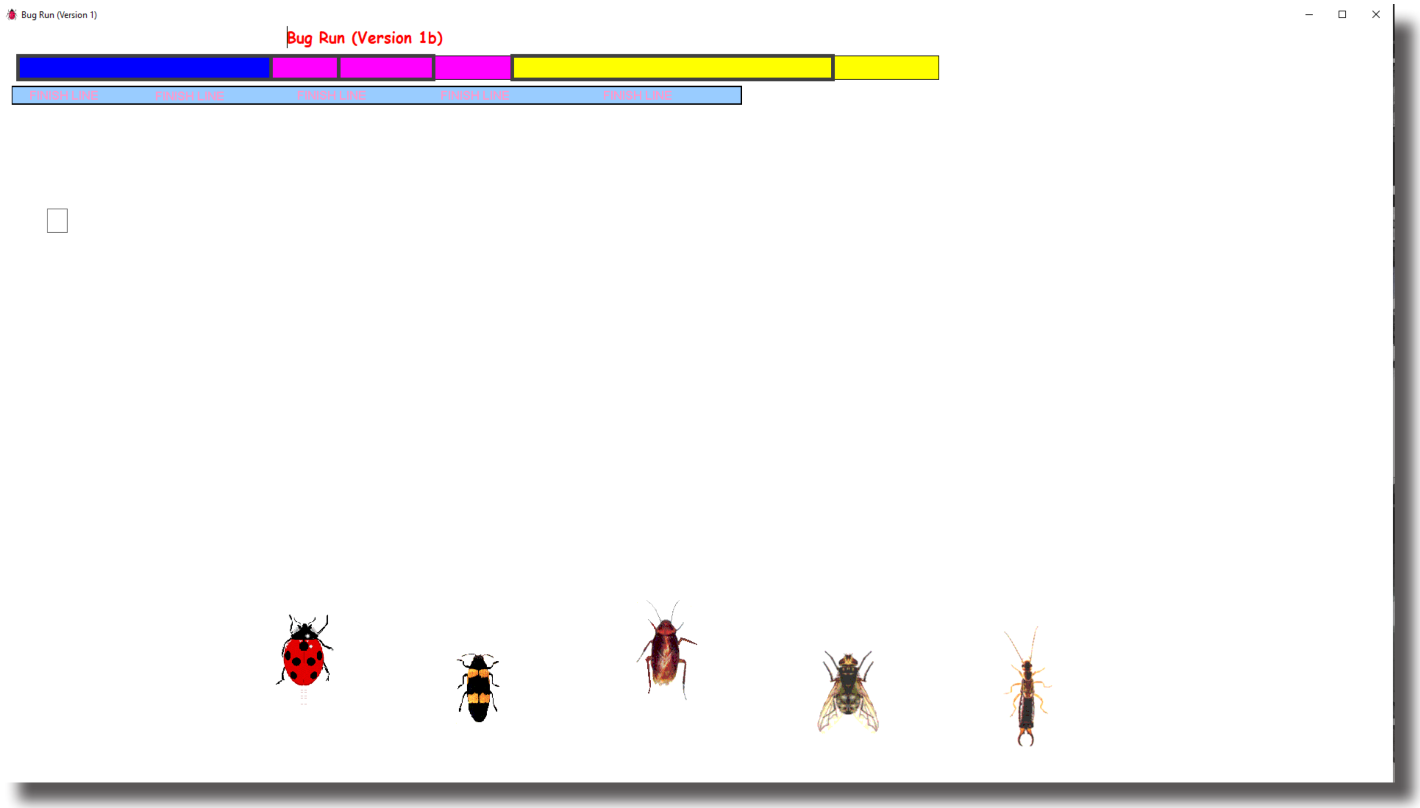
## Cricket


CRICKET JUMPING
ROUND
1
JUMPS
3
BONUS
0

As training proceeds, the crickets “stack up” and pile on top of each other.

Later on, the bottom images change, bonus points are awarded, and the screen becomes more interesting.

## Bug Run

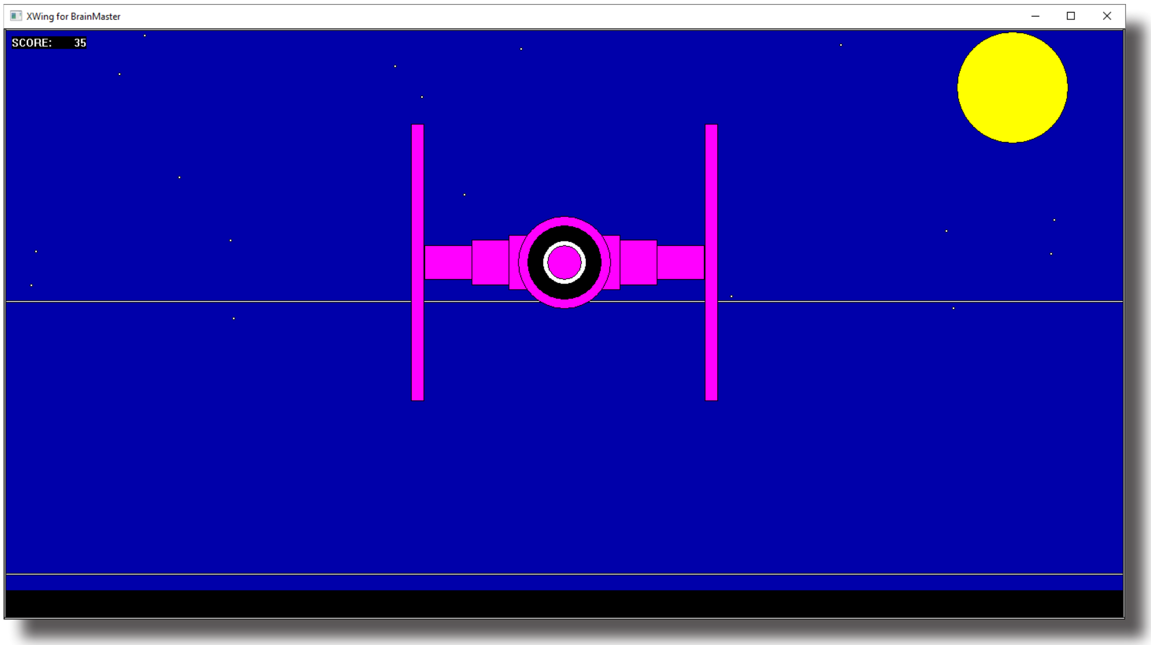

Bug Run (Version 1)
Bug Run (Version 1b)
FINISH LINE
FINISH LINE
FINISH LINE
FINISH LINE
FINISH LINE

This screen provides a “bug race”. As the trainee meets the training criteria, the bugs will advance at random, running a race. If the trainee has excessive amounts of “stop” component, some of the bugs will slip down a bit, and fall behind. The goal of the game is to have the race progress.

After a while, one of the bugs will win, and be declared the winner.

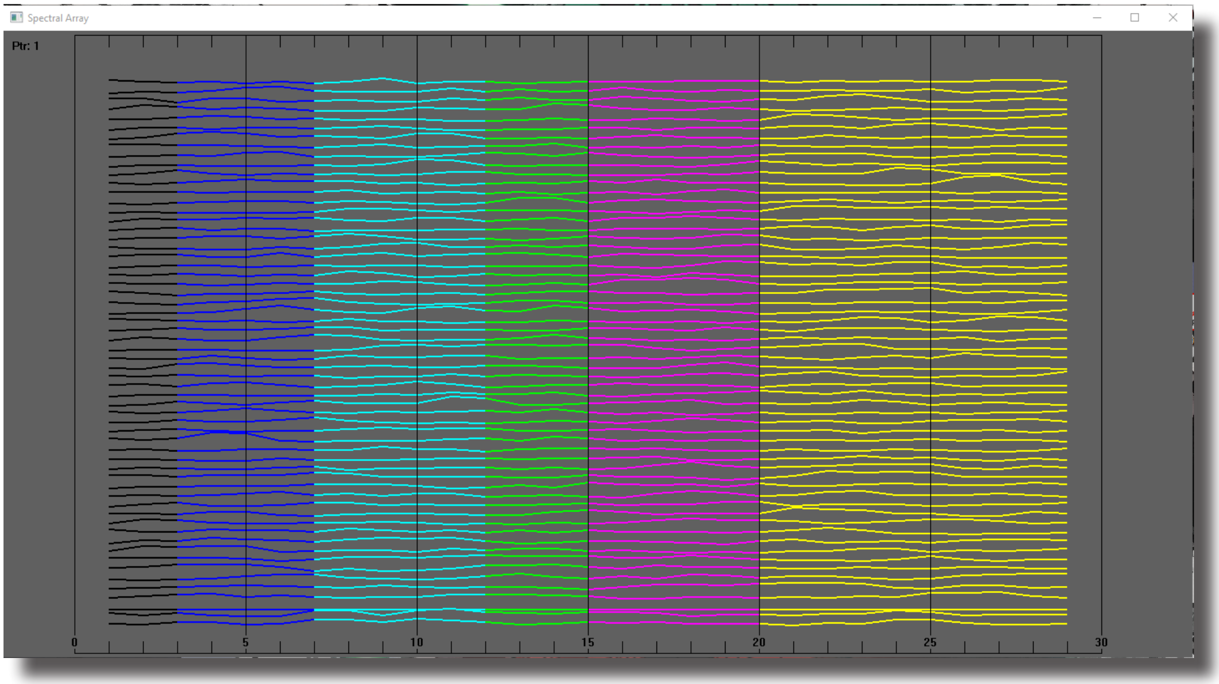
## BMr Popups Displays

### X-Wing



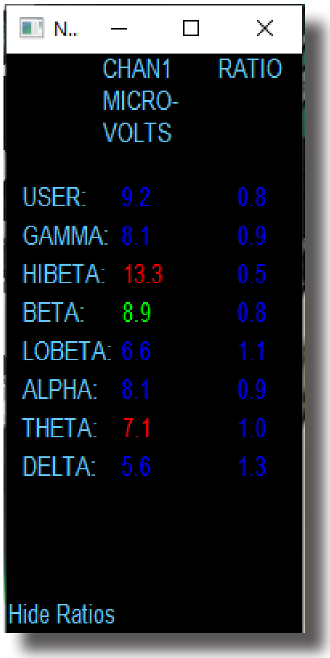
**Display Type:** Game
**Requirements:** Basic amplitude training
**Brief Description:** The space ship will rise when the reinforced component (e.g. lobeta or beta) is high, and the ground will rise when the inhibited component (e.g. theta) is high. Both thresholds are shown as lines on the screen. When a point is scored, the spaceship will briefly turn red, and the point will be registered in the indicator area. When two channels are trained, this window shows two space ships, with the left panel showing Channel 1, and the right panel showing channel 2.

## 2D Spectral



**Display Type:** Display
**Requirements:** Basic amplitude training
**Brief Description:** This provides a cascade of past FFT spectra, covering the previous 1 minute of activity. Each frequency band is colored according to the frequency ranges selected. This coloring is the same as used on the FFT and the BrainMirror displays. There are tic marks and the labels to identify the frequency coordinates of the display. When two channels are used, two spectra are shown.

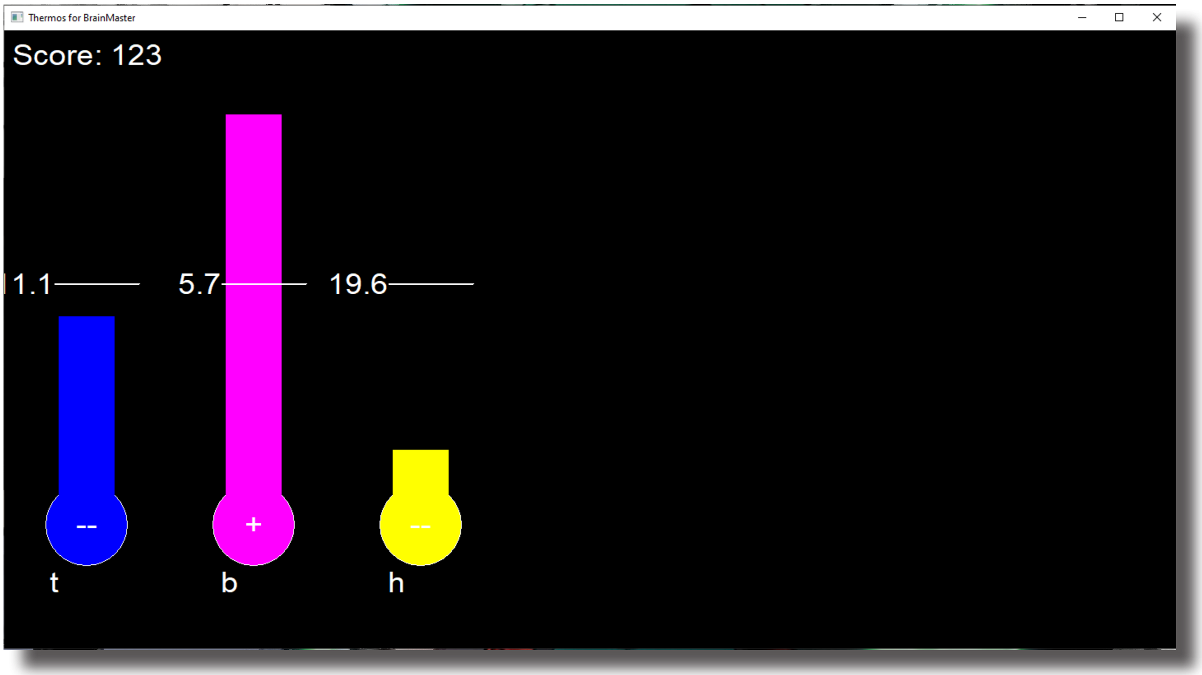
## Numbers



| | CHAN1 MICRO-VOLTS | RATIO |
|---|---|---|
| USER: | 9.2 | 0.8 |
| GAMMA: | 8.1 | 0.9 |
| HIBETA: | 13.3 | 0.5 |
| BETA: | 8.9 | 0.8 |
| LOBETA: | 6.6 | 1.1 |
| ALPHA: | 8.1 | 0.9 |
| THETA: | 7.1 | 1.0 |
| DELTA: | 5.6 | 1.3 |

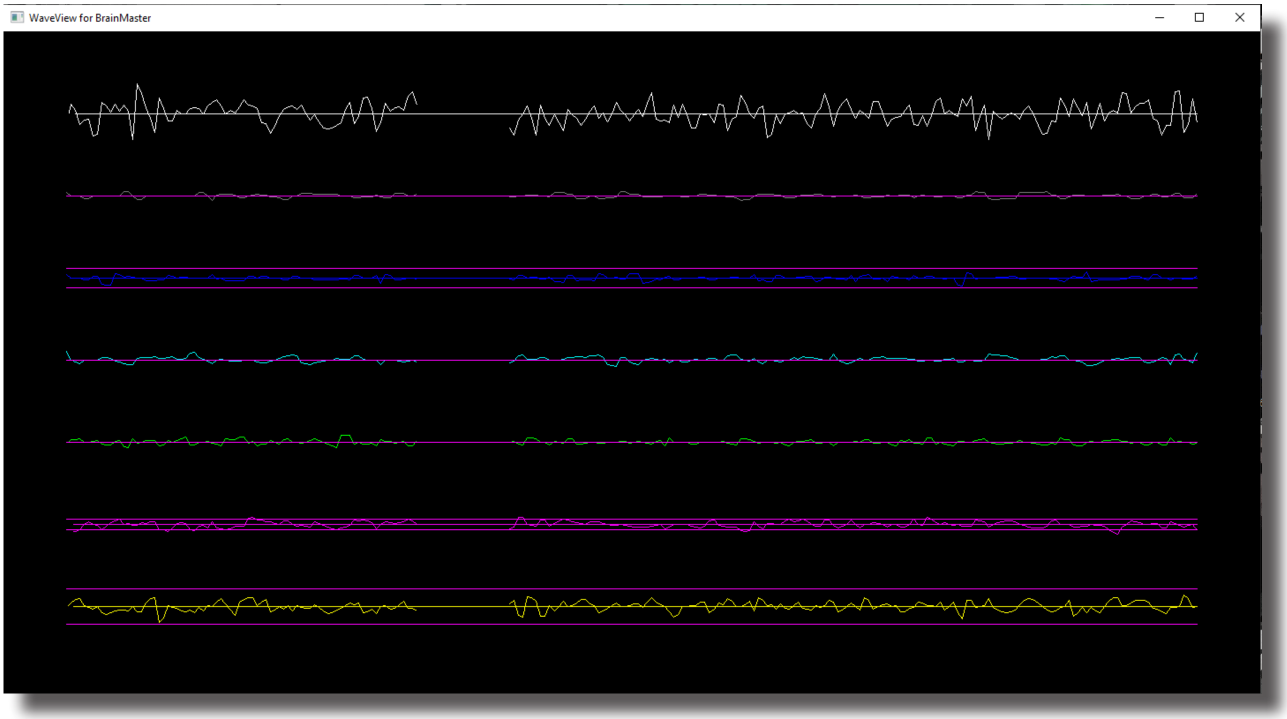
**Display Type:** Display
**Requirements:** Basic amplitude training
**Brief Description:** This screen shows numeric values for each component. “GO” components are shown in green. “STOP” components are shown in red. All other components are shown in blue. The values are “damped”, so they do not change too quickly. Ratios to theta can be shown by selecting the bottom text with the mouse. In 2-channel mode, it shows both channels.

### Thermos


Thermos for BrainMaster
Score: 123
1.1
5.7
19.6
--
+
--
t
b
h

**Display Type:** Display
**Requirements:** Basic amplitude training
**Brief Description:** This window shows each of the major EEG component intensities as a bar graph with real-time response. “GO” components show a “+” in the bottom of the thermometer. “STOP” components show a “-“ in the bottom of the thermometer. Un-trained components will not be shown in this screen.

## Waves

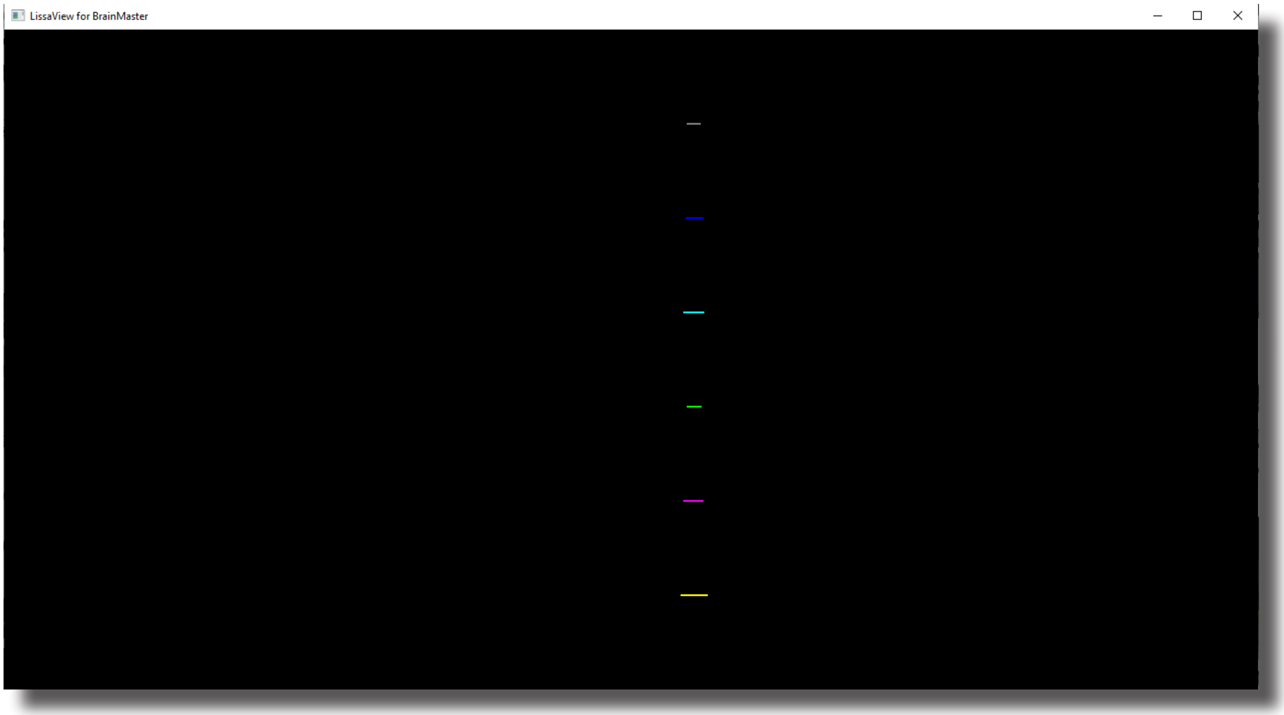


**Display Type:** Display

**Requirements:** Basic amplitude training

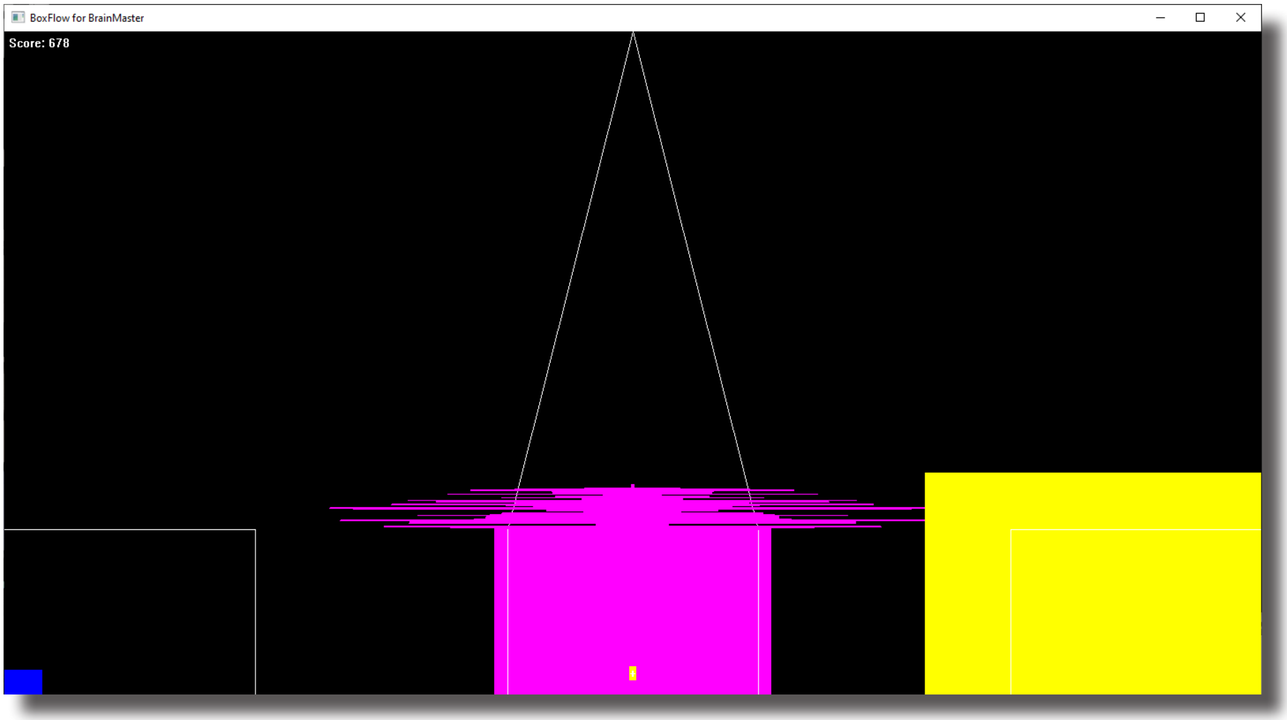
**Brief Description:** This window shows the raw and filtered EEF waves in a resizable window. The display scal can be changed using the "+" and "-" keys, as usual. When two channels are used, both channels appear.

## Lissaview



**Display Type:** Display
**Requirements:** Basic amplitude training
**Brief Description:** This is a 2-dimensional display, using “rate of change” in place of the time axis. The vertical axis is exactly the same as in the EEG waveform display, while the horizontal axis is the first derivative of the EEG signal.

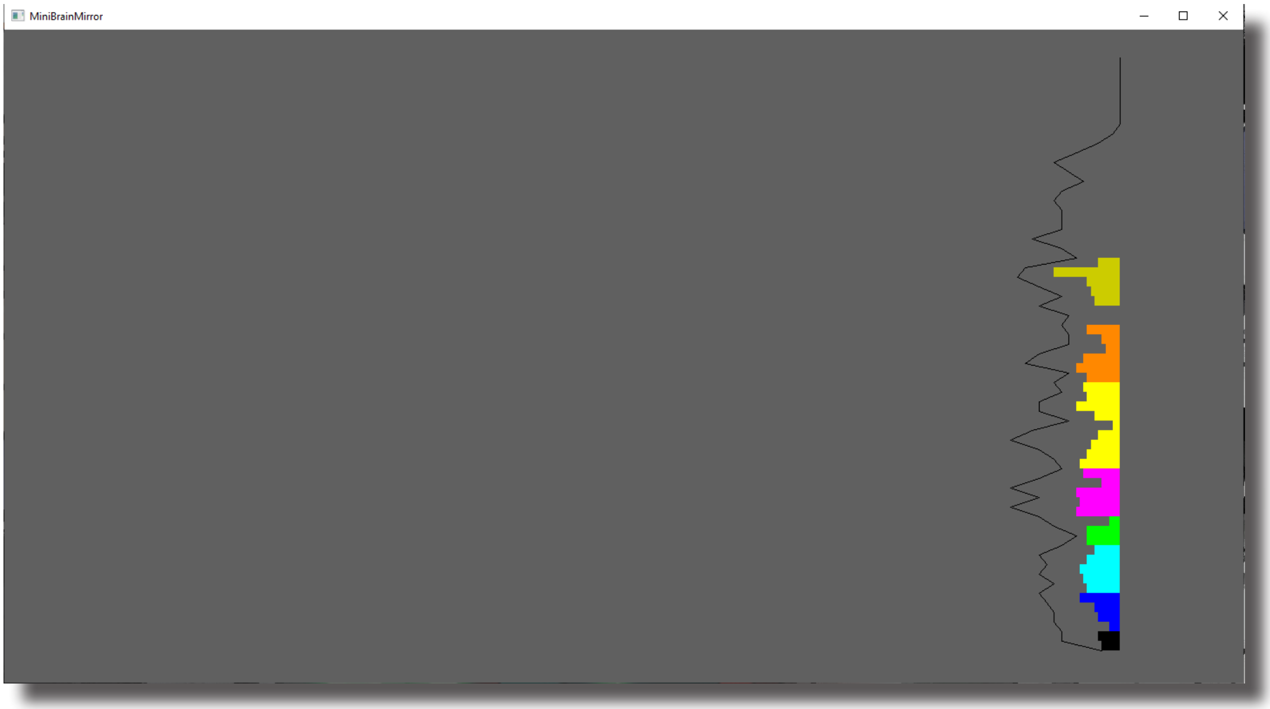
## BoxFlow



Score: 678

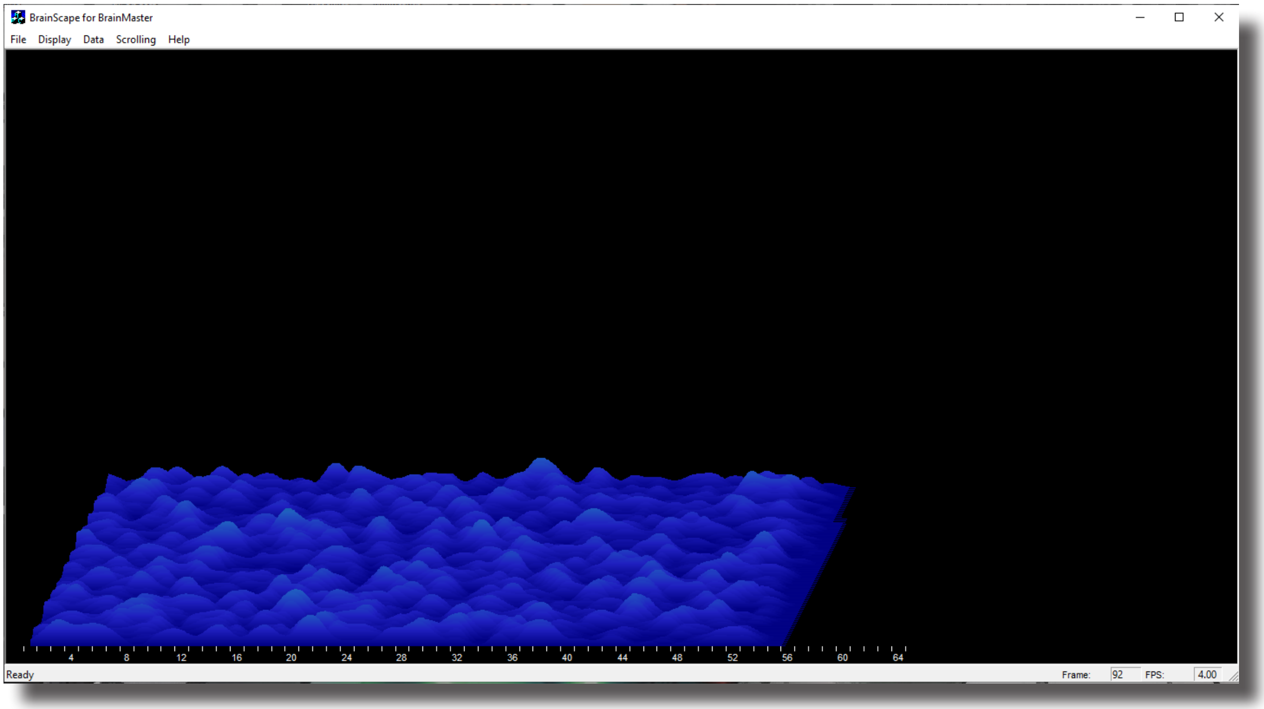
**Display Type:** Game
**Requirements:** Basic amplitude training
**Brief Description:** This is similar to that used in other common displays. The center box gets wider and narrower, so you can see the past history of the enhance band. You want it wide, to meet the threshold. The outer boxes are the "inhibits" and you want them small. If they get large, they encroach on the inner box, which inhibits feedback. When two channels are used, two "BoxFlows" appear.

## MiniBMirror



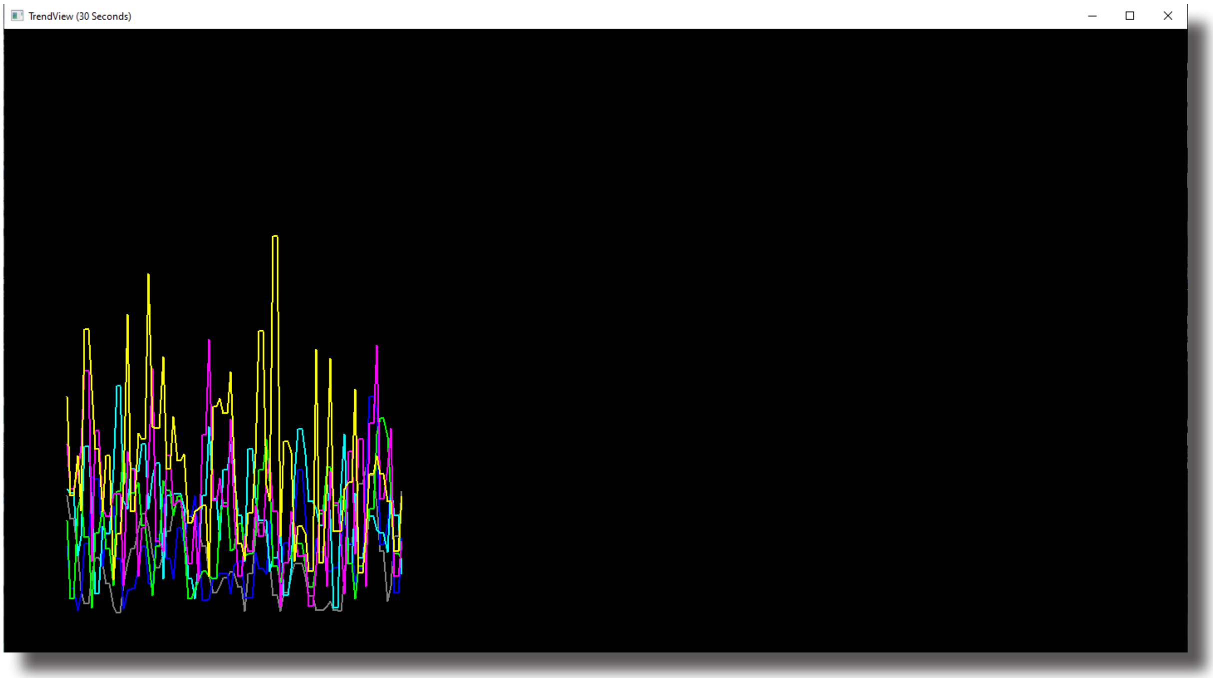
**Display Type:** Display
**Requirements:** Basic amplitude training
**Brief Description:** This window shows the BrainMirror in a resizable window. It uses the FFT to show the current EEG component values. The BrainMirror window also works in 2-channel mode.

## BrainScape


BrainScape for BrainMaster
File
Display
Data
Scrolling
Help
4
8
12
16
20
24
28
32
36
40
44
48
52
56
60
64
Ready
Frame:
92
FPS:
4.00

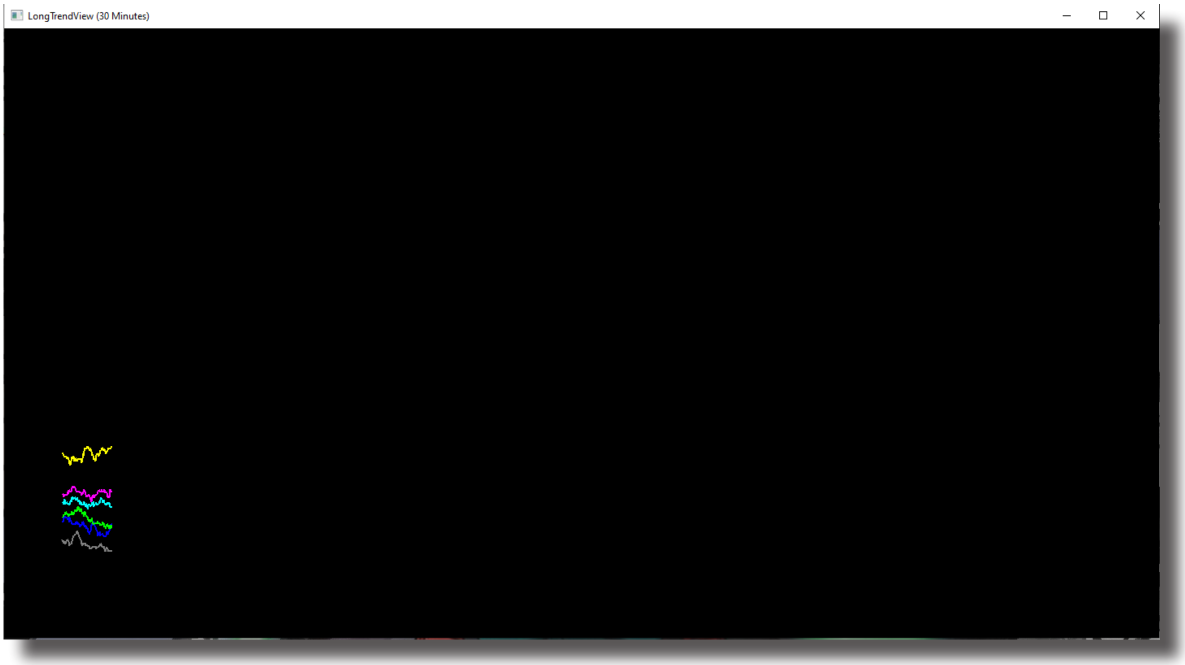
**Display Type:** Display
**Requirements:** Basic amplitude training
**Brief Description:** BrainScape is designed to provide a 3-dimensional time/frequency representation of EEG signals, using a combination of frequency analysis, spline interpolation, and color-coded representation of signal amplitude. When two channels are used, a BrainScape for both channels appears. In two channel mode, when Sum/Difference channel mode is used, the two signals viewed are transformed into their sum and difference signals, and displayed in the usual manner.

## TrendView



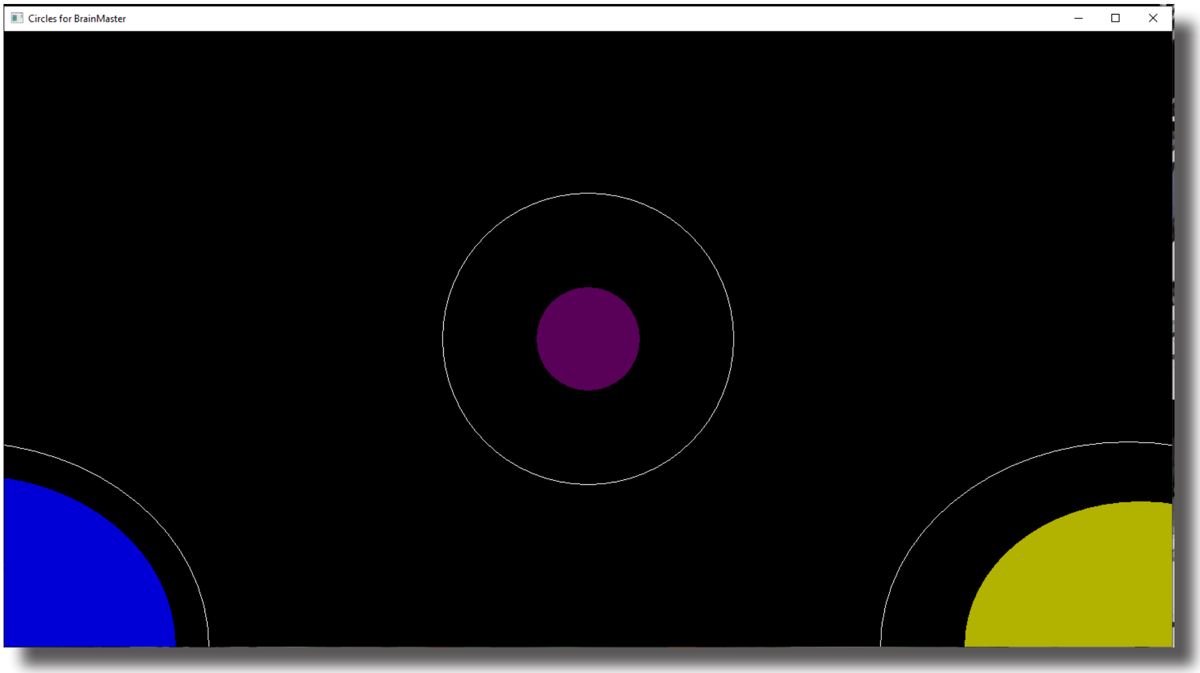
**Display Type:** Display
**Requirements:** Basic amplitude training
**Brief Description:** This shows the current and past activity of a component, in a plot of value vs. time, over a period of 30 seconds. After the plot reaches 30 seconds, it clears and redraws. The plot window displays only those components that are currently selected. When two channels are used, both appear on the display.

## LongTrend



**Display Type:** Display
**Requirements:** Basic amplitude training
**Brief Description:** This shows the current and past activity of a component, in a plot of value vs. time, over a period of 30 minutes. After the plot reaches 30 minutes, it clears and redraws. The plot window displays only those components that are currently selected. When two channels are used, both appear on the display.

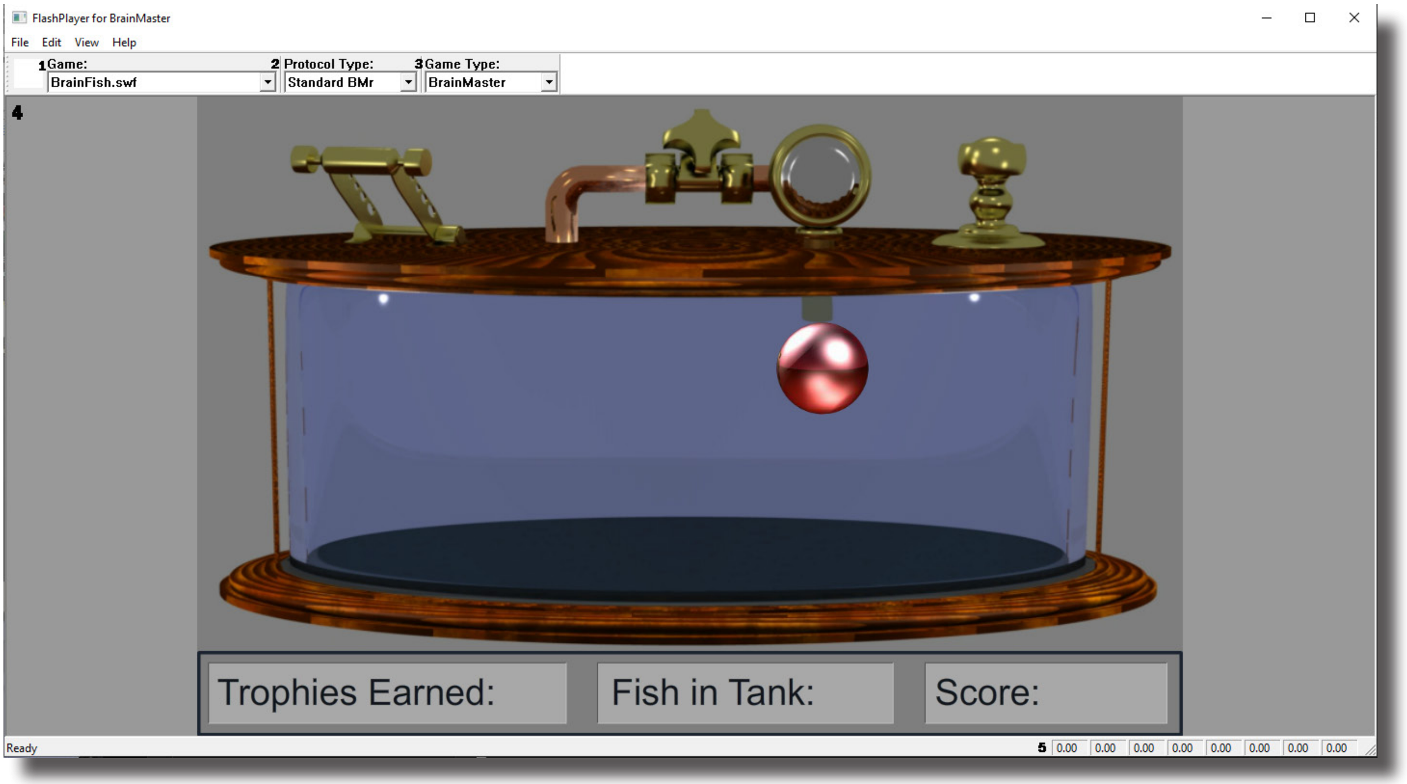
## Circles



**Display Type:** Game
**Requirements:** Basic amplitude training
**Brief Description:** The Circles Window is similar to the BoxFlow, in that the center feature shows the main "uptrained" component, while the outer features show the high and the low "inhibits". When two channels are used, this window adapts, to show the two "uptrained" components as an ellipse (width represents channel 1, and height represents channel 2). In addition, the total of 4 inhibits are shown in the corners. Channel 1 inhibits are shown on the left, and channel 2 inhibits are shown on the right

# BMr Flash Player

## BMr Flash Player Control Menu Display


FlashPlayer for BrainMaster
File
Edit
View
Help
4
Trophies Earned:
Fish in Tank:
Score:
Ready
5
0.00
0.00
0.00
0.00
0.00
0.00
0.00
0.00

1 Game: BrainFish.swf

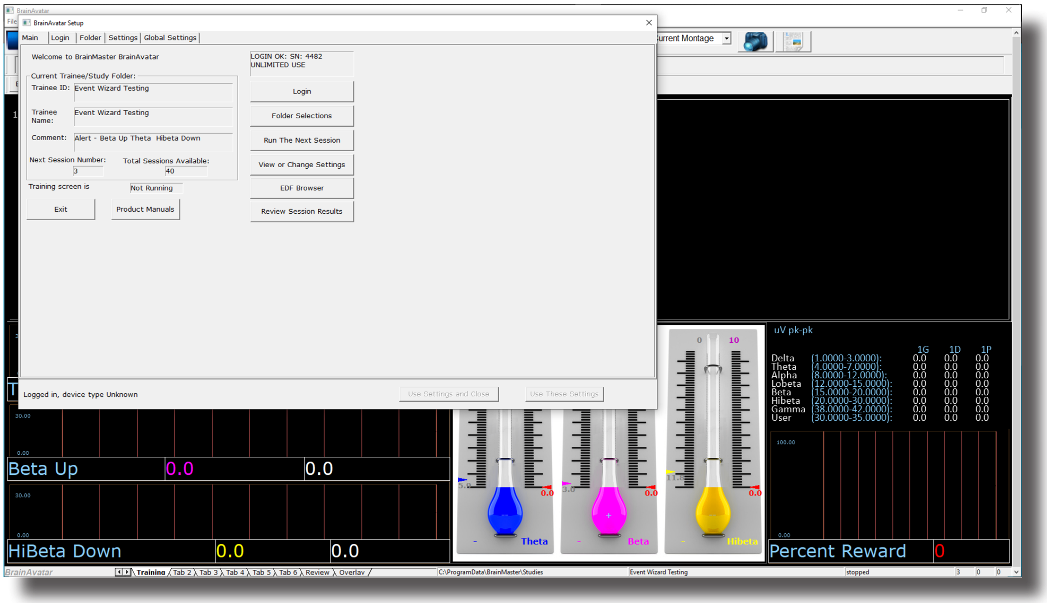
2 Protocol Type: Standard BMr

3 Game Type: BrainMaster

1. **Game Drop-Down Box** – Drop-down box where you can choose the game that you would like the Flash Player to use.
2. **Protocol Type Drop-Down Box** – Drop-down box where you can choose the type of Protocol you are using, whether it’s a Standard BrainMaster, LZT-Live Z-Score, or RTZ-Real Time Z-Score.
3. **Game Type Drop-Down Box** – Drop-down box where you can choose the Game Type that the Flash Player is using.
4. **Display Window** – Display Window where the Flash Player Game is played.
5. **Event Wizard Readings** – Displays the information that is coming in from the Event Wizard.

## Using BMr Flash Player

1. Setup the training that you would like to use, or choose an existing folder that you would like to us, and click the “Run The Next Session” Button.


BrainAvatar
BrainAvatar Setup
Main
Login
Folder
Settings
Global Settings
Login
Folder Selections
Run The Next Session
View or Change Settings
EDF Browser
Review Session Results
Exit
Product Manuals
Use Settings and Close
Use These Settings
Beta Up
HiBeta Down
Theta
Beta
Hibeta
Percent Reward

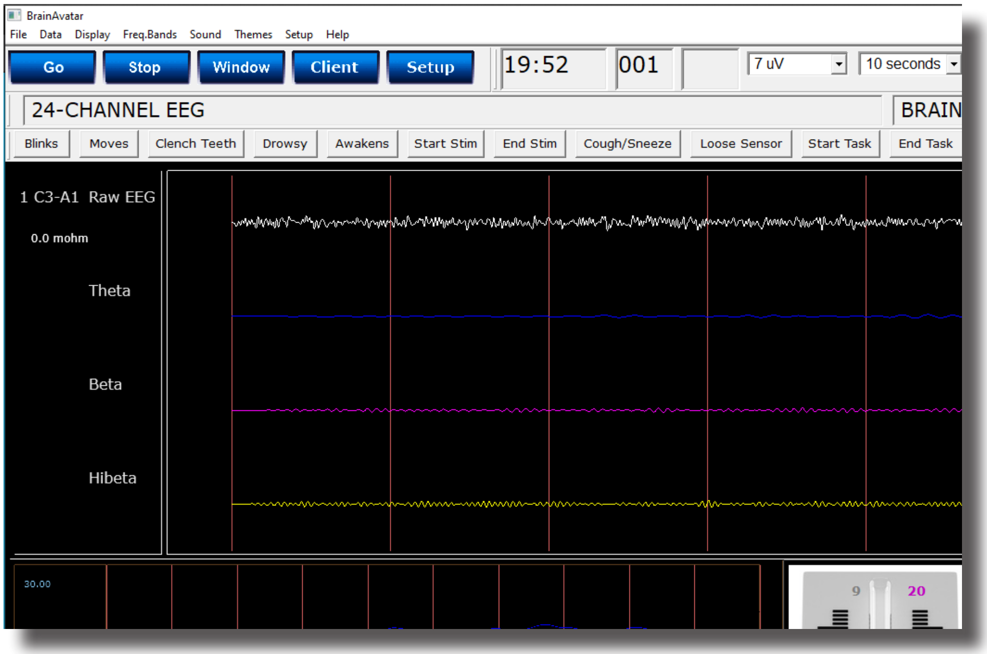
Welcome to BrainMaster BrainAvatar

LOGIN OK: SN: 4482
UNLIMITED USE

Current Trainee/Study Folder:
Trainee ID: Event Wizard Testing
Trainee Name: Event Wizard Testing
Comment: Alert - Beta Up Theta Hibeta Down
Next Session Number: 3
Total Sessions Available: 40
Training screen is Not Running

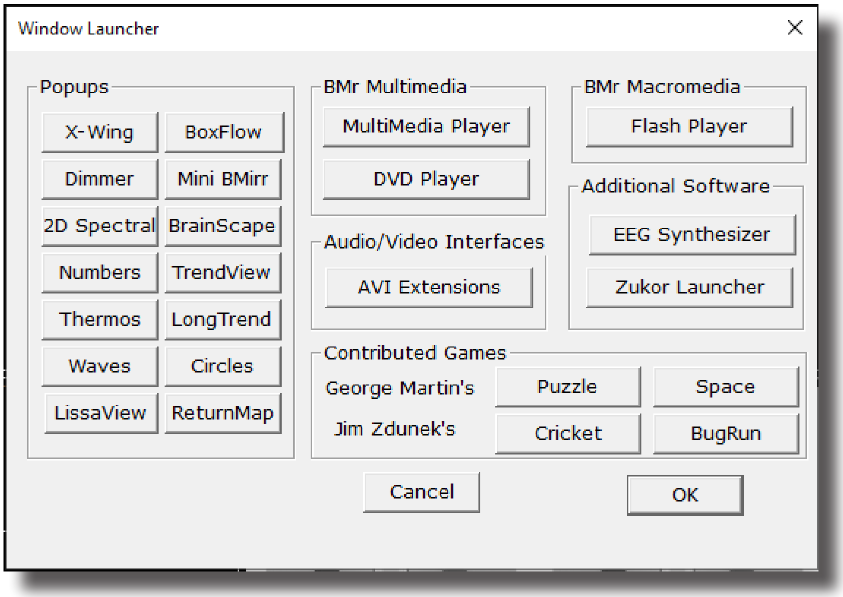
Logged in, device type Unknown

2. After you start the Session by clicking GO, click the “Window” Button.

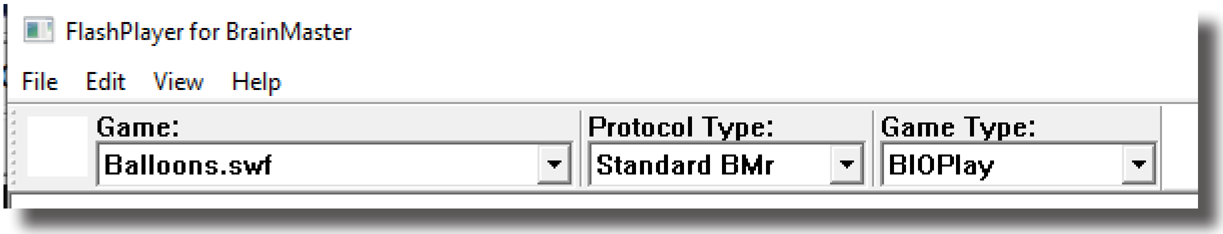

BrainAvatar
File
Data
Display
Freq.Bands
Sound
Themes
Setup
Help
Go
Stop
Window
Client
Setup
BRAIN
Blinks
Moves
Clench Teeth
Drowsy
Awakens
Start Stim
End Stim
Cough/Sneeze
Loose Sensor
Start Task
End Task
1 C3-A1 Raw EEG
0.0 mohm
Theta
Beta
Hibeta
30.00
9
20

19:52
001
7 uV
10 seconds
24-CHANNEL EEG

3. In the Window Launcher Menu, click the “Flash Player” Button, located in the BMr Macromedia Section.


Window Launcher
Popups
X-Wing
BoxFlow
Dimmer
Mini BMirr
2D Spectral
BrainScape
Numbers
TrendView
Thermos
LongTrend
Waves
Circles
LissaView
ReturnMap
BMr Multimedia
MultiMedia Player
DVD Player
Audio/Video Interfaces
AVI Extensions
BMr Macromedia
Flash Player
Additional Software
EEG Synthesizer
Zukor Launcher
Contributed Games
George Martin's
Puzzle
Space
Jim Zdunek's
Cricket
BugRun
Cancel
OK

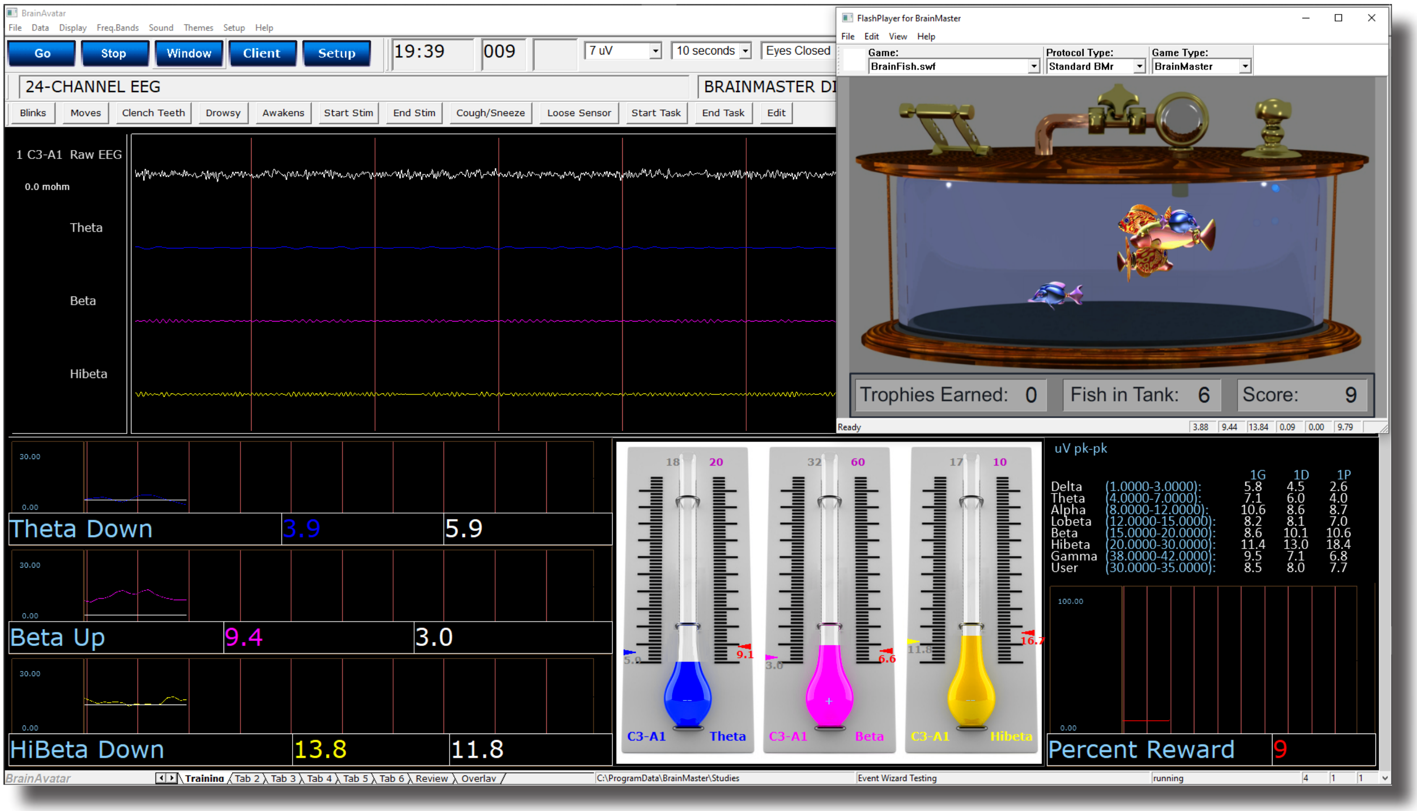
4. If you are choosing to utilize a BioPLAY FlashPlayer Game, change the Game Type to “BioPLAY”


FlashPlayer for BrainMaster
File
Edit
View
Help

Game: Balloons.swf
Protocol Type: Standard BMr
Game Type: BIOPlay

# BMr Flash Player

The Flash Player will now be running with the BrainMaster Software.  You will be able to tell this has been successful, as the FlashPlayer Player for BrainMaster for BrainMaster Window will open, and the chosen Video file will play.  Please make sure for proper use, the the Protocol Type, as well as the Game Type are properly set for optimal performance.


BrainAvatar
File Data Display Freq.Bands Sound Themes Setup Help
Go
Stop
Window
Client
Setup
19:39
009
7 uV
10 seconds
Eyes Closed
24-CHANNEL EEG
BRAINMASTER DI
Blinks
Moves
Clench Teeth
Drowsy
Awakens
Start Stim
End Stim
Cough/Sneeze
Loose Sensor
Start Task
End Task
Edit
1 C3-A1 Raw EEG
0.0 mohm
Theta
Beta
Hibeta
FlashPlayer for BrainMaster
File Edit View Help
Ready
3.88
9.44
13.84
0.09
0.00
9.79
30.00
0.00
Theta Down
3.9
5.9
Beta Up
9.4
3.0
HiBeta Down
13.8
11.8
18
20
32
60
17
10
9.1
6.6
16.7
C3-A1
Theta
Beta
Hibeta
100.00
Percent Reward
9
Training
Tab 2
Tab 3
Tab 4
Tab 5
Tab 6
Review
Overlay
C:\ProgramData\BrainMaster\Studies
Event Wizard Testing
running

Game: BrainFish.swf
Protocol Type: Standard BMr
Game Type: BrainMaster

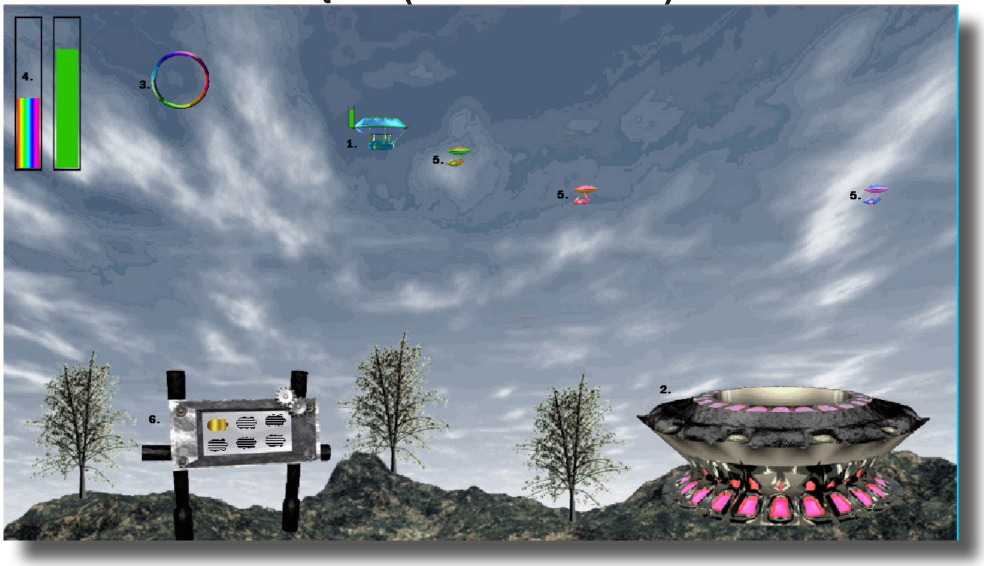
Trophies Earned: 0
Fish in Tank: 6
Score: 9

uV pk-pk

| | | 1G | 1D | 1P |
|---|---|---|---|---|
| Delta | (1.0000-3.0000): | 5.8 | 4.5 | 2.6 |
| Theta | (4.0000-7.0000): | 7.1 | 6.0 | 4.0 |
| Alpha | (8.0000-12.0000): | 10.6 | 8.6 | 8.7 |
| Lobeta | (12.0000-15.0000): | 8.2 | 8.1 | 7.0 |
| Beta | (15.0000-20.0000): | 8.6 | 10.1 | 10.6 |
| Hibeta | (20.0000-30.0000): | 11.4 | 13.0 | 18.4 |
| Gamma | (38.0000-42.0000): | 9.5 | 7.1 | 6.8 |
| User | (30.0000-35.0000): | 8.5 | 8.0 | 7.7 |

## Flash Player Games

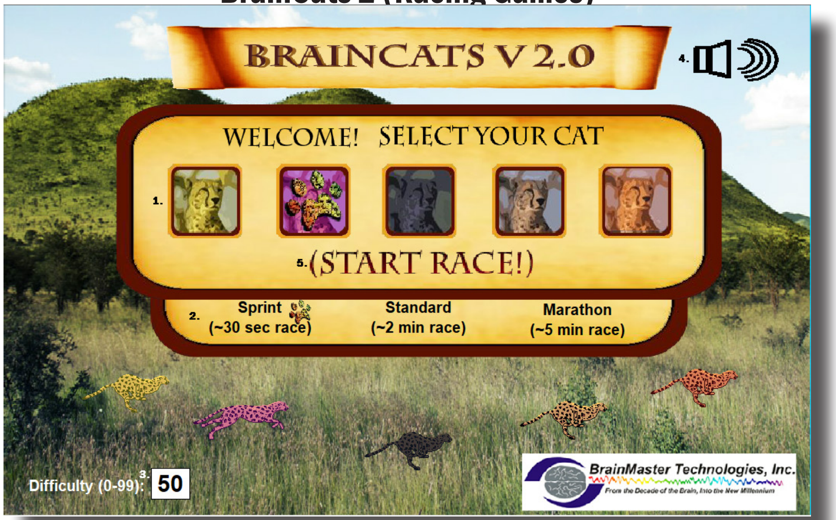
### Color Quest (Adventure Games)



1. **Blimp –** Once a blimp has launched, the user will cause it to move every time its green progress bar fills up. When the blimp moves, it will move in the direction of the Colorful Ring(accuracy is dependent on user feedback). When the blimp hits the ring, it will change color. After 10 hits, the blimp will “spin out”, causing it to disappear, restoring color to the game screen. There are 6 total blimps.
2. **Launch Pad –** When there is no blimp on-screen, the user must fill the green progress bar in the top-left corner. Once this happens, a new blimp will launch from the Launch Pad. Also, the pink lights on the Launch Pad will illuminate when the user meets the requisite feedback conditions.
3. **Colorful Ring –** This ring is the target of the blimp. When the blimp hits it, the blimp will change color. Also, the ring will spin when the user meets the required feedback conditions.
4. **Progress Bars –** These progress bars measure the overall feedback of the user. The “rainbow” feedback bar, on the left, displays the user’s relative feedback for the last 3 seconds(i.e.: A full bar means the user met conditions 100% for the last 3 seconds, a half-bar means the user has met conditions 50% for the last 3 seconds, etc.). The green progress bar accumulates over time. If the user does not meet required conditions, the green progress bar will begin to descend. Filling the green progress bar once corresponds to 3 seconds of 100% feedback.
5. **Trophy Blimps –** As your blimp continually hits the Colorful Ring, three miniature models of your blimp will become visible, floating about in the background. They are purely aesthetic, and represent a visual reward for the user’s hard work.
6. **Progress Panel –** The Progress Panel has six blimp-shaped outlines. As the user “completes” each of the six blimps, the blimp-shaped outline will be filled in with a gold blimp “token”. This panel lets the user know how many blimps are left before the game is finished, as well as representing a visual reward for the user.

**Similar Games –** None

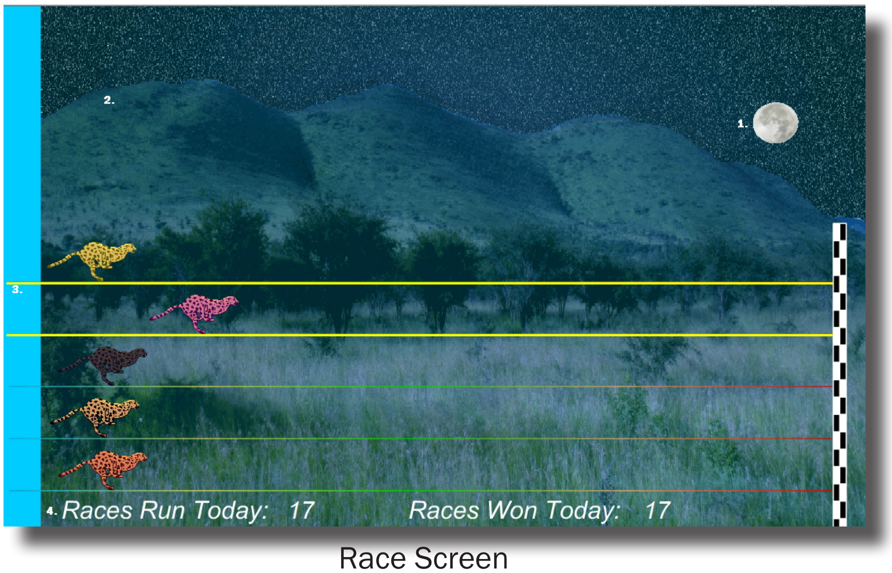
## BrainCats 2 (Racing Games)


BRAINCATS V 2.0
4.
WELCOME! SELECT YOUR CAT
1.
5.(START RACE!)
2.
Sprint (~30 sec race)
Standard (~2 min race)
Marathon (~5 min race)
3.
BrainMaster Technologies, Inc.
From the Decade of the Brain, into the New Millennium

Difficulty (0-99): 50

Opening Screen

1. **Select Cat Section –** Section where you select the cat who will run according to the user feedback.
2. **Race Length Section –** Section where you choose the length of the race. The non-user cats will take about this long to complete the race. Depending on the difficulty level and user feedback, the user could complete the race in a wide range of times. If the user meets the difficulty level consistently, they can be expected to take about as long as the non-user cats.
3. **Difficulty Setting –** Section where you set the difficulty. The difficulty corresponds to the percentage of client feedback that will put the player cat about “on par” with the race competition. The default value is 50%. For example: at a difficulty level of “25”, the client will have to meet the required conditions about 25% of the time to keep up with their opponents in the race. As the client meets conditions more consistently, the chance of the client winning will also increase. So, in the case of “25”, a client providing 35% feedback would have a good chance of winning the race.
4. **Sound On/Off Section –** Sections where you can control the sound settings for the game. The sounds act primarily as reward feedback, and appear in 5 different places during the game:
    a. At the games start
    b. At the result screen after a win
    c. When the user earns the Monkey Trophy
    d. When the user earns the Elephant Trophy
    e. When the user reaches the nighttime scenario
    f. When the user wins after completing the nighttime scenario
5. **Start Race Button –** Click to begin the game after all settings are set to your desired settings.

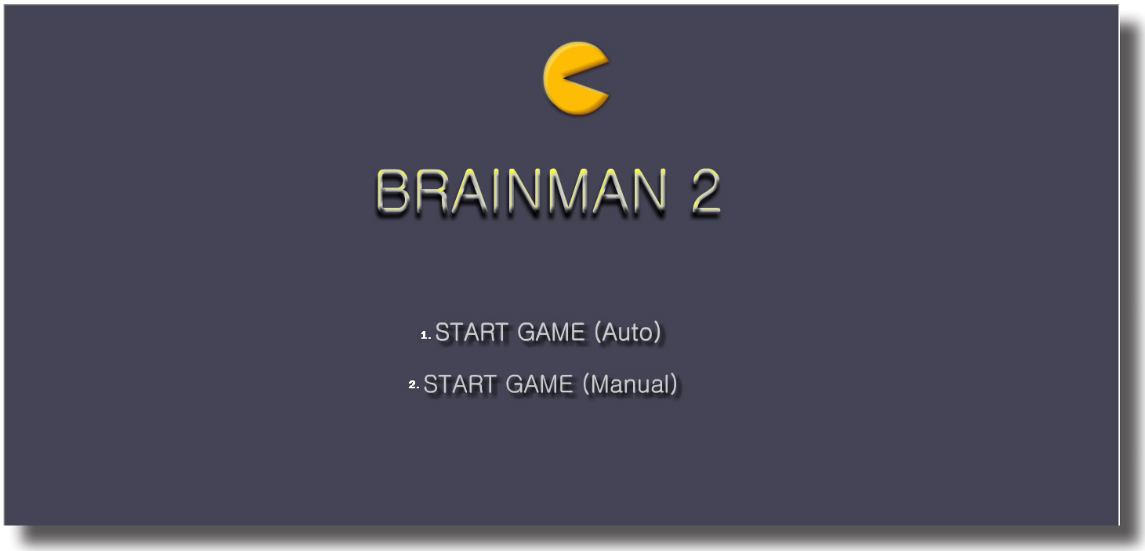


Race Screen

1. **Sun/Moon Graphics –** This graphic will move through the sky as you win more races. Eventually, when the sun passes the mountains on the west side of the screen, day turns into night, and the process begins again with the moon.
2. **Trophies Graphics –** As you gain points, trophies begin to appear. When the client meets feedback requirements, the trophies animate. Each stage has nine trophies, with three models. For the daytime, these are the ladybugs, hummingbirds, and monkeys. For the nighttime, these are bees, doves, and elephants.
3. **Race Track Borders –** When the client meets feedback requirements, the borders of the race track will light up around the players selected cat.
4. **Statistics Section –** Here, you can see the user’s performance for that game.

**Similar Games –** BrainCats, BrainCats 3D, Blimp Race, Blimp Race 3D

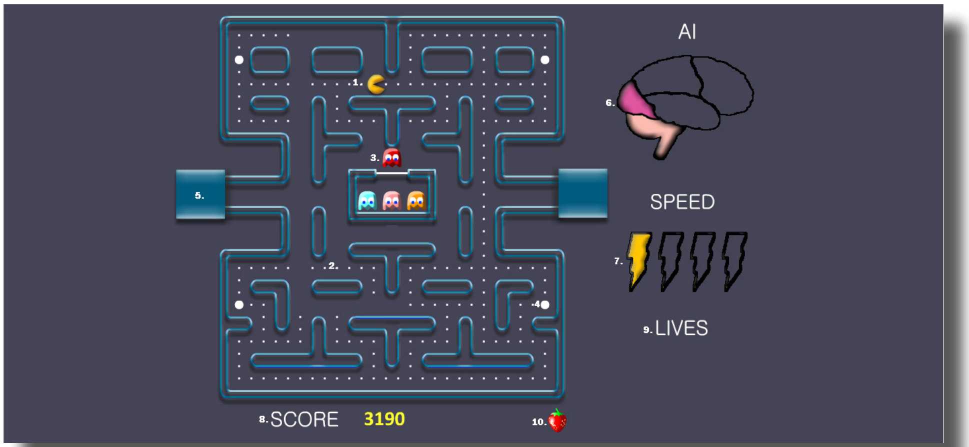
**BrainMan 2 (Arcade Games)**



Title Screen

1. **Automatic Gameplay Selection –** Click to choose the Automatic Gameplay mode. This is more akin to the original BrainMan for BrainMaster. BrainMan will move automatically across the board. His movements are a direct response to the user's feedback. In addition, the user's feedback over the last six seconds will govern the "intelligence" of BrainMan's AI, with a more consistent feedback resulting in a more effective BrainMan.
2. **Manual Gameplay Selection –** Click to choose the Manual Gamelay mode. This mode boasts a more arcade-style of gameplay, with the user directly controlling the movement of BrainMan.

# BMr Flash Player

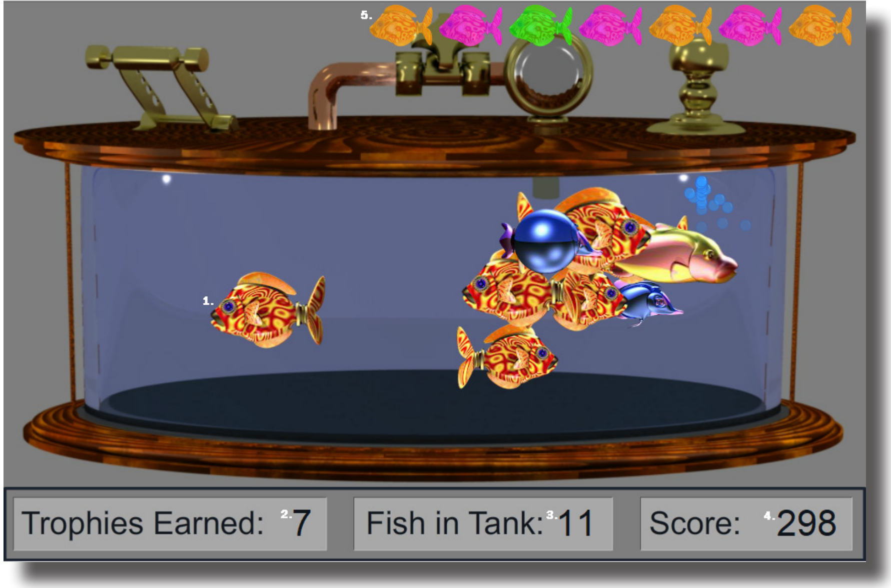


Training Screen

1. **BrainMan –** This is BrainMan. He moves according to the feedback of the user. If the user does not meet specified feedback requirements, BrainMan will not move.
2. **Pills –** When all the pills on a stage have been eaten, BrainMan will move on to the next stage.
3. **Ghosts –** These familiar foes begin to freely move about the screen on Stage 3. Unlike the ghosts that you are used to, these pose no threat to BrainMan. They are extra points, and can be eaten. If the client is meeting the requirements, then the Ghosts will be a blue color and will be able to be consumed. They will turn in to a set of eyes and have to return to their “base” to regenerate.. If the client is not meeting the training requirements, then the Ghosts will be their normal colors. If during this time, they make contact with BrainMan, they will pass through him.
4. **Power Pill –** The Power Pill delivers a reward sound to the client, and has a small chance of increasing BrainMan’s speed for the duration of the level.
5. **Maze –** In this version, even the maze borders respond to the feedback. As the client meets requirements, the borders will become brighter and more saturated. Conversely, as the clinet fails to meet requirements, the maze will grow dark.
6. **AI Level –** The AI is the controller of BrainMan’s movement. It is based on a combination of three things: the client’s relative feedback, the client’s progress through the game, and the client’s progress through the level. As these values increase, you will notice the Brain begin to “fill up”. This means that BrainMan will actually become smarter, and hunt pills more effectively.
7. **Speed Level –** This is self-explanatory. Much like the AI Level, it is governed by both the client’s relative feedback and progress through the game. It does not however, measure progress through the level. Instead, it has a chance to temporarily increase when the user eats a power pill.
8. **Score –** This number is raised by eating Pills, Fruit, and Ghosts.
9. **Lives –** These do not affect gameplay. Rather, they function as “trophies”. The user receives one life for every 8,000 points sored.
10. **Fruit –** Each level boasts a particular kind of Fruit. It will appear in the center of the game board for a brief interval of time during every level. They can be eaten for extra points.

**Similar Games -** BrainMan, Board Game

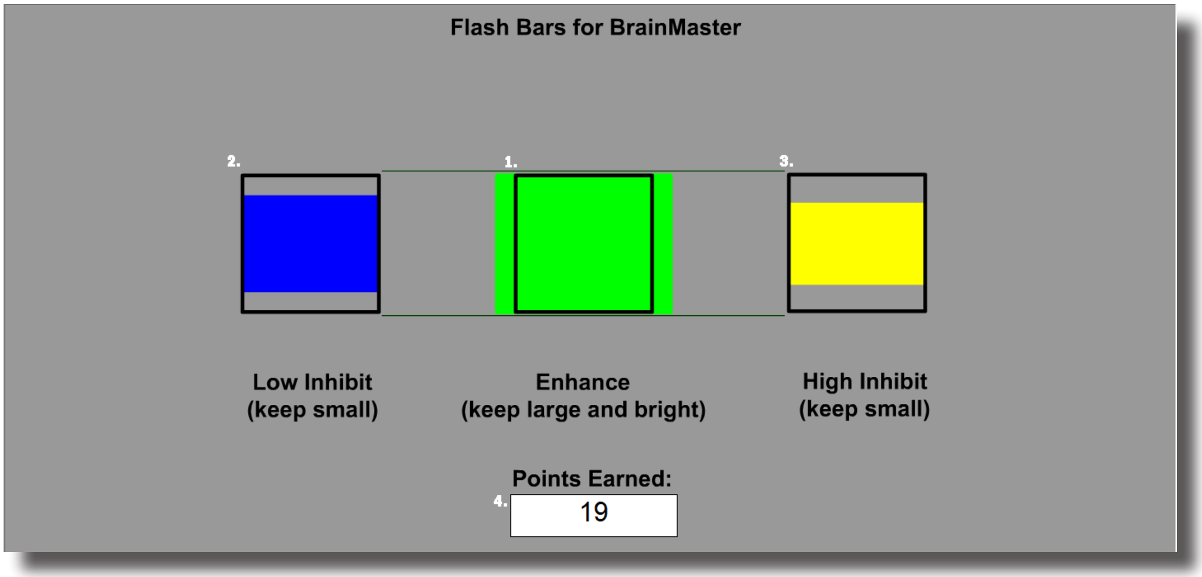
## BrainFish (Collecting Games)



1. **BrianFish –** The BrainFish are created when the trainee meets the training criteria continuously for a certain period of time(approx.. ½ second). The fish are moving quickly when the criteria are met, and slow down otherwise. The number of fish reflects the success in keeping in state over a period of time. 25 fish create a trophy fish, and all fish disappear and the client begins to build a trophy fish again.
2. **Trophy Counter –** This box counts the amount of Solar Systems that have been created.
3. **Fish Counter Counter –** This box counts the amount of Planets that have been created.
4. **Score Counter -** This box counts the total Score that has been calculated by the system. This will work if you have Points set up.
5. **Trophys -** This is where Trophys will appear after they have been collected. They will be a random color.

**Similar Games –** BrainPlanets, BrainPlanet1lite, BrainPlanets2, BrainPlanets2lite, BrainCell, NeuroPet

### App Boxes (Amplitude Games)



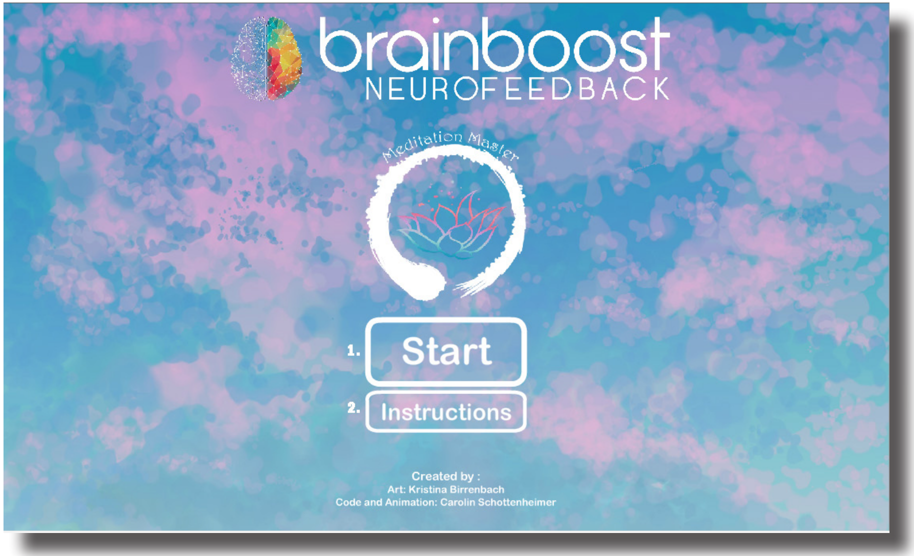
Flash Bars for BrainMaster

1. **Enhance Box –** Shows a box that represents the enhance band. This will increase and decrease in size horizontally, depending on your enhancement training.
2. **Low Inhibit Box –** Shows a box that represents the low inhibit band. This will increase and decrease in size vertically, depending on your low inhibit, and will also have an effect on the Enhance Box. When the inhibit goes above the threshold, they cause the Enhance Box to become dimmer. When both Inhibit boxes are above threshold, the Enhance Box is maximally dark.
3. **High Inhibit Box -** Shows a box that represents the High inhibit band. This will increase and decrease in size vertically, depending on your high inhibit, and will also have an effect on the Enhance Box. When the inhibit goes above the threshold, they cause the Enhance Box to become dimmer. When both Inhibit boxes are above threshold, the Enhance Box is maximally dark.
4. **Points Earned Box –** Box that displays the current amount of points that the client has earned during their training.

*****Please Note:** This game is designed for use with Standard Amplitude Protocols only. If this is used with any other protocols, additional development is required via the Event Wizard.

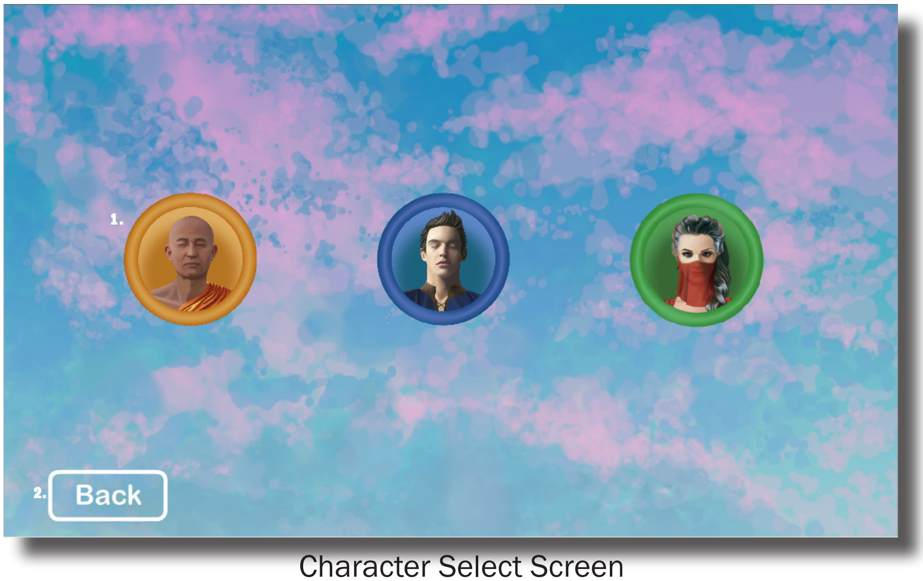
**Similar Games –** None.

## Meditation Master (Growth Games)


brainboost
NEUROFEEDBACK
Meditation Master
1.
Start
2.
Instructions
Created by :
Art: Kristina Birrenbach
Code and Animation: Carolin Schottenheimer

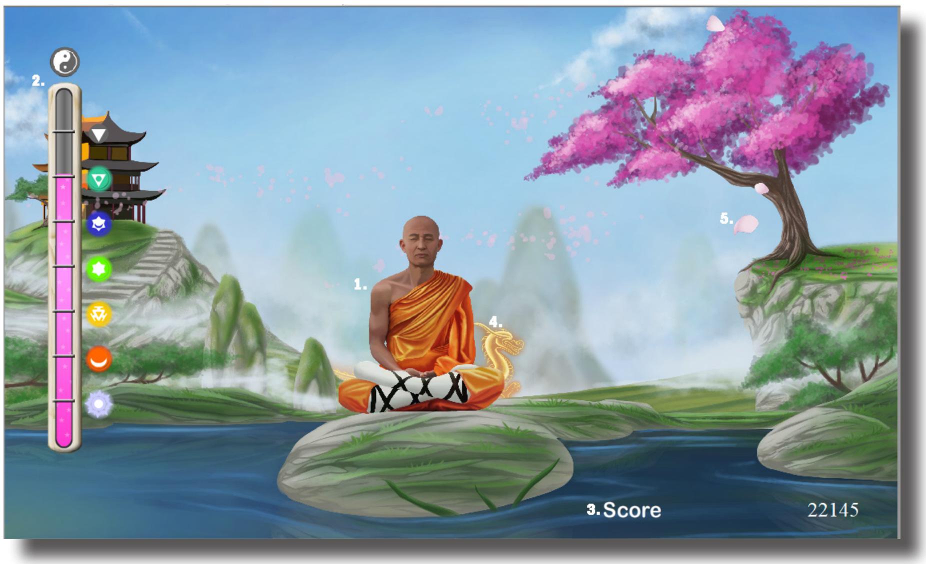
Title Screen

1. **Start Button –** Click to proceed to the Character Selection Menu
2. **Instruction Button –** Click to see very basic instructions that are beneficial for the clinician or Player



Character Select Screen

1. **Character Selection Menu –** Click on the Picture of the Meditator that you would like to utilize. Each Meditator has their own unique background and effects
2. **Back Button –** Click to return to the Title Screen

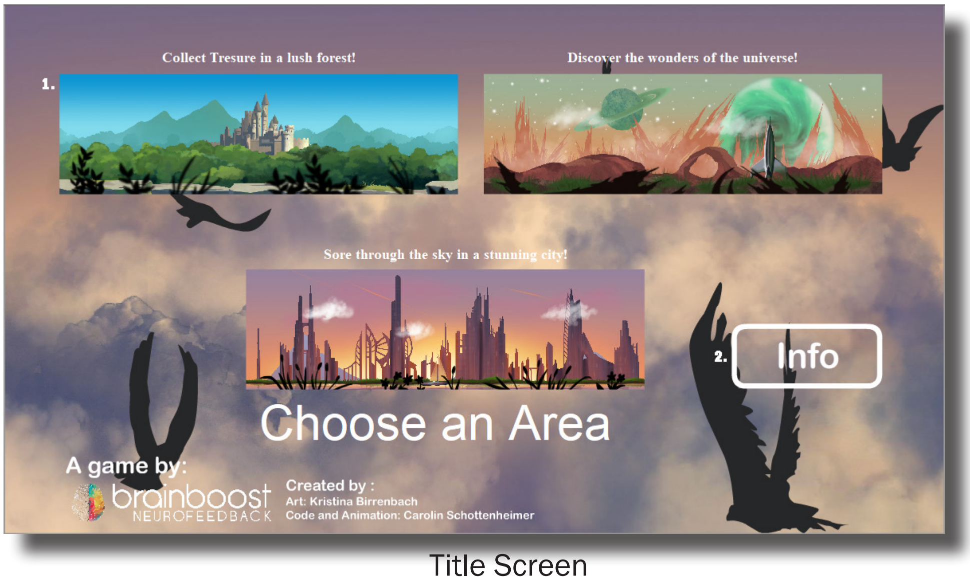


Training Screen

1. **Meditator –** As Training is successful, the Meditator will levitate themselves. As Training success is held, the Meditator will continue to levitate until they reach the top of the screen and will have a special animation.
2. **Progress Bar –** The progress bar has multiple Levels that can be reached. Each level they pass, the icons will grow, and cause a special animation in the background
3. **Score Section -** This is where you can see the clients total score. The score is not tied to the Brain-Master Point system and is its own system.
4. **Level Animation -** When the client passes a level. The Level Animation will occur in the background of the level
5. **Background Effect -** As the client is successfully meeting training, a special background image will pass through the level

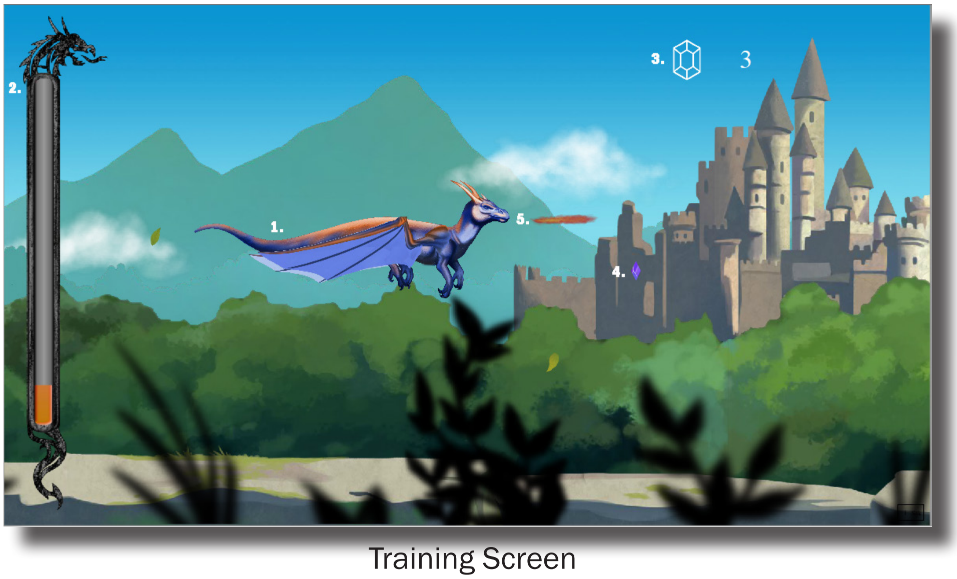
**Similar Games –** NeuroJumper

## NeuroFlight (Side Scrolling Games)


Collect Tresure in a lush forest!
1.
Discover the wonders of the universe!
Sore through the sky in a stunning city!
2.
Info
Choose an Area
A game by:
brainboost
NEUROFEEDBACK
Created by :
Art: Kristina Birrenbach
Code and Animation: Carolin Schottenheimer

Title Screen

1. **Start Button –** Click on the Picture of the level that you would like to play. Each level has their own unique Flying Creature, background, and effects
2. **Info Button –** Click to see very basic instructions that are beneficial for the clinician or Player

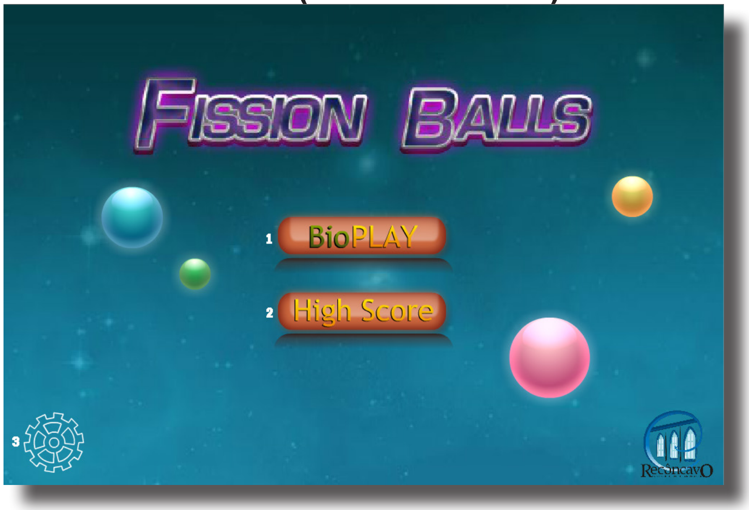


Training Screen

1. **Flying Creature–** As Training is successful, the Flying Creature will increase their elevation. As Training success is held, the Flying Creature will continue to elevate until they reach the middle of the screen and begin to perform a Special Animation
2. **Progress Bar –** The progress bar fills to the top. As they progress, the Flying Creature Evolves.
3. **Score Section -** This is where you can see the total amount of Crystals collected, as well as the progress of new crystals and any special rewards.
4. **Crystal Animation -** When the client puts together a crystal. The Crystal Animation will occur in front of the Flying Creature.
5. **Special Animation Effect -** As the client is successfully meeting training, a special animation is added to the Flying Creature

**Similar Games –** None

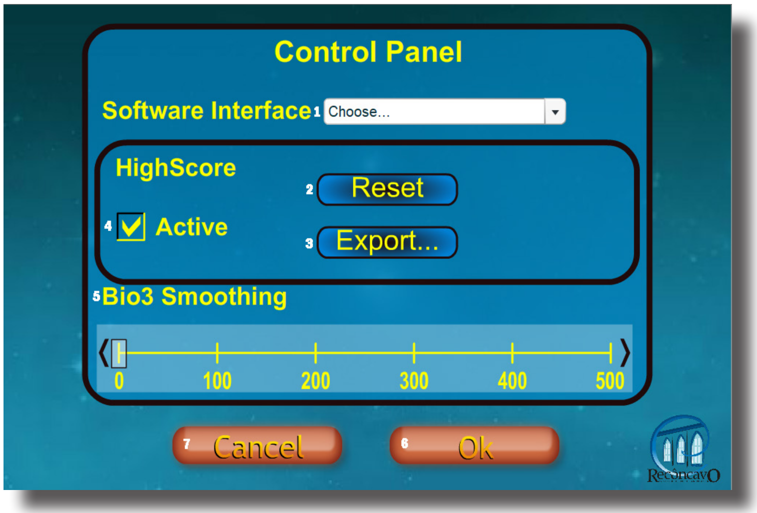
**Fission Balls (Interactive Games)**



Title Screen

***Please Note:** All Interactive Games Require interaction from the user. Either the mouse or the Keyboard. So, if this will not be possible during the session, please do not use these games

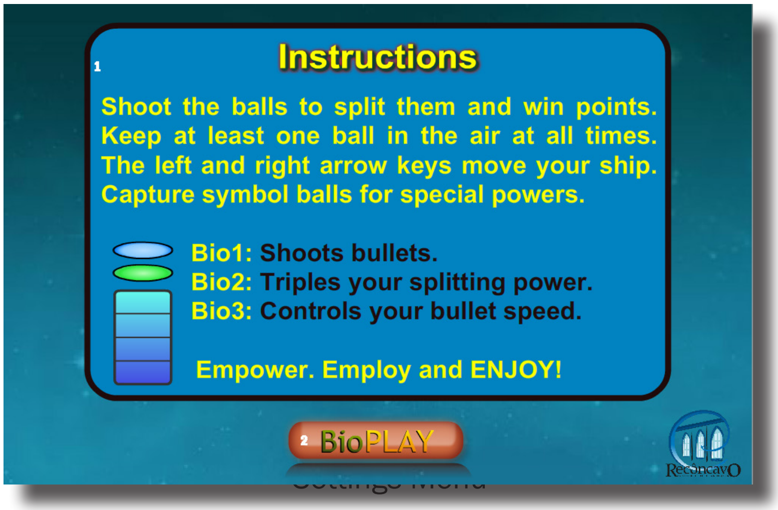
1. **BioPLAY (Start Button)** – Click on the button go launch the Settings menu to assure settings for use.
2. **High Score Button** – Click to see the high scores of all prior players on the current PC.
3. **Settings Button -** Click on this button to change settings without beginning a new game.


Control Panel
Software Interface 1
Choose...
HighScore
2 Reset
4 ☑ Active
3 Export...
5 Bio3 Smoothing
0
100
200
300
400
500
7 Cancel
6 Ok
RecoñcavO

Settings Menu

*****Please Note:** All Interactive Games Require interaction from the user. Either the mouse or the Keyboard. So, if this will not be possible during the session, please do not use these games

1. **Software Interface** – Set selection to BrainMaster 3.0. This works with all versions of BrainMaster Software
2. **High Score Reset Button** – Click to delete all High Scores
3. **High Score Export.. Button -** Click to export all previously recorded High Scores
4. Active Check Box - Click on if you would like High Scores to be tracked, and un-click if you do not want high scores tracked
5. **Bio3 Smoothing** - Bio3 is a Proportional Control. By adjusting the Smoothing, you can control the speed at which that the data comes in.
6. **OK Button** - Click on to move to the Instruction Menu, or the Title Screen, if the Settings Button was clicked
7. **Cancel Button** - Click on to cancel any selections made and return to the Title Screen.



Instructions

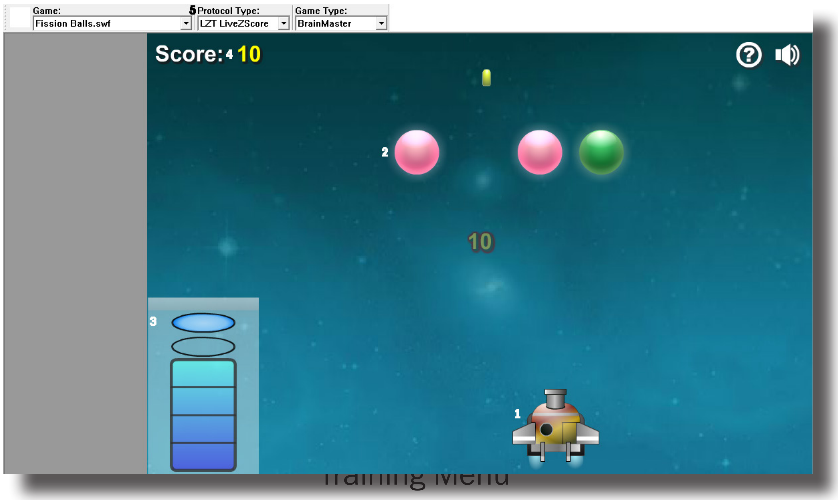
Shoot the balls to split them and win points. Keep at least one ball in the air at all times. The left and right arrow keys move your ship. Capture symbol balls for special powers.

Bio1: Shoots bullets.
Bio2: Triples your splitting power.
Bio3: Controls your bullet speed.

Empower. Employ and ENJOY!

***Please Note:** All Interactive Games Require interaction from the user. Either the mouse or the Keyboard. So, if this will not be possible during the session, please do not use these games

1. **Software Interface** – Basic instructions for the client.
2. **BioPLAY Button** – Click to begin the Training



Game: Fission Balls.swf

Protocol Type: LZT LiveZScore

Game Type: BrainMaster

Score: 10

Training Menu

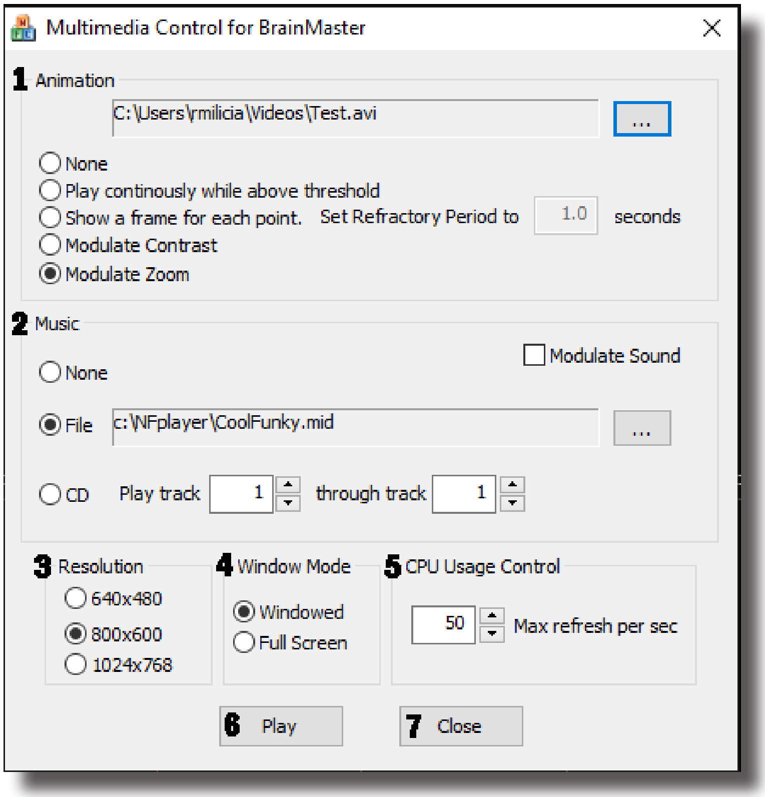
***Please Note:** All Interactive Games Require interaction from the user. Either the mouse or the Keyboard. So, if this will not be possible during the session, please do not use these games

1. **Ship** – The Ship that you pilot to destroy the Balls
2. **Fission Balls** – As they blow up, they split and continue to fall. The game is over when they all fall below the ship
3. **Bio Control Menu** - Shows the current output for the ship
4. **Score** - Shows the current score for their current session
5. **Protocol Type** - This needs to be set properly for proper output. If a Z-Score this must be set to LZT LiveZScore.
6. **Sound Output** - To turn on or off Sound output from the game
7. **? Button** - Click to open the Instructions Menu

**Similar Games –** Bubble Bug, Crazy Taxi, GhostMan Advanced, Gold Fishing, Hare and Tortoise, Protect Mission, Slingshot Challenge, Space Invaders, Spaceship, Wizard Balls

## BMrMultiMediaPlayer Suite

### BMrMultiMedia (BMrMMP) Player Control Menu Display



Multimedia Control for BrainMaster

**1** Animation

C:\Users\rmilicia\Videos\Test.avi ...

○ None
○ Play continously while above threshold
○ Show a frame for each point. Set Refractory Period to 1.0 seconds
○ Modulate Contrast
● Modulate Zoom

**2** Music

☐ Modulate Sound
○ None
● File c:\NFplayer\CoolFunky.mid ...
○ CD Play track 1 through track 1

**3** Resolution
○ 640x480
● 800x600
○ 1024x768

**4** Window Mode
● Windowed
○ Full Screen

**5** CPU Usage Control
50 Max refresh per sec

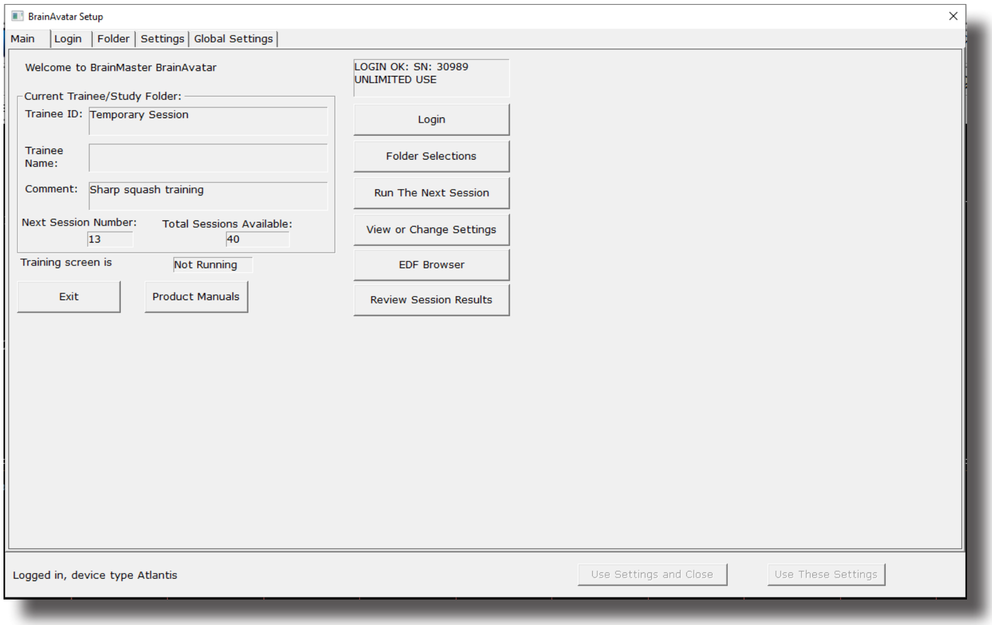
**6** Play **7** Close

1. **Animation Section** – Section where you can choose what type of animation being viewed, and the type (if any) modulation is occurring. In order to choose a different animation, you can do so by clicking the "…" button.
2. **Music Section** – Section where you can choose what type of music is being played, and whether or not audio modulation will occur. In order to choose a different audio file, you can do so by click the "…" button.
3. **Resolution Section** – Section where you can adjust the resolution the animation file is being displayed.
4. **Window Mode Section** – Section where you can adjust whether the animation is being displayed as a Window, or in Full Screen Mode.
5. **CPU Usage Control** – Section where you can control the Max refresh rate per second.
6. **Play Button** – Click to confirm settings and launch BMr MultiMediaPlayer.
7. **Close Button** – Click to close BMr MultiMediaPlayer Control Menu.

**Acceptable Media Files:** MPEG, AVI
**Acceptable Audio Files:** MP3, WAV

## Using BMrMMP

1. Setup the training that you would like to use, or choose an existing folder that you would like to us, and click the “Run The Next Session” Button.


BrainAvatar Setup
Main
Login
Folder
Settings
Global Settings
Login
Folder Selections
Run The Next Session
View or Change Settings
EDF Browser
Review Session Results
Exit
Product Manuals
Use Settings and Close
Use These Settings

Welcome to BrainMaster BrainAvatar

Current Trainee/Study Folder:

Trainee ID: Temporary Session

Trainee Name:

Comment: Sharp squash training

Next Session Number: 13

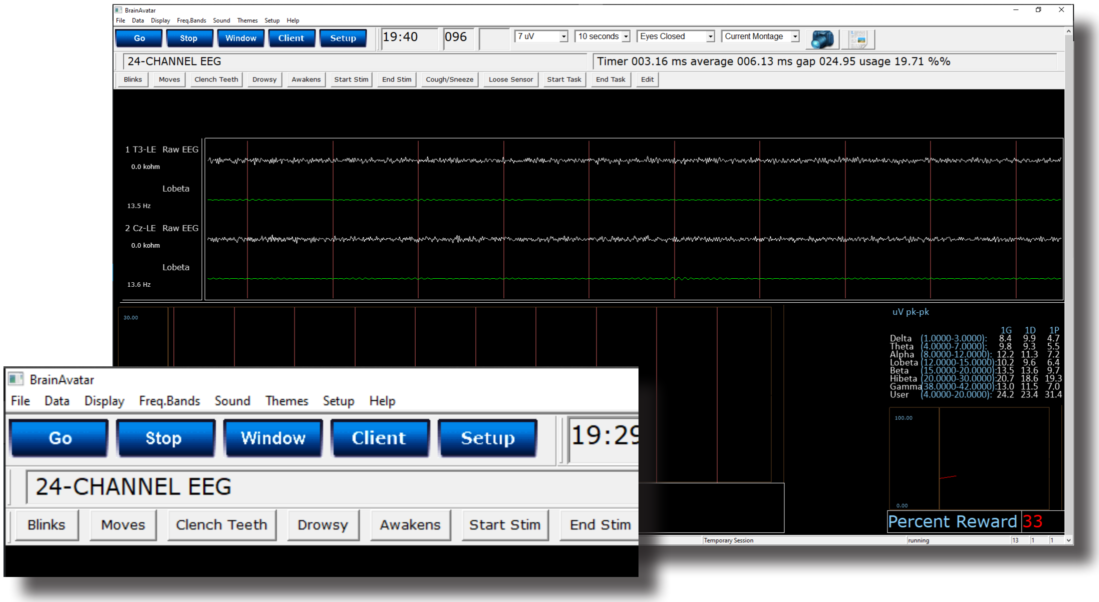
Total Sessions Available: 40

Training screen is Not Running

LOGIN OK: SN: 30989
UNLIMITED USE

Logged in, device type Atlantis

2. After you start the Session, click the “Window” Button.


BrainAvatar
File
Data
Display
Freq.Bands
Sound
Themes
Setup
Help
Go
Stop
Window
Client
Setup
Blinks
Moves
Clench Teeth
Drowsy
Awakens
Start Stim
End Stim
Cough/Sneeze
Loose Sensor
Start Task
End Task
Edit
1 T3-LE Raw EEG
0.0 kohm
Lobeta
13.5 Hz
2 Cz-LE Raw EEG
0.0 kohm
Lobeta
13.6 Hz
uV pk-pk
Percent Reward 33

19:40 096 7 uV 10 seconds Eyes Closed Current Montage

24-CHANNEL EEG

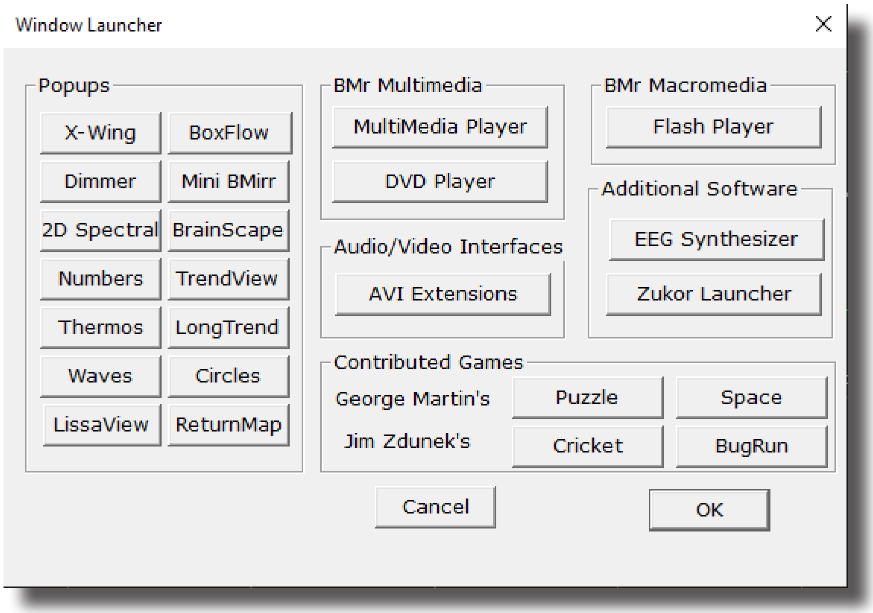
Timer 003.16 ms average 006.13 ms gap 024.95 usage 19.71 %%

| | | 1G | 1D | 1P |
|---|---|---|---|---|
| Delta | (1.0000-3.0000): | 8.4 | 9.9 | 4.7 |
| Theta | (4.0000-7.0000): | 9.8 | 9.3 | 5.5 |
| Alpha | (8.0000-12.0000): | 12.2 | 11.3 | 7.2 |
| Lobeta | (12.0000-15.0000): | 10.2 | 9.6 | 6.4 |
| Beta | (15.0000-20.0000): | 13.5 | 13.6 | 9.7 |
| Hibeta | (20.0000-30.0000): | 20.7 | 18.6 | 19.3 |
| Gamma | (38.0000-42.0000): | 13.0 | 11.5 | 7.0 |
| User | (4.0000-20.0000): | 24.2 | 23.4 | 31.4 |

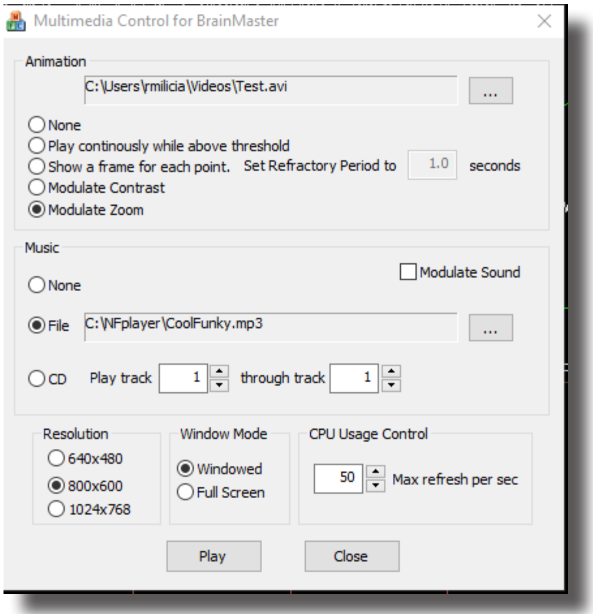
19:29

24-CHANNEL EEG

3. In the Window Launcher Menu, click the “MultiMedia Player” Button, located in the BMr Multimedia Section.


Window Launcher
Popups
X-Wing
BoxFlow
Dimmer
Mini BMirr
2D Spectral
BrainScape
Numbers
TrendView
Thermos
LongTrend
Waves
Circles
LissaView
ReturnMap
BMr Multimedia
MultiMedia Player
DVD Player
Audio/Video Interfaces
AVI Extensions
BMr Macromedia
Flash Player
Additional Software
EEG Synthesizer
Zukor Launcher
Contributed Games
George Martin's
Puzzle
Space
Jim Zdunek's
Cricket
BugRun
Cancel
OK

4. Setup the Controls for the BMrMMP as you would like them to react. When your settings are as you would like them, click the “Play” Button to continue.


Multimedia Control for BrainMaster

Animation

C:\Users\rmilicia\Videos\Test.avi

○ None
○ Play continously while above threshold
○ Show a frame for each point. Set Refractory Period to 1.0 seconds
○ Modulate Contrast
● Modulate Zoom

Music

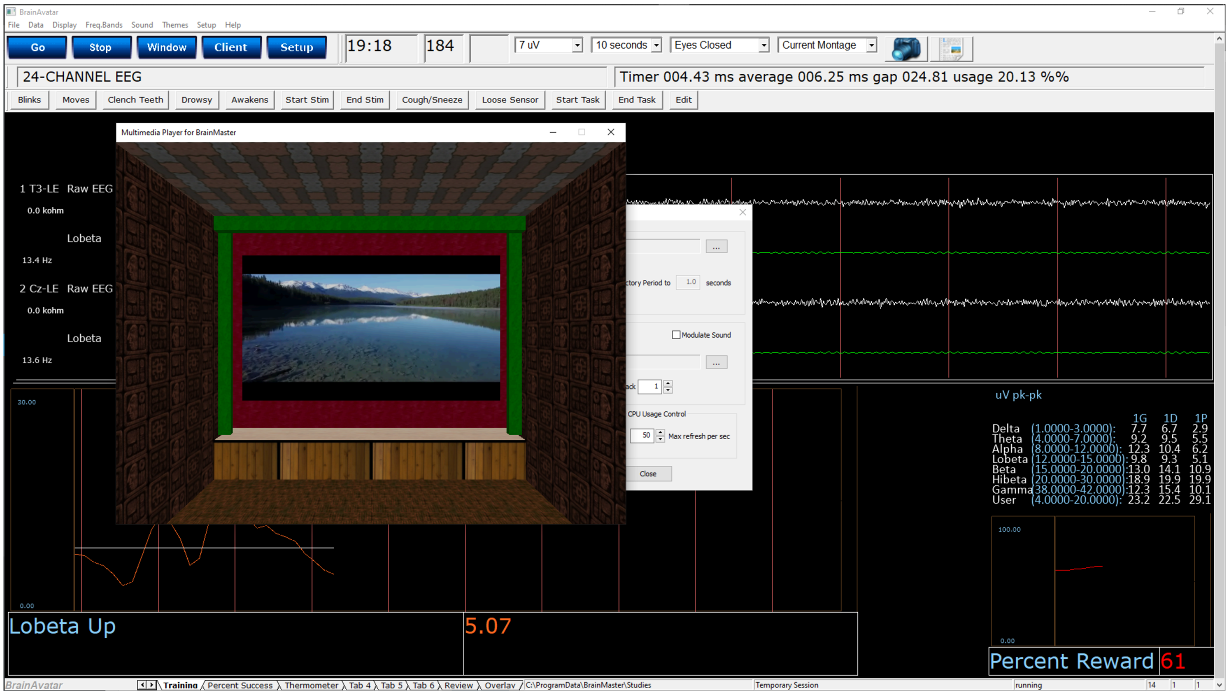
☐ Modulate Sound
○ None
● File C:\NFplayer\CoolFunky.mp3
○ CD Play track 1 through track 1

Resolution
○ 640x480
● 800x600
○ 1024x768

Window Mode
● Windowed
○ Full Screen

CPU Usage Control
50 Max refresh per sec

You have now set up the MultiMedia Player for use with the BrainMaster Software. You will be able to tell this has been successful, as the Multimedia Player for BrainMaster for BrainMaster Window will open, and the chosen Video file will play.


BrainAvatar
File Data Display Freq.Bands Sound Themes Setup Help
Go
Stop
Window
Client
Setup
19:18
184
7 uV
10 seconds
Eyes Closed
Current Montage
24-CHANNEL EEG
Blinks
Moves
Clench Teeth
Drowsy
Awakens
Start Stim
End Stim
Cough/Sneeze
Loose Sensor
Start Task
End Task
Edit
Multimedia Player for BrainMaster
1 T3-LE Raw EEG
0.0 kohm
Lobeta
13.4 Hz
2 Cz-LE Raw EEG
0.0 kohm
Lobeta
13.6 Hz
Modulate Sound
CPU Usage Control
Max refresh per sec
Close
30.00
0.00
100.00
0.00
Training
Percent Success
Thermometer
Tab 4
Tab 5
Tab 6
Review
Overlay
C:\ProgramData\BrainMaster\Studies
Temporary Session
running

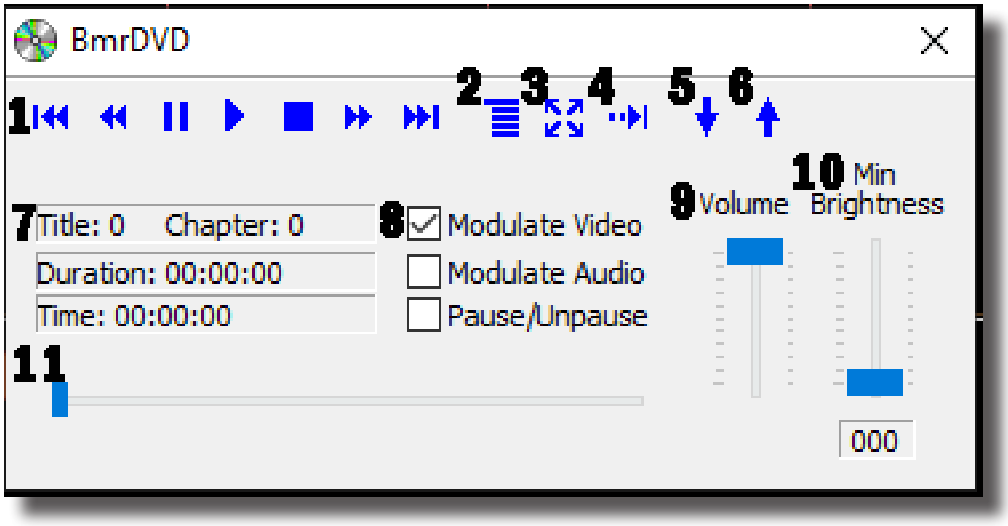
Timer 004.43 ms average 006.25 ms gap 024.81 usage 20.13 %%

```
uV pk-pk
                                1G    1D    1P
Delta  (1.0000-3.0000):        7.7   6.7   2.9
Theta  (4.0000-7.0000):        9.2   9.5   5.5
Alpha  (8.0000-12.0000):      12.3  10.4   6.2
Lobeta (12.0000-15.0000): 9.8   9.3   5.1
Beta   (15.0000-20.0000):13.0  14.1  10.9
Hibeta (20.0000-30.0000):18.9  19.9  19.9
Gamma(38.0000-42.0000):12.3  15.4  10.1
User   (4.0000-20.0000):  23.2  22.5  29.1
```

Lobeta Up 5.07

Percent Reward 61

## BMrDVD Control Menu Display



BmrDVD

Title: 0 Chapter: 0

Duration: 00:00:00

Time: 00:00:00

☑ Modulate Video

☐ Modulate Audio

☐ Pause/Unpause

Volume

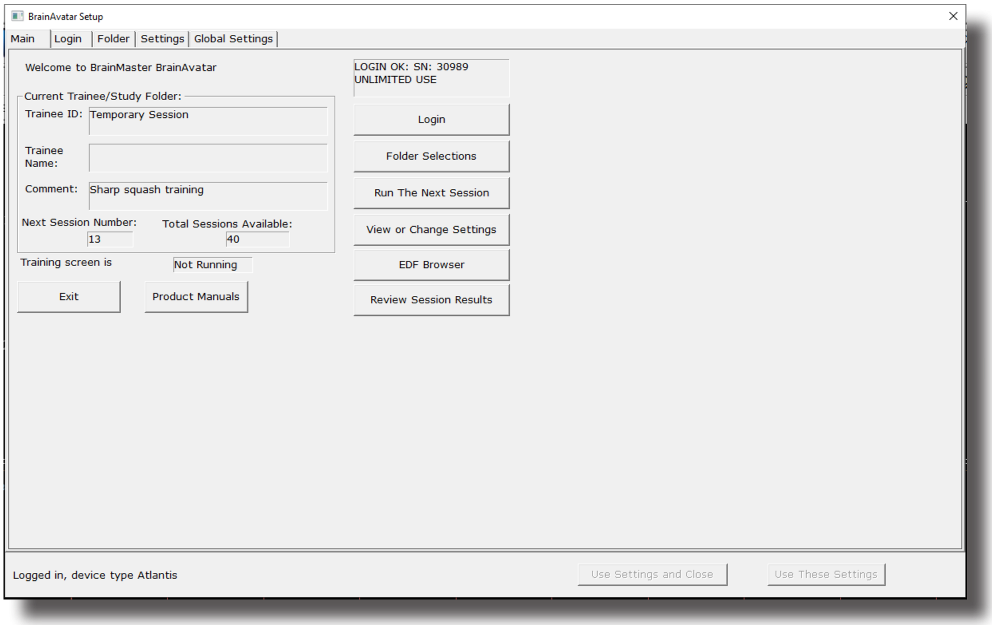
Min Brightness

000

1. **DVD Basic Controls –** Basic DVD Controls(Skip Back, Rewind, Pause, Play, Stop, Fast Forward, and Skip Forward).
2. **Root Menu/Resume Button –** Click to switch from to the Main Menu, or back to your original position.
3. **Full Screen Button –** Click to Expand the DVD Window to Full Screen Mode.
4. **Step Forward Button –** Click to step through the different Title Screens.
5. **Save Bookmark Button –** Click to create a Bookmark for the Trainee Folder that you are currently using.
6. **Restore Bookmark Button –** Click to restore a Bookmark for the Trainee Folder that you are currently using (Unsupported Feature).
7. **Disc Information –** Displays the Chapter Information, Duration and Time for the DVD.
8. **Modulate Check Boxes –** Section where you can choose the type of Modulation(if any).
9. **Volume Control –** Controls the Volume for the BMrDVD Program
10. **Min Brightness Control –** Controls how low the software modulates when the client is not meeting criteria.
11. **Scroll Bar –** Use to Scroll through the DVD with-out skipping or fast forwarding.

## Using BMrDVD

1. Setup the training that you would like to use, or choose an existing folder that you would like to us, and click the “Run The Next Session” Button.


BrainAvatar Setup
Main
Login
Folder
Settings
Global Settings
Login
Folder Selections
Run The Next Session
View or Change Settings
EDF Browser
Review Session Results
Exit
Product Manuals
Use Settings and Close
Use These Settings

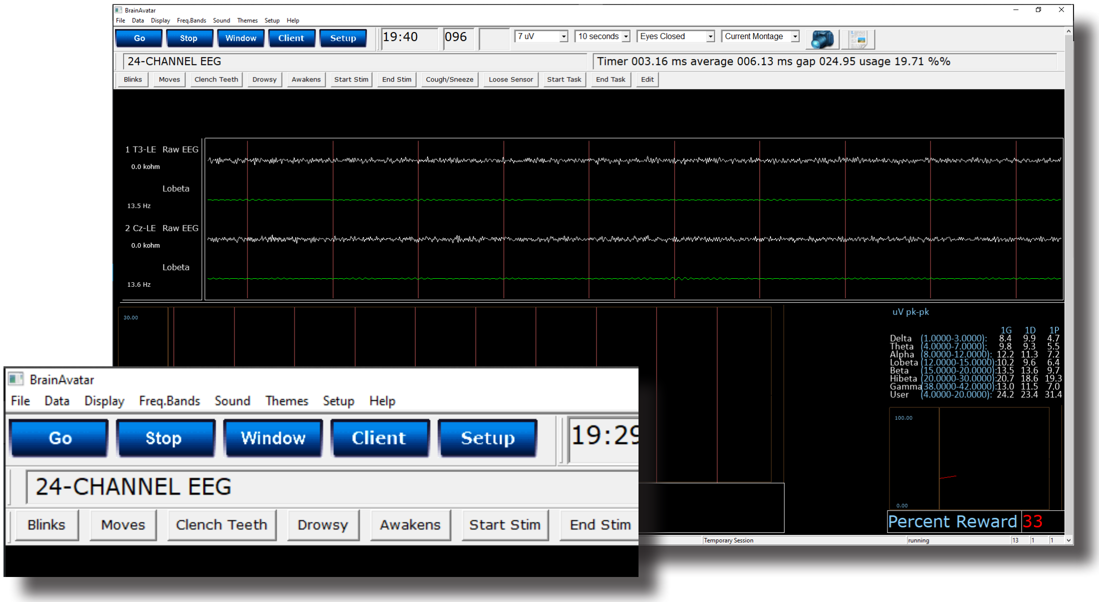
Welcome to BrainMaster BrainAvatar

LOGIN OK: SN: 30989
UNLIMITED USE

Current Trainee/Study Folder:
Trainee ID: Temporary Session
Trainee Name:
Comment: Sharp squash training
Next Session Number: 13
Total Sessions Available: 40
Training screen is Not Running

Logged in, device type Atlantis

2. After you start the Session, click the “Window” Button.


BrainAvatar
File
Data
Display
Freq.Bands
Sound
Themes
Setup
Help
Go
Stop
Window
Client
Setup
Blinks
Moves
Clench Teeth
Drowsy
Awakens
Start Stim
End Stim
Cough/Sneeze
Loose Sensor
Start Task
End Task
Edit
7 uV
10 seconds
Eyes Closed
Current Montage
1 T3-LE Raw EEG
0.0 kohm
Lobeta
13.5 Hz
2 Cz-LE Raw EEG
0.0 kohm
Lobeta
13.6 Hz
30.00
100.00
0.00

19:40 096

24-CHANNEL EEG

Timer 003.16 ms average 006.13 ms gap 024.95 usage 19.71 %%

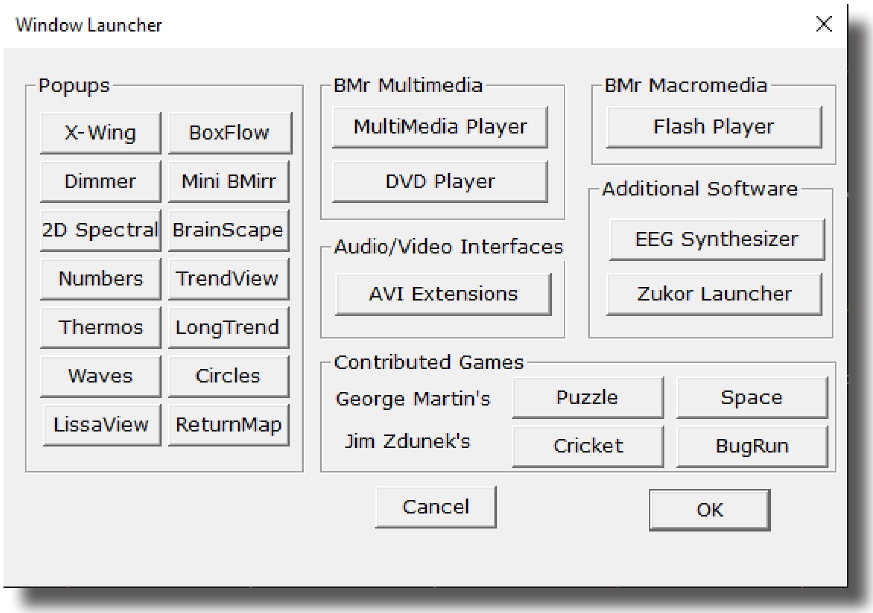
uV pk-pk

| | | 1G | 1D | 1P |
|---|---|---|---|---|
| Delta | (1.0000-3.0000): | 8.4 | 9.9 | 4.7 |
| Theta | (4.0000-7.0000): | 9.8 | 9.3 | 5.5 |
| Alpha | (8.0000-12.0000): | 12.2 | 11.3 | 7.2 |
| Lobeta | (12.0000-15.0000): | 10.2 | 9.6 | 6.4 |
| Beta | (15.0000-20.0000): | 13.5 | 13.6 | 9.7 |
| Hibeta | (20.0000-30.0000): | 20.7 | 18.6 | 19.3 |
| Gamma | (38.0000-42.0000): | 13.0 | 11.5 | 7.0 |
| User | (4.0000-20.0000): | 24.2 | 23.4 | 31.4 |

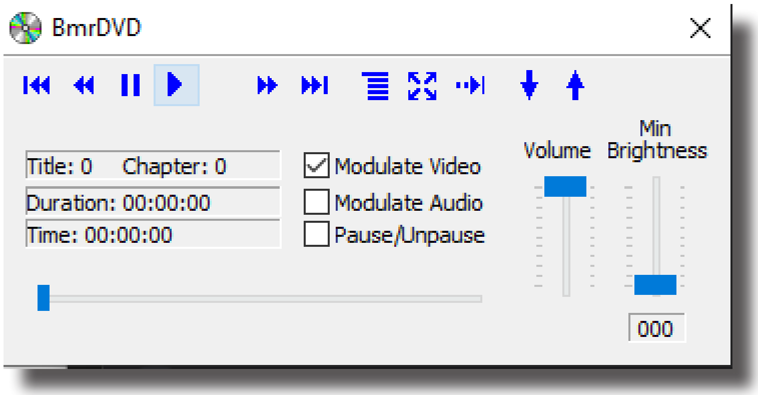
Percent Reward 33

Temporary Session running 13 1 1

3. In the Window Launcher Menu, click the “DVD Player” Button, located in the BMr Multimedia Section.


Window Launcher
Popups
X-Wing
BoxFlow
Dimmer
Mini BMirr
2D Spectral
BrainScape
Numbers
TrendView
Thermos
LongTrend
Waves
Circles
LissaView
ReturnMap
BMr Multimedia
MultiMedia Player
DVD Player
Audio/Video Interfaces
AVI Extensions
BMr Macromedia
Flash Player
Additional Software
EEG Synthesizer
Zukor Launcher
Contributed Games
George Martin's
Puzzle
Space
Jim Zdunek's
Cricket
BugRun
Cancel
OK

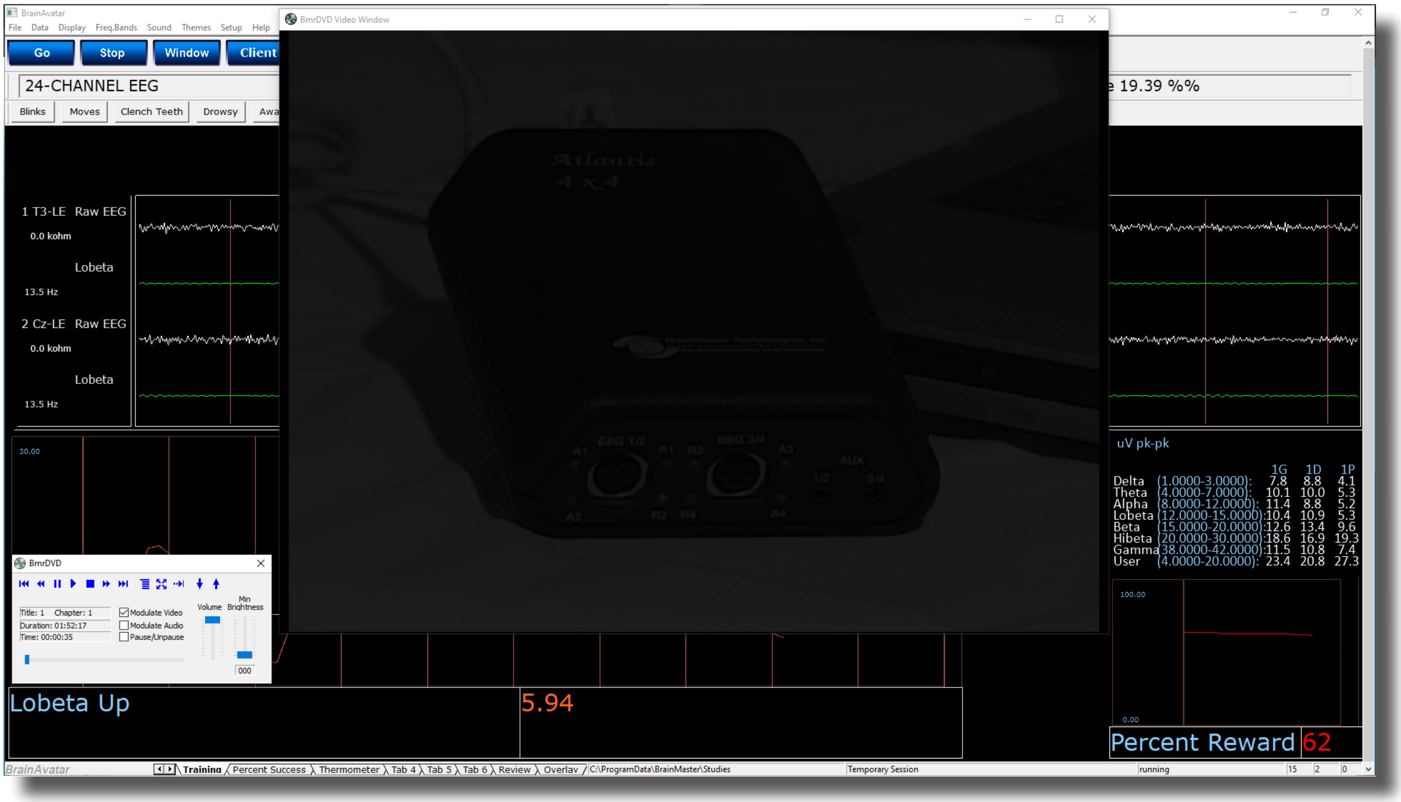
4. Click the “Play” Button or the “Restore Playback” Button to continue.


BmrDVD
Volume
Min Brightness
000

Title: 0 Chapter: 0
Duration: 00:00:00
Time: 00:00:00

☑ Modulate Video
☐ Modulate Audio
☐ Pause/Unpause

You have now set up the DVD Player for use with the BrainMaster Software. You will be able to tell this has been successful, as the BmrDVD Video Window will open, and the DVD will play.


BrainAvatar
File Data Display Freq.Bands Sound Themes Setup Help
Go
Stop
Window
Client
24-CHANNEL EEG
Blinks
Moves
Clench Teeth
Drowsy
1 T3-LE Raw EEG
0.0 kohm
Lobeta
13.5 Hz
2 Cz-LE Raw EEG
0.0 kohm
Lobeta
13.5 Hz
30.00
BmrDVD Video Window
BmrDVD
Volume
Min Brightness
000
100.00
0.00
Training
Percent Success
Thermometer
Tab 4
Tab 5
Tab 6
Review
Overlay
C:\ProgramData\BrainMaster\Studies
Temporary Session
running

Title: 1 Chapter: 1
Duration: 01:52:17
Time: 00:00:35

☑ Modulate Video
☐ Modulate Audio
☐ Pause/Unpause

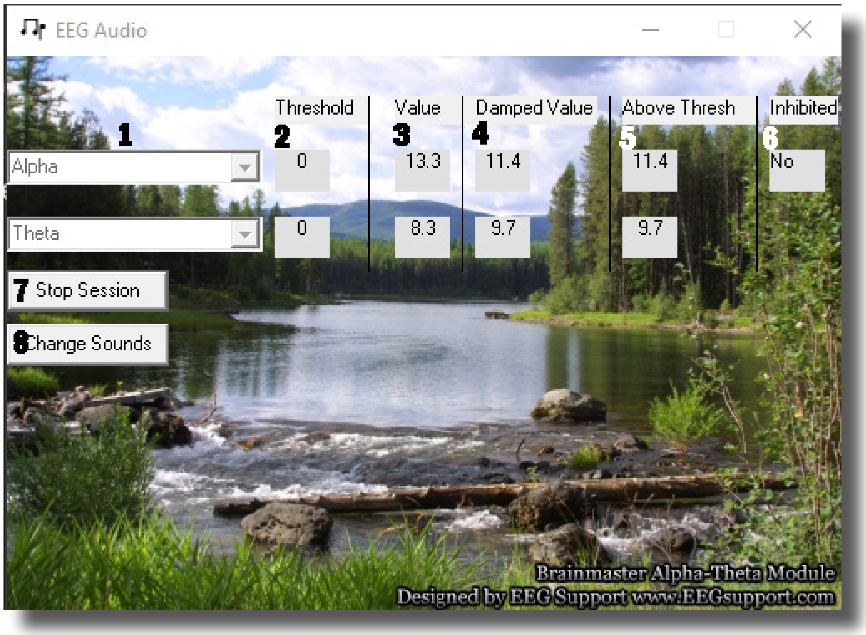
Lobeta Up 5.94

Percent Reward 62

uV pk-pk

| | | 1G | 1D | 1P |
|---|---|---|---|---|
| Delta | (1.0000-3.0000): | 7.8 | 8.8 | 4.1 |
| Theta | (4.0000-7.0000): | 10.1 | 10.0 | 5.3 |
| Alpha | (8.0000-12.0000): | 11.4 | 8.8 | 5.2 |
| Lobeta | (12.0000-15.0000): | 10.4 | 10.9 | 5.3 |
| Beta | (15.0000-20.0000): | 12.6 | 13.4 | 9.6 |
| Hibeta | (20.0000-30.0000): | 18.6 | 16.9 | 19.3 |
| Gamma | (38.0000-42.0000): | 11.5 | 10.8 | 7.4 |
| User | (4.0000-20.0000): | 23.4 | 20.8 | 27.3 |

## EEGAudio Control Menu Display

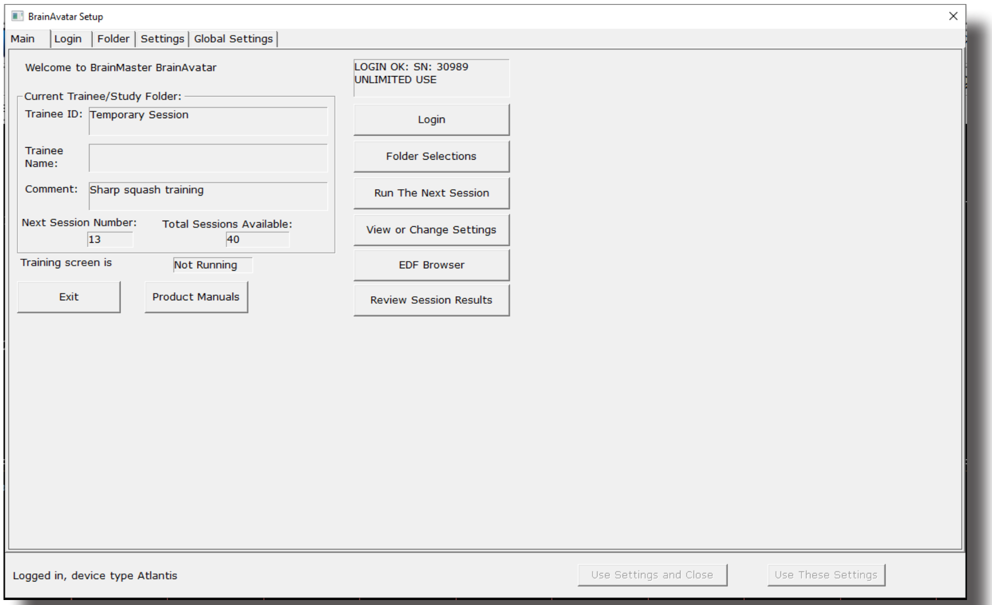

EEG Audio
1
2
3
4
5
6
7 Stop Session
8 Change Sounds
Brainmaster Alpha-Theta Module
Designed by EEG Support www.EEGsupport.com

| | Threshold | Value | Damped Value | Above Thresh | Inhibited |
|---|---|---|---|---|---|
| Alpha | 0 | 13.3 | 11.4 | 11.4 | No |
| Theta | 0 | 8.3 | 9.7 | 9.7 | |

1. **Band Drop-Down Boxes –** Drop-Boxes, where you can choose which bands you would like use for the training. ***PLEASE NOTE: EEGAudio is typically used for Alpha/Theta Training, but is versatile enough to be used with any type of protocol that includes two enhance("Go") components, in which it is desirable to inform the trainee of their relative size, as well as when either of the goes above threshold.
2. **Threshold Boxes –** Display boxes that show the current Threshold values for the bands chosen from the Band Drop-Down Boxes.
3. **Value Boxes –** Display boxes that show the current value for the bands chosen from the Band Drop-Down Boxes.
4. **Damped Value Boxes –** Display boxes that show the damped(averaged) value for the bands chosen from the Band Drop-Down Boxes.
5. **Above Thresh. Boxes –** Display boxes that show the value that shows the amount that the component is currently above threshold(negative if below) for the bands chosen from the Band Drop-Down Boxes.
6. **Inhibited Box –** Displays whether or not any inhibits are active.
7. **Start/Stop Session Button –** Click when all settings are proper to run the EEGAudio Program.
8. **Change Sounds Button –** Click to change the sounds that are coming in for each band, as well as the background for each band.

## Using EEGAudio

1. Setup the training that you would like to use, or choose an existing folder that you would like to us, and click the “Run The Next Session” Button.


BrainAvatar Setup
Main
Login
Folder
Settings
Global Settings
Login
Folder Selections
Run The Next Session
View or Change Settings
EDF Browser
Review Session Results
Exit
Product Manuals
Use Settings and Close
Use These Settings

Welcome to BrainMaster BrainAvatar

LOGIN OK: SN: 30989
UNLIMITED USE

Current Trainee/Study Folder:

Trainee ID: Temporary Session

Trainee Name:

Comment: Sharp squash training

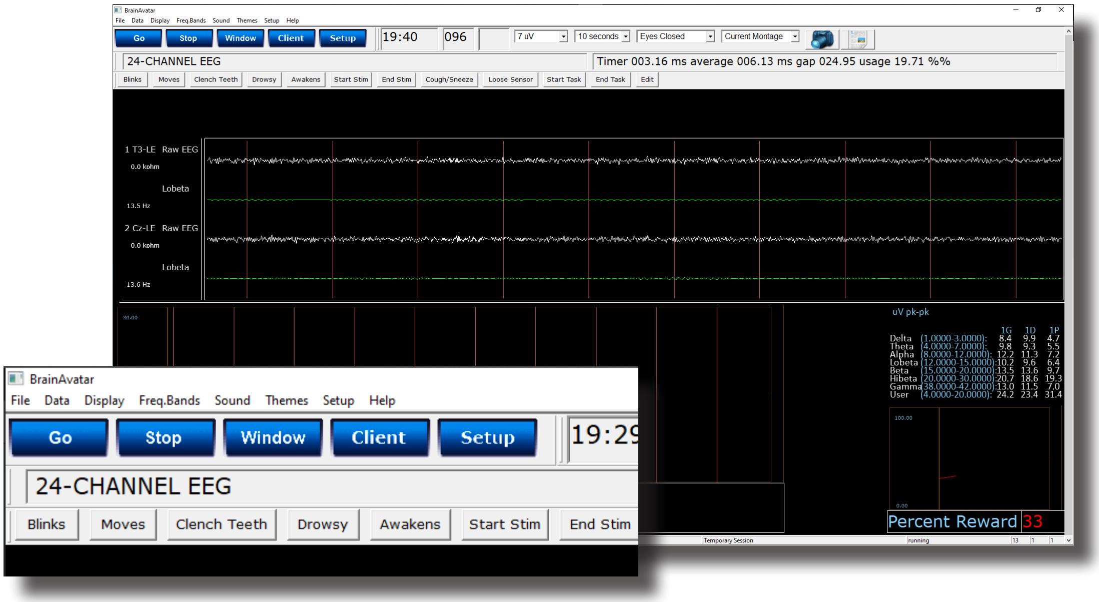
Next Session Number: 13

Total Sessions Available: 40

Training screen is Not Running

Logged in, device type Atlantis

2. After you start the Session, click the “Window” Button.


BrainAvatar
File
Data
Display
Freq.Bands
Sound
Themes
Setup
Help
Go
Stop
Window
Client
Setup
19:40
096
7 uV
10 seconds
Eyes Closed
Current Montage
Blinks
Moves
Clench Teeth
Drowsy
Awakens
Start Stim
End Stim
Cough/Sneeze
Loose Sensor
Start Task
End Task
Edit
1 T3-LE Raw EEG
0.0 kohm
Lobeta
13.5 Hz
2 Cz-LE Raw EEG
0.0 kohm
Lobeta
13.6 Hz
20.00
100.00
0.00
19:29

24-CHANNEL EEG

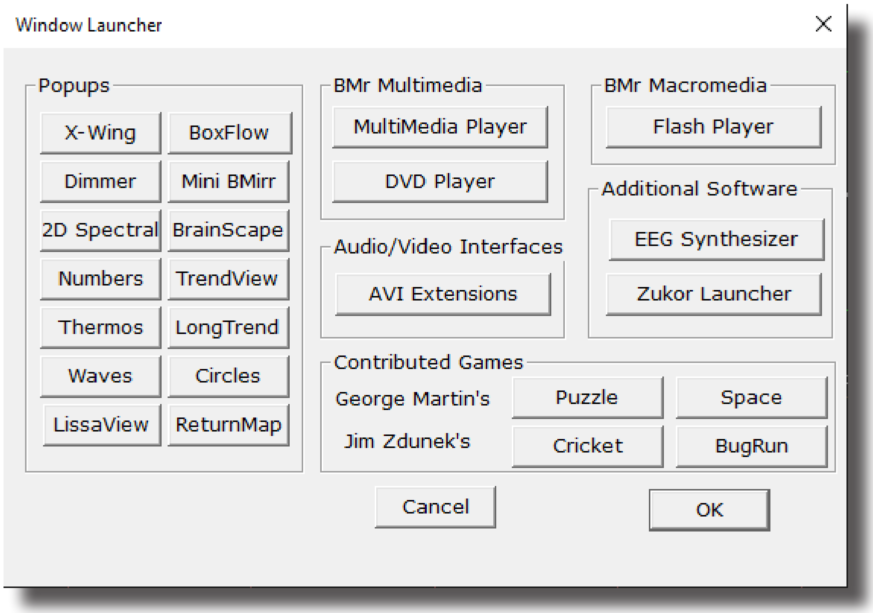
Timer 003.16 ms average 006.13 ms gap 024.95 usage 19.71 %%

```
uV pk-pk
                               1G    1D    1P
Delta  (1.0000-3.0000):       8.4   9.9   4.7
Theta  (4.0000-7.0000):       9.8   9.3   5.5
Alpha  (8.0000-12.0000):     12.2  11.3   7.2
Lobeta (12.0000-15.0000):10.2   9.6   6.4
Beta   (15.0000-20.0000):13.5  13.6   9.7
Hibeta (20.0000-30.0000):20.7  18.6  19.3
Gamma(38.0000-42.0000):13.0  11.5   7.0
User   (4.0000-20.0000):     24.2  23.4  31.4
```

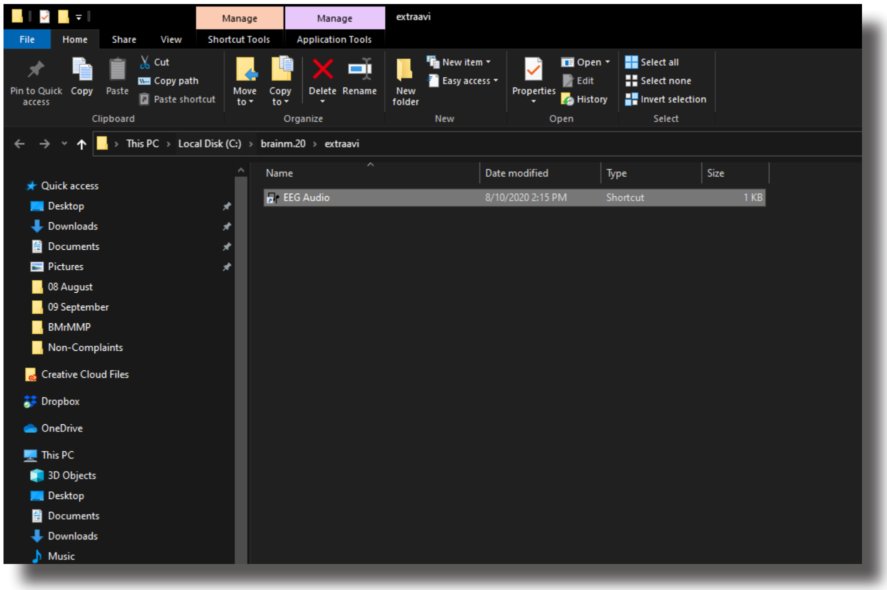
Percent Reward 33

Temporary Session | running | 13 | 1 | 1

3. In the Window Launcher Menu, click the “AVI Extensions” Button, located in the Audio/Video Interfaces Section.

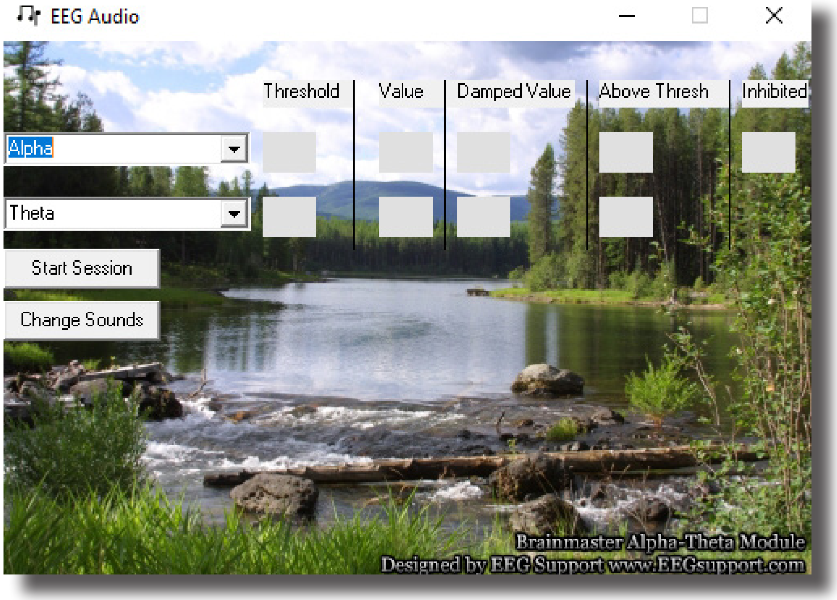

Window Launcher
Popups
X-Wing
BoxFlow
Dimmer
Mini BMirr
2D Spectral
BrainScape
Numbers
TrendView
Thermos
LongTrend
Waves
Circles
LissaView
ReturnMap
BMr Multimedia
MultiMedia Player
DVD Player
Audio/Video Interfaces
AVI Extensions
BMr Macromedia
Flash Player
Additional Software
EEG Synthesizer
Zukor Launcher
Contributed Games
George Martin's
Puzzle
Space
Jim Zdunek's
Cricket
BugRun
Cancel
OK

4. The following menu will open. Double-Click “EEGAudio.exe” to open the EEGAudio program.


Manage
Manage
extraavi
File
Home
Share
View
Shortcut Tools
Application Tools
Pin to Quick access
Copy
Paste
Cut
Copy path
Paste shortcut
Clipboard
Move to
Copy to
Delete
Rename
Organize
New folder
New item
Easy access
New
Properties
Open
Edit
History
Open
Select all
Select none
Invert selection
Select
This PC › Local Disk (C:) › brainm.20 › extraavi
Quick access
Desktop
Downloads
Documents
Pictures
08 August
09 September
BMrMMP
Non-Complaints
Creative Cloud Files
Dropbox
OneDrive
This PC
3D Objects
Desktop
Documents
Downloads
Music

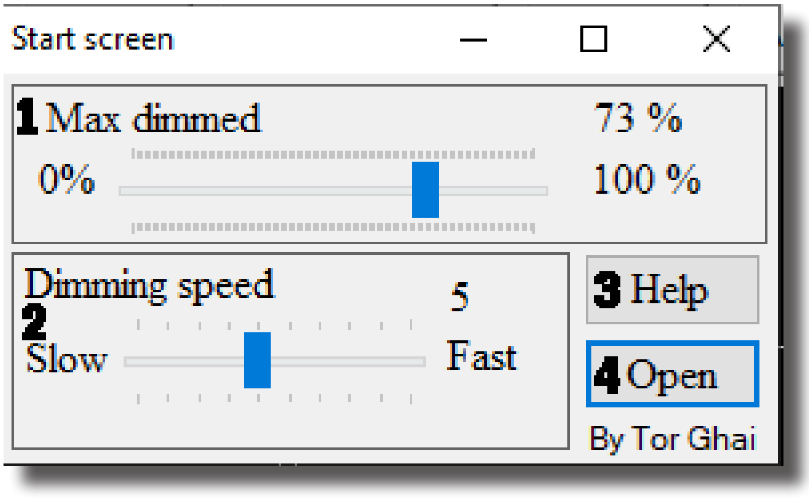
| Name | Date modified | Type | Size |
|---|---|---|---|
| EEG Audio | 8/10/2020 2:15 PM | Shortcut | 1 KB |

5. Setup the sounds and bands as you would like them. When the set-up is complete, click the Start Session Button.


EEG Audio
Threshold
Value
Damped Value
Above Thresh
Inhibited
Alpha
Theta
Start Session
Change Sounds
Brainmaster Alpha-Theta Module
Designed by EEG Support www.EEGsupport.com

You have now set up the EEGAudio for use with the BrainMaster Software. You will be able to tell this has been successful, as EEGAudio will be having numbers, and you have chosen will be playing as the requirements are met.

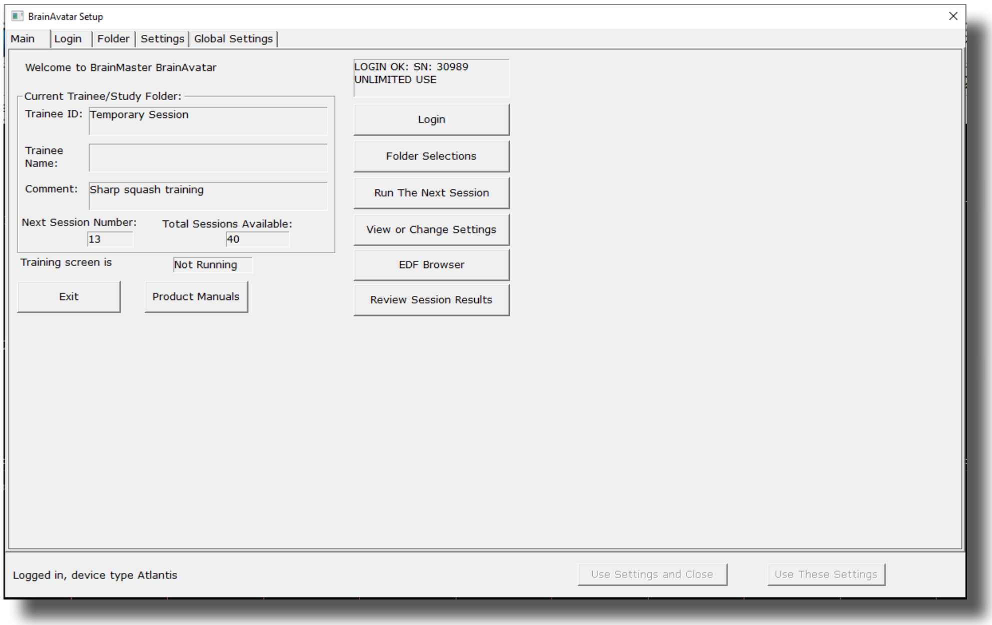
## Dimmer Control Menu


Start screen
1 Max dimmed
73 %
0%
100 %
Dimming speed
2
5
Slow
Fast
3 Help
4 Open
By Tor Ghai

1. **Maxed Dimmed Section –** Section where you can set the percentage that the Dimmer Window will dim.
2. **Dimming Speed Section –** Section where you can set the speed that the Dimmer Window will dim.
3. **Help Button –** Opens simple Help instructions for the Dimmer.
4. **Open Button –** Click to open the Dimmer Window.

## Using Dimmer

1. Setup the training that you would like to use, or choose an existing folder that you would like to us, and click the “Run The Next Session” Button.


BrainAvatar Setup
Main
Login
Folder
Settings
Global Settings
Login
Folder Selections
Run The Next Session
View or Change Settings
EDF Browser
Review Session Results
Exit
Product Manuals
Use Settings and Close
Use These Settings

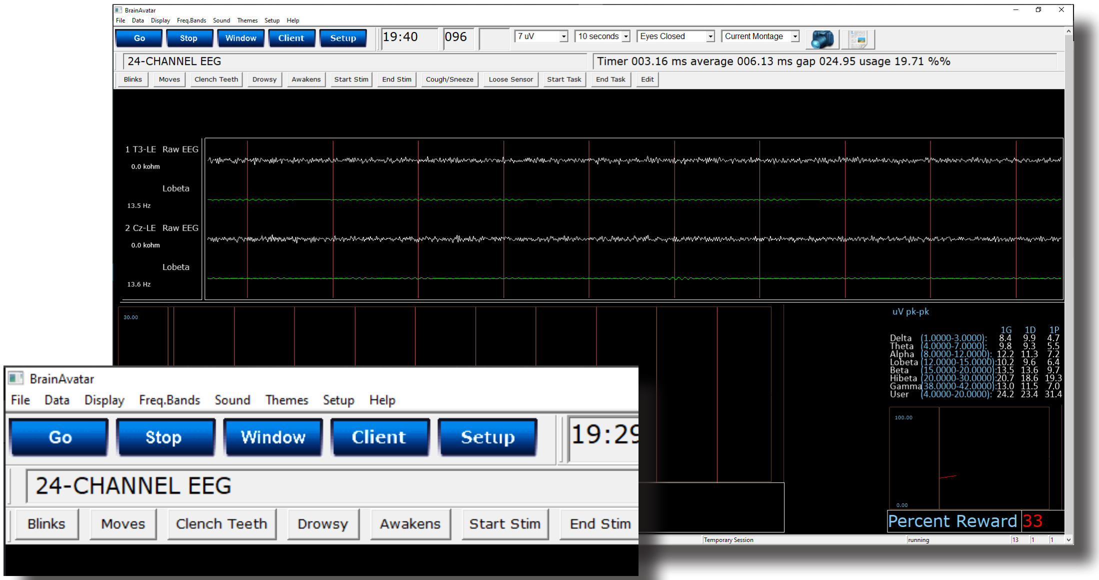
Welcome to BrainMaster BrainAvatar

LOGIN OK: SN: 30989
UNLIMITED USE

Current Trainee/Study Folder:
Trainee ID: Temporary Session
Trainee Name:
Comment: Sharp squash training
Next Session Number: 13
Total Sessions Available: 40
Training screen is Not Running

Logged in, device type Atlantis

2. After you start the Session, click the “Window” Button.


BrainAvatar
File
Data
Display
Freq.Bands
Sound
Themes
Setup
Help
Go
Stop
Window
Client
Setup
Blinks
Moves
Clench Teeth
Drowsy
Awakens
Start Stim
End Stim
Cough/Sneeze
Loose Sensor
Start Task
End Task
Edit
1 T3-LE Raw EEG
0.0 kohm
Lobeta
13.5 Hz
2 Cz-LE Raw EEG
0.0 kohm
Lobeta
13.6 Hz
30.00
100.00
0.00
Percent Reward 33
Temporary Session
running

19:40 096 7 uV 10 seconds Eyes Closed Current Montage

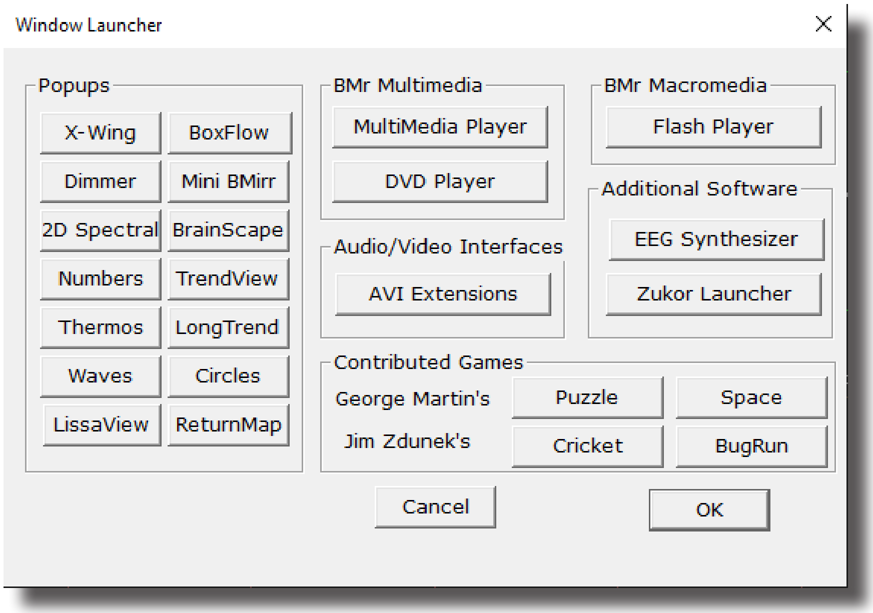
24-CHANNEL EEG

Timer 003.16 ms average 006.13 ms gap 024.95 usage 19.71 %%

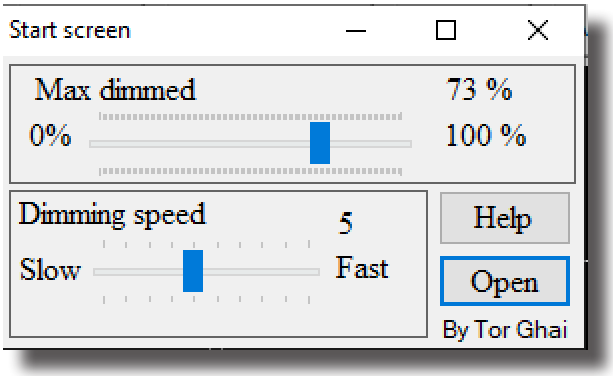
uV pk-pk

| | | 1G | 1D | 1P |
|---|---|---|---|---|
| Delta | (1.0000-3.0000): | 8.4 | 9.9 | 4.7 |
| Theta | (4.0000-7.0000): | 9.8 | 9.3 | 5.5 |
| Alpha | (8.0000-12.0000): | 12.2 | 11.3 | 7.2 |
| Lobeta | (12.0000-15.0000): | 10.2 | 9.6 | 6.4 |
| Beta | (15.0000-20.0000): | 13.5 | 13.6 | 9.7 |
| Hibeta | (20.0000-30.0000): | 20.7 | 18.6 | 19.3 |
| Gamma | (38.0000-42.0000): | 13.0 | 11.5 | 7.0 |
| User | (4.0000-20.0000): | 24.2 | 23.4 | 31.4 |

3. In the Window Launcher Menu, click the Dimmer Button located in the Popups Section.


Window Launcher
Popups
X-Wing
BoxFlow
Dimmer
Mini BMirr
2D Spectral
BrainScape
Numbers
TrendView
Thermos
LongTrend
Waves
Circles
LissaView
ReturnMap
BMr Multimedia
MultiMedia Player
DVD Player
Audio/Video Interfaces
AVI Extensions
BMr Macromedia
Flash Player
Additional Software
EEG Synthesizer
Zukor Launcher
Contributed Games
George Martin's
Puzzle
Space
Jim Zdunek's
Cricket
BugRun
Cancel
OK

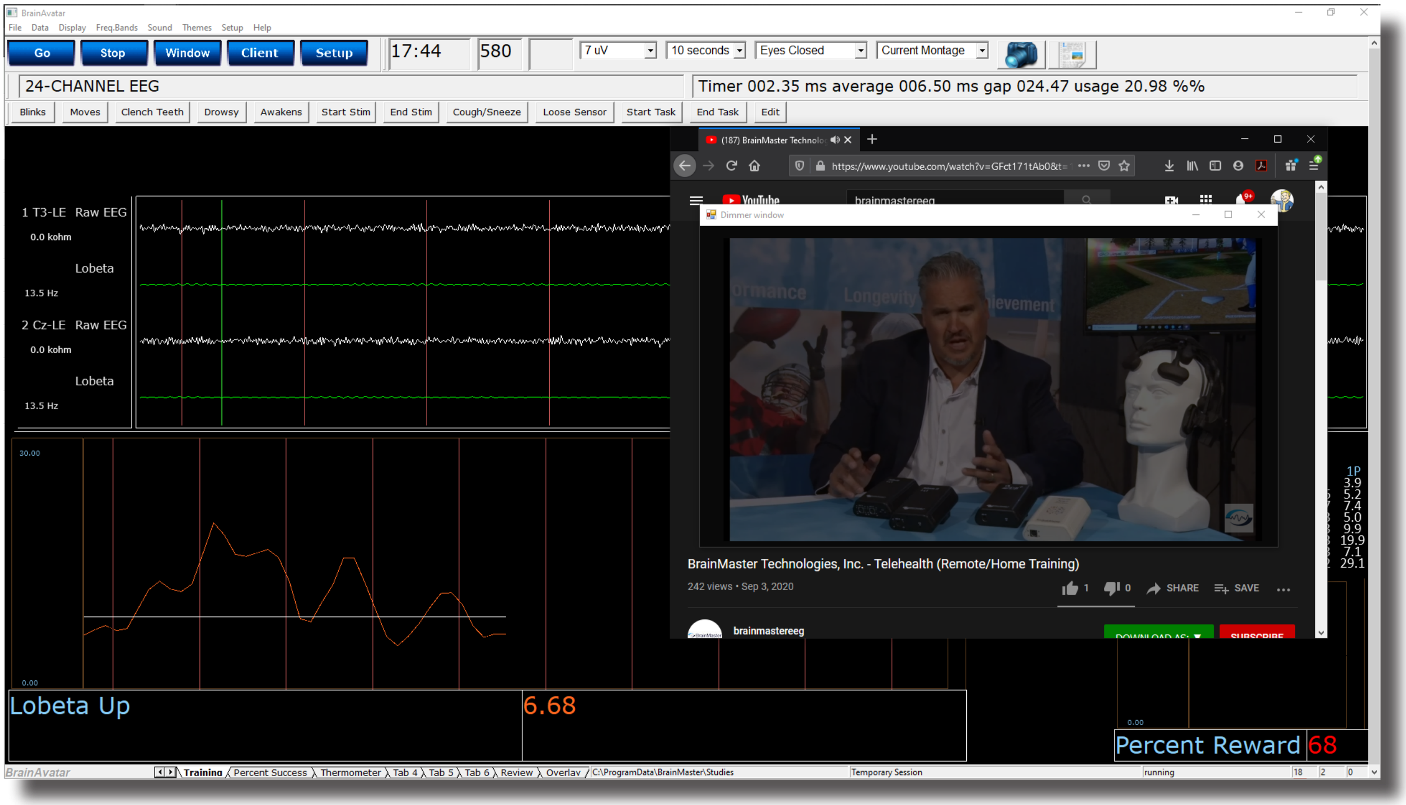
4. Setup the settings as you would like them.  When the set-up is complete, click the Open Button


Start screen
0%
100 %
Slow
Fast
Help
Open
By Tor Ghai

Max dimmed 73 %

Dimming speed 5

You have now set up the Dimmer for use with the BrainAvatar Software. You will be able to tell this has been successful, as the Dimmer Window will be modulating from see through, to not see through, based on whether the training is being met. At this point, you may move the Dimmer Window on top of whatever Application you would like to be Dimmed. *****PLEASE NOTE:** The Dimmer Window sits on top of the Application. This means that this will not function with applications that require Mouse Clickthrough. It can function with Keyboard functionalities. So, long as the Application has Application Focus. This requires you to position in a way that you can make the Application the Main Window.

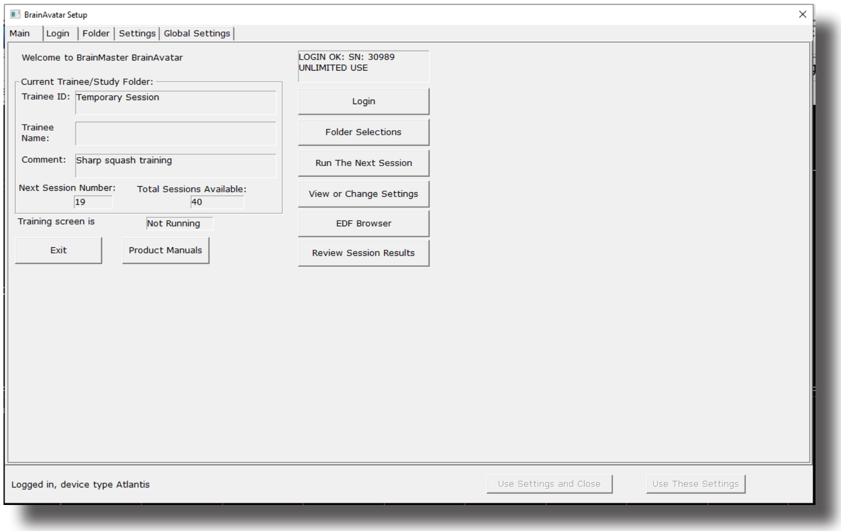

BrainAvatar
File Data Display Freq.Bands Sound Themes Setup Help
Go
Stop
Window
Client
Setup
17:44
580
7 uV
10 seconds
Eyes Closed
Current Montage
24-CHANNEL EEG
Timer 002.35 ms average 006.50 ms gap 024.47 usage 20.98 %%
Blinks
Moves
Clench Teeth
Drowsy
Awakens
Start Stim
End Stim
Cough/Sneeze
Loose Sensor
Start Task
End Task
Edit
1 T3-LE Raw EEG
0.0 kohm
Lobeta
13.5 Hz
2 Cz-LE Raw EEG
0.0 kohm
Lobeta
13.5 Hz
30.00
0.00
Lobeta Up
6.68
Percent Reward
68
(187) BrainMaster Technolo
https://www.youtube.com/watch?v=GFct171tAb0&t=
YouTube
brainmastereeg
Dimmer window
BrainMaster Technologies, Inc. - Telehealth (Remote/Home Training)
242 views • Sep 3, 2020
1
0
SHARE
SAVE
brainmastereeg
DOWNLOAD AS:
SUBSCRIBE
BrainAvatar
Training
Percent Success
Thermometer
Tab 4
Tab 5
Tab 6
Review
Overlay
C:\ProgramData\BrainMaster\Studies
Temporary Session
running

# Z-Score Training

## Activating ANI Z-Score Training DLL

***__PLEASE NOTE:__ These steps only need to be followed when using the ANI Z-Score Training DLL. This is not required for any other Z-Score Training DLL. ANI Z-Score DLL can only be activated on 2 Computer Systems. Please be sure before activating, that you are doing this on the system that you want this to be on

1. From the Setup/Home Screen, click the Folder Selections Button


BrainAvatar Setup
Main
Login
Folder
Settings
Global Settings
Login
Folder Selections
Run The Next Session
View or Change Settings
EDF Browser
Review Session Results
Exit
Product Manuals
Use Settings and Close
Use These Settings

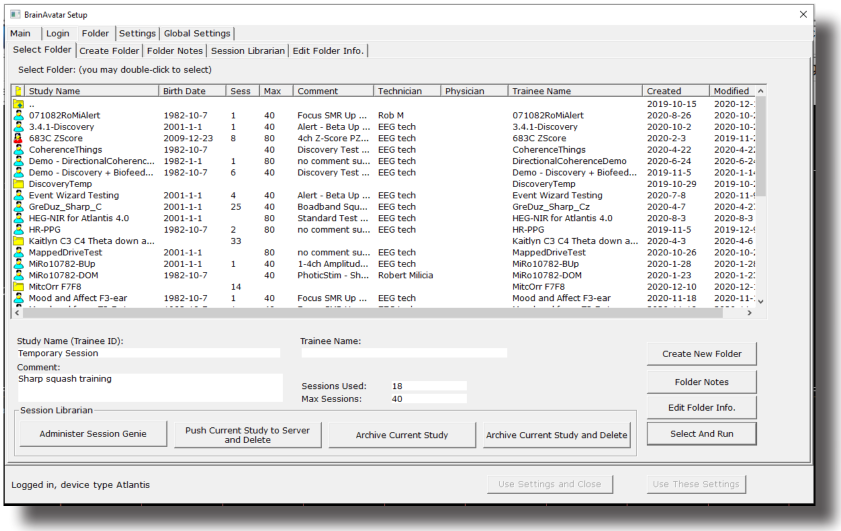
Welcome to BrainMaster BrainAvatar

LOGIN OK: SN: 30989
UNLIMITED USE

Current Trainee/Study Folder:
Trainee ID: Temporary Session
Trainee Name:
Comment: Sharp squash training
Next Session Number: 19
Total Sessions Available: 40
Training screen is Not Running

Logged in, device type Atlantis

2. From the Select Trainee/Study Folder Menu, click the Create New Folder Button


BrainAvatar Setup
Main
Login
Folder
Settings
Global Settings
Select Folder
Create Folder
Folder Notes
Session Librarian
Edit Folder Info.
Create New Folder
Folder Notes
Edit Folder Info.
Select And Run
Session Librarian
Administer Session Genie
Push Current Study to Server and Delete
Archive Current Study
Archive Current Study and Delete
Use Settings and Close
Use These Settings

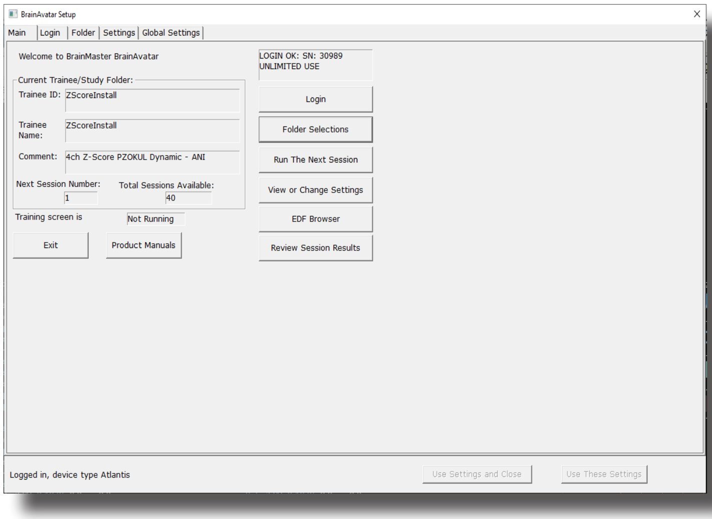
Select Folder: (you may double-click to select)

| Study Name | Birth Date | Sess | Max | Comment | Technician | Physician | Trainee Name | Created | Modified |
|---|---|---|---|---|---|---|---|---|---|
| .. | | | | | | | | 2019-10-15 | 2020-12- |
| 071082RoMiAlert | 1982-10-7 | 1 | 40 | Focus SMR Up ... | Rob M | | 071082RoMiAlert | 2020-8-26 | 2020-10- |
| 3.4.1-Discovery | 2001-1-1 | 1 | 40 | Alert - Beta Up ... | EEG tech | | 3.4.1-Discovery | 2020-10-2 | 2020-10- |
| 683C ZScore | 2009-12-23 | 8 | 80 | 4ch Z-Score PZ... | EEG tech | | 683C ZScore | 2020-2-3 | 2019-11- |
| CoherenceThings | 1982-10-7 | | 40 | Discovery Test ... | EEG tech | | CoherenceThings | 2020-4-22 | 2020-4-2 |
| Demo - DirectionalCoherenc... | 1982-1-1 | 1 | 80 | no comment su... | EEG tech | | DirectionalCoherenceDemo | 2020-6-24 | 2020-6-2 |
| Demo - Discovery + Biofeed... | 1982-10-7 | 6 | 40 | Discovery Test ... | EEG tech | | Demo - Discovery + Biofeed... | 2019-11-5 | 2020-1-1 |
| DiscoveryTemp | | | | | | | DiscoveryTemp | 2019-10-29 | 2019-10- |
| Event Wizard Testing | 2001-1-1 | 4 | 40 | Alert - Beta Up ... | EEG tech | | Event Wizard Testing | 2020-7-8 | 2020-11- |
| GreDuz_Sharp_C | 2001-1-1 | 25 | 40 | Boadband Squ... | EEG tech | | GreDuz_Sharp_Cz | 2020-4-7 | 2020-4-2 |
| HEG-NIR for Atlantis 4.0 | 2001-1-1 | | 80 | Standard Test ... | EEG tech | | HEG-NIR for Atlantis 4.0 | 2020-8-3 | 2020-8-3 |
| HR-PPG | 1982-10-7 | 2 | 80 | no comment su... | EEG tech | | HR-PPG | 2019-11-5 | 2019-12- |
| Kaitlyn C3 C4 Theta down a... | | 33 | | | | | Kaitlyn C3 C4 Theta down a... | 2020-4-3 | 2020-4-6 |
| MappedDriveTest | 2001-1-1 | | 80 | no comment su... | EEG tech | | MappedDriveTest | 2020-10-26 | 2020-10- |
| MiRo10782-BUp | 2001-1-1 | 1 | 40 | 1-4ch Amplitud... | EEG tech | | MiRo10782-BUp | 2020-1-28 | 2020-1-2 |
| MiRo10782-DOM | 1982-10-7 | | 40 | PhoticStim - Sh... | Robert Milicia | | MiRo10782-DOM | 2020-1-23 | 2020-1-2 |
| MitcOrr F7F8 | | 14 | | | | | MitcOrr F7F8 | 2020-12-10 | 2020-12- |
| Mood and Affect F3-ear | 1982-10-7 | 1 | 40 | Focus SMR Up ... | EEG tech | | Mood and Affect F3-ear | 2020-11-18 | 2020-11- |

Study Name (Trainee ID): Temporary Session
Trainee Name:
Comment: Sharp squash training
Sessions Used: 18
Max Sessions: 40

Logged in, device type Atlantis

3. Create a folder named ZscoreInstall that contains a Z-Score protocol. After the folder is created, click View or Change Settings Button. On the Setup Options Menu, click the Session Control Button. On the Session Control Menu, make sure that the Session Type is set to Simulation. Once this is complete, click Use These Settings and Close on the Setup Options Menu, and click the Run The Next Session Button

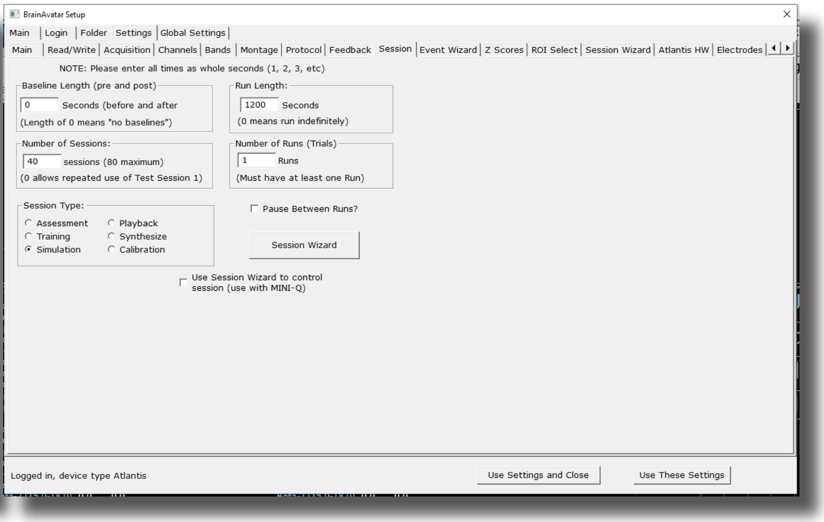

BrainAvatar Setup
Main
Login
Folder
Settings
Global Settings
Login
Folder Selections
Run The Next Session
View or Change Settings
EDF Browser
Review Session Results
Exit
Product Manuals
Use Settings and Close
Use These Settings

Welcome to BrainMaster BrainAvatar

LOGIN OK: SN: 30989
UNLIMITED USE

Current Trainee/Study Folder:
Trainee ID: ZScoreInstall
Trainee Name: ZScoreInstall
Comment: 4ch Z-Score PZOKUL Dynamic - ANI
Next Session Number: 1
Total Sessions Available: 40
Training screen is Not Running

Logged in, device type Atlantis


BrainAvatar Setup
Main
Login
Folder
Settings
Global Settings
Main
Read/Write
Acquisition
Channels
Bands
Montage
Protocol
Feedback
Session
Event Wizard
Z Scores
ROI Select
Session Wizard
Atlantis HW
Electrodes
Session Wizard
Use Settings and Close
Use These Settings

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

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

Run Length:
1200 Seconds
(0 means run indefinitely)

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

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

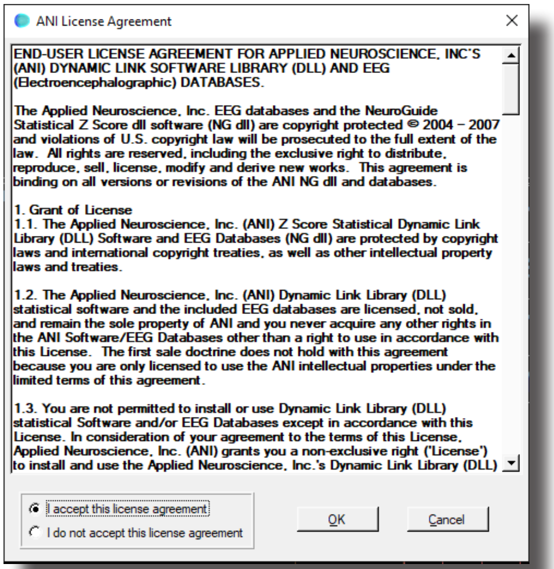
Session Type:
○ Assessment ○ Playback
○ Training ○ Synthesize
● Simulation ○ Calibration

☐ Pause Between Runs?

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

Logged in, device type Atlantis

4. When the following screen appears, click I accept the license agreement option, and click OK to continue


ANI License Agreement
OK
Cancel

END-USER LICENSE AGREEMENT FOR APPLIED NEUROSCIENCE, INC'S (ANI) DYNAMIC LINK SOFTWARE LIBRARY (DLL) AND EEG (Electroencephalographic) DATABASES.

The Applied Neuroscience, Inc. EEG databases and the NeuroGuide Statistical Z Score dll software (NG dll) are copyright protected © 2004 – 2007 and violations of U.S. copyright law will be prosecuted to the full extent of the law. All rights are reserved, including the exclusive right to distribute, reproduce, sell, license, modify and derive new works. This agreement is binding on all versions or revisions of the ANI NG dll and databases.

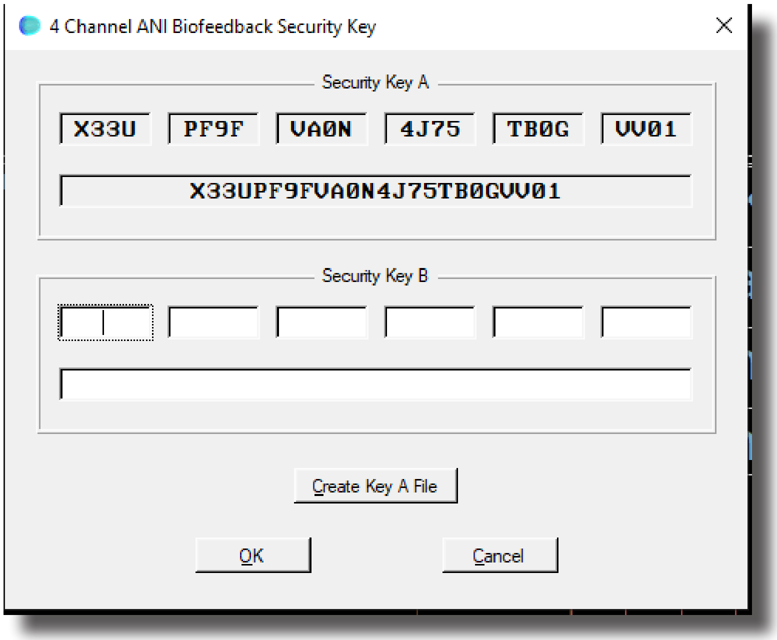
1. Grant of License
1.1. The Applied Neuroscience, Inc. (ANI) Z Score Statistical Dynamic Link Library (DLL) Software and EEG Databases (NG dll) are protected by copyright laws and international copyright treaties, as well as other intellectual property laws and treaties.

1.2. The Applied Neuroscience, Inc. (ANI) Dynamic Link Library (DLL) statistical software and the included EEG databases are licensed, not sold, and remain the sole property of ANI and you never acquire any other rights in the ANI Software/EEG Databases other than a right to use in accordance with this License. The first sale doctrine does not hold with this agreement because you are only licensed to use the ANI intellectual properties under the limited terms of this agreement.

1.3. You are not permitted to install or use Dynamic Link Library (DLL) statistical Software and/or EEG Databases except in accordance with this License. In consideration of your agreement to the terms of this License, Applied Neuroscience, Inc. (ANI) grants you a non-exclusive right ("License") to install and use the Applied Neuroscience, Inc.'s Dynamic Link Library (DLL)

● I accept this license agreement
○ I do not accept this license agreement

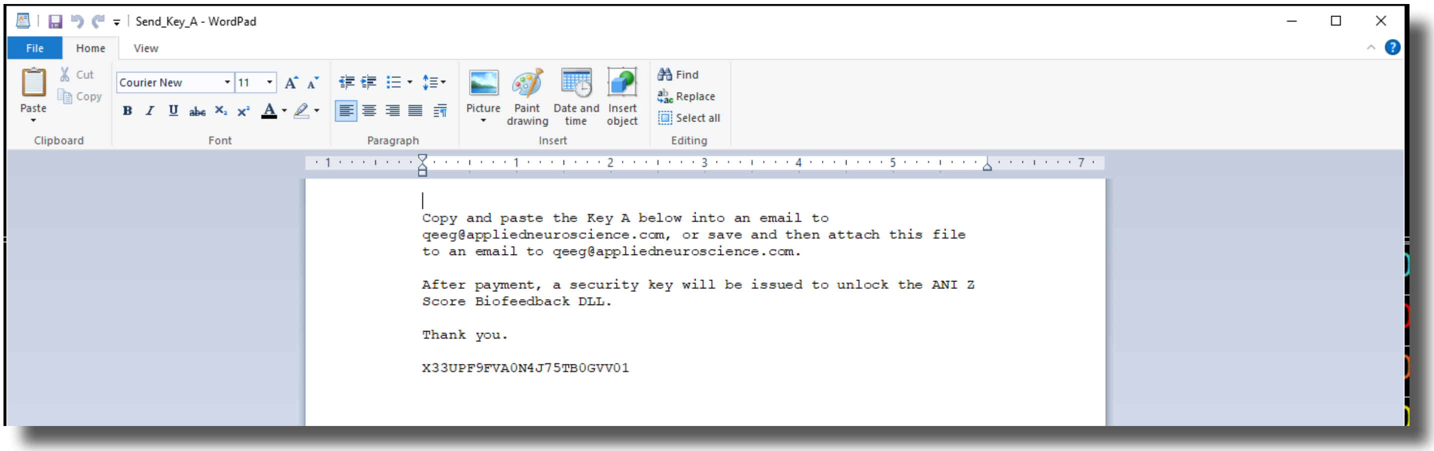
5. When the following screen appears, click the Create Key A File Button. This will create a text document


4 Channel ANI Biofeedback Security Key
Security Key A
Security Key B
Create Key A File
OK
Cancel

X33U PF9F VA0N 4J75 TB0G VV01

X33UPF9FVA0N4J75TB0GVV01

6. Save the document to the folder that was created named BrainMasterInstalls. E-Mail the document to qeeg@appliedneuroscience.com. Once the Key-B is created, it will be E-Mailed to you. In order to put the Key-B into the system, you will need to run another session with the folder created, and follow steps 4 and 5 once again.


Send_Key_A - WordPad
File
Home
View
Paste
Cut
Copy
Clipboard
Courier New
11
Font
Paragraph
Picture
Paint drawing
Date and time
Insert object
Insert
Find
Replace
Select all
Editing

Copy and paste the Key A below into an email to qeeg@appliedneuroscience.com, or save and then attach this file to an email to qeeg@appliedneuroscience.com.

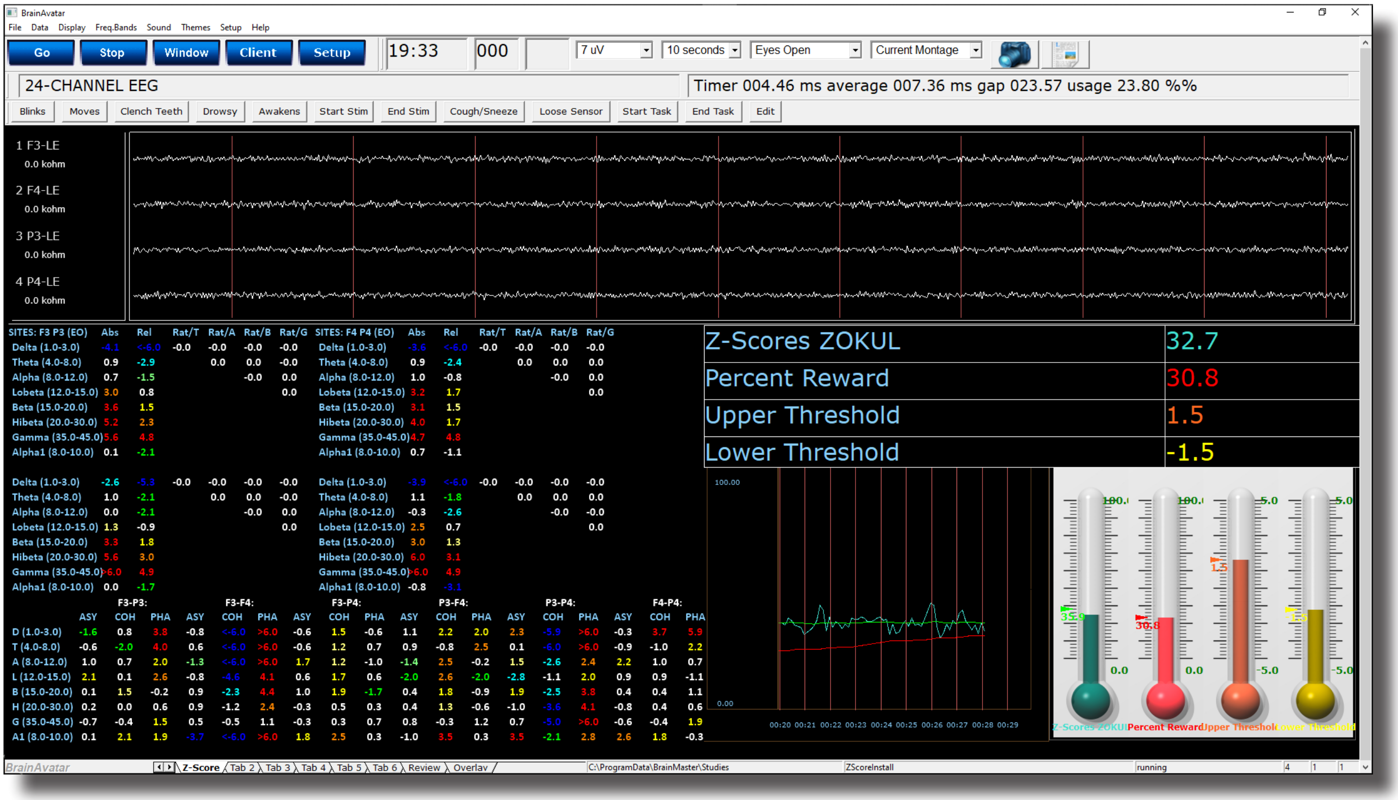
After payment, a security key will be issued to unlock the ANI Z Score Biofeedback DLL.

Thank you.

X33UPF9FVA0N4J75TB0GVV01

# Z-Score Training

The ANI Z-Score Training DLL will now be installed onto this PC for use.  You will be able to tell that this is accomplished



BrainAvatar
File Data Display Freq.Bands Sound Themes Setup Help
Go
Stop
Window
Client
Setup
Blinks
Moves
Clench Teeth
Drowsy
Awakens
Start Stim
End Stim
Cough/Sneeze
Loose Sensor
Start Task
End Task
Edit
100.00
0.00
00:20 00:21 00:22 00:23 00:24 00:25 00:26 00:27 00:28 00:29
100.0
35.9
0.0
100.0
30.8
0.0
5.0
1.5
-5.0
5.0
-1.5
-5.0
Z-Scores ZOKUL
Percent Reward
Upper Threshold
Lower Threshold
BrainAvatar
Z-Score
Tab 2
Tab 3
Tab 4
Tab 5
Tab 6
Review
Overlav

19:33 000 7 uV 10 seconds Eyes Open Current Montage

24-CHANNEL EEG

Timer 004.46 ms average 007.36 ms gap 023.57 usage 23.80 %%

1 F3-LE 0.0 kohm
2 F4-LE 0.0 kohm
3 P3-LE 0.0 kohm
4 P4-LE 0.0 kohm

| SITES: F3 P3 (EO) | Abs | Rel | Rat/T | Rat/A | Rat/B | Rat/G |
|---|---|---|---|---|---|---|
| Delta (1.0-3.0) | -4.1 | <-6.0 | -0.0 | -0.0 | -0.0 | -0.0 |
| Theta (4.0-8.0) | 0.9 | -2.9 |  | 0.0 | 0.0 | -0.0 |
| Alpha (8.0-12.0) | 0.7 | -1.5 |  |  | -0.0 | 0.0 |
| Lobeta (12.0-15.0) | 3.0 | 0.8 |  |  |  | 0.0 |
| Beta (15.0-20.0) | 3.6 | 1.5 |  |  |  |  |
| Hibeta (20.0-30.0) | 5.2 | 2.3 |  |  |  |  |
| Gamma (35.0-45.0) | 5.6 | 4.8 |  |  |  |  |
| Alpha1 (8.0-10.0) | 0.1 | -2.1 |  |  |  |  |
|  |  |  |  |  |  |  |
| Delta (1.0-3.0) | -2.6 | -5.3 | -0.0 | -0.0 | -0.0 | -0.0 |
| Theta (4.0-8.0) | 1.0 | -2.1 |  | 0.0 | 0.0 | -0.0 |
| Alpha (8.0-12.0) | 0.0 | -2.1 |  |  | -0.0 | 0.0 |
| Lobeta (12.0-15.0) | 1.3 | -0.9 |  |  |  | 0.0 |
| Beta (15.0-20.0) | 3.3 | 1.8 |  |  |  |  |
| Hibeta (20.0-30.0) | 5.6 | 3.0 |  |  |  |  |
| Gamma (35.0-45.0) | >6.0 | 4.9 |  |  |  |  |
| Alpha1 (8.0-10.0) | 0.0 | -1.7 |  |  |  |  |

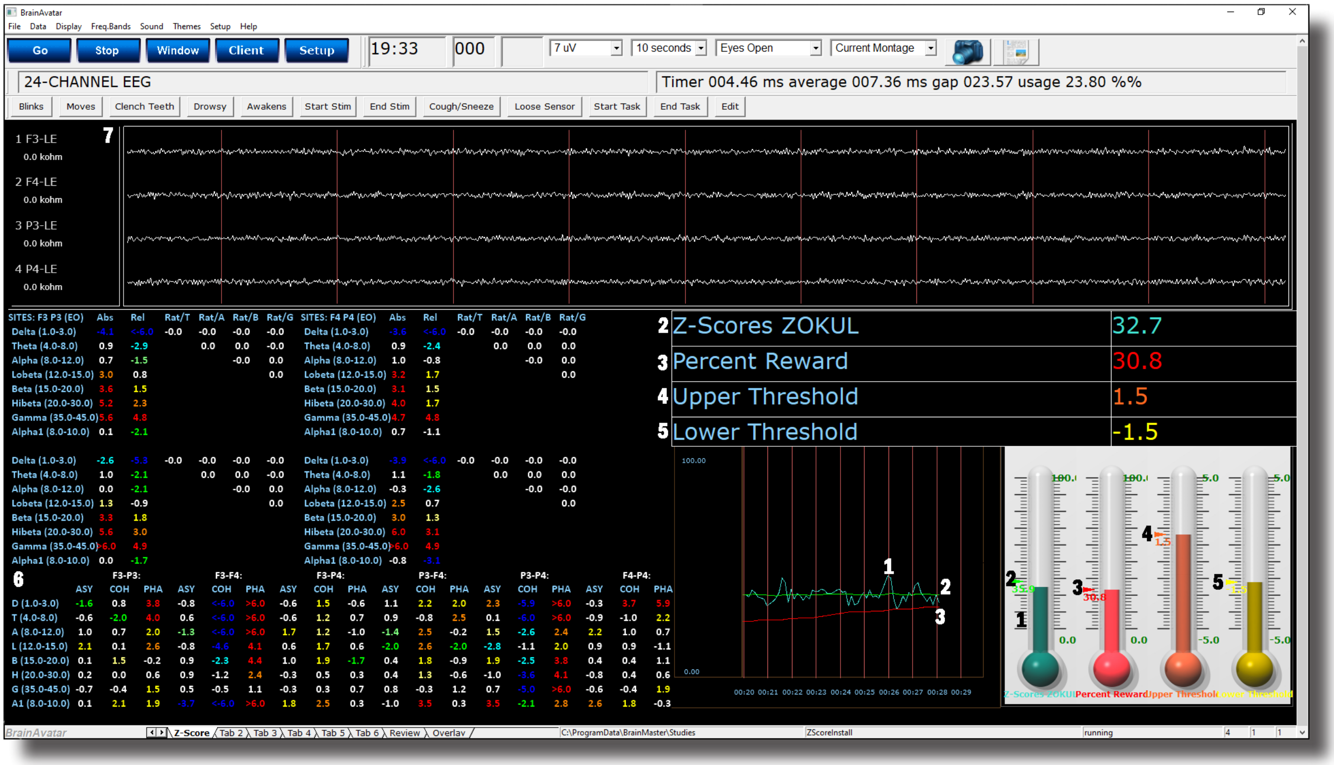
| SITES: F4 P4 (EO) | Abs | Rel | Rat/T | Rat/A | Rat/B | Rat/G |
|---|---|---|---|---|---|---|
| Delta (1.0-3.0) | -3.6 | <-6.0 | -0.0 | -0.0 | -0.0 | -0.0 |
| Theta (4.0-8.0) | 0.9 | -2.4 |  | 0.0 | 0.0 | 0.0 |
| Alpha (8.0-12.0) | 1.0 | -0.8 |  |  | -0.0 | 0.0 |
| Lobeta (12.0-15.0) | 3.2 | 1.7 |  |  |  | 0.0 |
| Beta (15.0-20.0) | 3.1 | 1.5 |  |  |  |  |
| Hibeta (20.0-30.0) | 4.0 | 1.7 |  |  |  |  |
| Gamma (35.0-45.0) | 4.7 | 4.8 |  |  |  |  |
| Alpha1 (8.0-10.0) | 0.7 | -1.1 |  |  |  |  |
|  |  |  |  |  |  |  |
| Delta (1.0-3.0) | -3.9 | <-6.0 | -0.0 | -0.0 | -0.0 | -0.0 |
| Theta (4.0-8.0) | 1.1 | -1.8 |  | 0.0 | 0.0 | 0.0 |
| Alpha (8.0-12.0) | -0.3 | -2.6 |  |  | -0.0 | -0.0 |
| Lobeta (12.0-15.0) | 2.5 | 0.7 |  |  |  | 0.0 |
| Beta (15.0-20.0) | 3.0 | 1.3 |  |  |  |  |
| Hibeta (20.0-30.0) | 6.0 | 3.1 |  |  |  |  |
| Gamma (35.0-45.0) | >6.0 | 4.9 |  |  |  |  |
| Alpha1 (8.0-10.0) | -0.8 | -3.1 |  |  |  |  |

|  | F3-P3: |  |  | F3-F4: |  |  | F3-P4: |  |  | P3-F4: |  |  | P3-P4: |  |  | F4-P4: |  |  |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  | ASY | COH | PHA | ASY | COH | PHA | ASY | COH | PHA | ASY | COH | PHA | ASY | COH | PHA | ASY | COH | PHA |
| D (1.0-3.0) | -1.6 | 0.8 | 3.8 | -0.8 | <-6.0 | >6.0 | -0.6 | 1.5 | -0.6 | 1.1 | 2.2 | 2.0 | 2.3 | -5.9 | >6.0 | -0.3 | 3.7 | 5.9 |
| T (4.0-8.0) | -0.6 | -2.0 | 4.0 | 0.6 | <-6.0 | >6.0 | -0.6 | 1.2 | 0.7 | 0.9 | -0.8 | 2.5 | 0.1 | -6.0 | >6.0 | -0.9 | -1.0 | 2.2 |
| A (8.0-12.0) | 1.0 | 0.7 | 2.0 | -1.3 | <-6.0 | >6.0 | 1.7 | 1.2 | -1.0 | -1.4 | 2.5 | -0.2 | 1.5 | -2.6 | 2.4 | 2.2 | 1.0 | 0.7 |
| L (12.0-15.0) | 2.1 | 0.1 | 2.6 | -0.8 | -4.6 | 4.1 | 0.6 | 1.7 | 0.6 | -2.0 | 2.6 | -2.0 | -2.8 | -1.1 | 2.0 | 0.9 | 0.9 | -1.1 |
| B (15.0-20.0) | 0.1 | 1.5 | -0.2 | 0.9 | -2.3 | 4.4 | 1.0 | 1.9 | -1.7 | 0.4 | 1.8 | -0.9 | 1.9 | -2.5 | 3.8 | 0.4 | 0.4 | 1.1 |
| H (20.0-30.0) | 0.2 | 0.0 | 0.6 | 0.9 | -1.2 | 2.4 | -0.3 | 0.5 | 0.3 | 0.4 | 1.3 | -0.6 | -1.0 | -3.6 | 4.1 | -0.8 | 0.4 | 0.6 |
| G (35.0-45.0) | -0.7 | -0.4 | 1.5 | 0.5 | -0.5 | 1.1 | -0.3 | 0.3 | 0.7 | 0.8 | -0.3 | 1.2 | 0.7 | -5.0 | >6.0 | -0.6 | -0.4 | 1.9 |
| A1 (8.0-10.0) | 0.1 | 2.1 | 1.9 | -3.7 | <-6.0 | >6.0 | 1.8 | 2.5 | 0.3 | -1.0 | 3.5 | 0.3 | 3.5 | -2.1 | 2.8 | 2.6 | 1.8 | -0.3 |

|  |  |
|---|---|
| Z-Scores ZOKUL | 32.7 |
| Percent Reward | 30.8 |
| Upper Threshold | 1.5 |
| Lower Threshold | -1.5 |

C:\ProgramData\BrainMaster\Studies ZScoreInstall running 4 1 1

## Single Tab Design - Z-Score Using PercentZOK or PZOKUL


BrainAvatar
File Data Display Freq.Bands Sound Themes Setup Help
Go
Stop
Window
Client
Setup
Blinks
Moves
Clench Teeth
Drowsy
Awakens
Start Stim
End Stim
Cough/Sneeze
Loose Sensor
Start Task
End Task
Edit
7
1 F3-LE
0.0 kohm
2 F4-LE
0.0 kohm
3 P3-LE
0.0 kohm
4 P4-LE
0.0 kohm
6
2
3
4
5
100.00
0.00
00:20 00:21 00:22 00:23 00:24 00:25 00:26 00:27 00:28 00:29
1
2
3
100.0
0.0
35.9
30.8
5.0
-5.0
1.5
-1.5
Z-Scores ZOKUL
Percent Reward
Upper Threshold
Lower Threshold
BrainAvatar
Z-Score
Tab 2
Tab 3
Tab 4
Tab 5
Tab 6
Review
Overlav

19:33 | 000 | 7 uV | 10 seconds | Eyes Open | Current Montage

24-CHANNEL EEG

Timer 004.46 ms average 007.36 ms gap 023.57 usage 23.80 %%

| SITES: F3 P3 (EO) | Abs | Rel | Rat/T | Rat/A | Rat/B | Rat/G | SITES: F4 P4 (EO) | Abs | Rel | Rat/T | Rat/A | Rat/B | Rat/G |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Delta (1.0-3.0) | -4.1 | <-6.0 | -0.0 | -0.0 | -0.0 | -0.0 | Delta (1.0-3.0) | -3.6 | <-6.0 | -0.0 | -0.0 | -0.0 | -0.0 |
| Theta (4.0-8.0) | 0.9 | -2.9 |  | 0.0 | 0.0 | -0.0 | Theta (4.0-8.0) | 0.9 | -2.4 |  | 0.0 | 0.0 | 0.0 |
| Alpha (8.0-12.0) | 0.7 | -1.5 |  |  | -0.0 | 0.0 | Alpha (8.0-12.0) | 1.0 | -0.8 |  |  | -0.0 | 0.0 |
| Lobeta (12.0-15.0) | 3.0 | 0.8 |  |  |  | 0.0 | Lobeta (12.0-15.0) | 3.2 | 1.7 |  |  |  | 0.0 |
| Beta (15.0-20.0) | 3.6 | 1.5 |  |  |  |  | Beta (15.0-20.0) | 3.1 | 1.5 |  |  |  |  |
| Hibeta (20.0-30.0) | 5.2 | 2.3 |  |  |  |  | Hibeta (20.0-30.0) | 4.0 | 1.7 |  |  |  |  |
| Gamma (35.0-45.0) | 5.6 | 4.8 |  |  |  |  | Gamma (35.0-45.0) | 4.7 | 4.8 |  |  |  |  |
| Alpha1 (8.0-10.0) | 0.1 | -2.1 |  |  |  |  | Alpha1 (8.0-10.0) | 0.7 | -1.1 |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Delta (1.0-3.0) | -2.6 | -5.3 | -0.0 | -0.0 | -0.0 | -0.0 | Delta (1.0-3.0) | -3.9 | <-6.0 | -0.0 | -0.0 | -0.0 | -0.0 |
| Theta (4.0-8.0) | 1.0 | -2.1 |  | 0.0 | 0.0 | -0.0 | Theta (4.0-8.0) | 1.1 | -1.8 |  | 0.0 | 0.0 | 0.0 |
| Alpha (8.0-12.0) | 0.0 | -2.1 |  |  | -0.0 | 0.0 | Alpha (8.0-12.0) | -0.3 | -2.6 |  |  | -0.0 | -0.0 |
| Lobeta (12.0-15.0) | 1.3 | -0.9 |  |  |  | 0.0 | Lobeta (12.0-15.0) | 2.5 | 0.7 |  |  |  | 0.0 |
| Beta (15.0-20.0) | 3.3 | 1.8 |  |  |  |  | Beta (15.0-20.0) | 3.0 | 1.3 |  |  |  |  |
| Hibeta (20.0-30.0) | 5.6 | 3.0 |  |  |  |  | Hibeta (20.0-30.0) | 6.0 | 3.1 |  |  |  |  |
| Gamma (35.0-45.0) | >6.0 | 4.9 |  |  |  |  | Gamma (35.0-45.0) | >6.0 | 4.9 |  |  |  |  |
| Alpha1 (8.0-10.0) | 0.0 | -1.7 |  |  |  |  | Alpha1 (8.0-10.0) | -0.8 | -3.1 |  |  |  |  |

|  | F3-P3: |  |  | F3-F4: |  |  | F3-P4: |  |  | P3-F4: |  |  | P3-P4: |  |  | F4-P4: |  |  |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  | ASY | COH | PHA | ASY | COH | PHA | ASY | COH | PHA | ASY | COH | PHA | ASY | COH | PHA | ASY | COH | PHA |
| D (1.0-3.0) | -1.6 | 0.8 | 3.8 | -0.8 | <-6.0 | >6.0 | -0.6 | 1.5 | -0.6 | 1.1 | 2.2 | 2.0 | 2.3 | -5.9 | >6.0 | -0.3 | 3.7 | 5.9 |
| T (4.0-8.0) | -0.6 | -2.0 | 4.0 | 0.6 | <-6.0 | >6.0 | -0.6 | 1.2 | 0.7 | 0.9 | -0.8 | 2.5 | 0.1 | -6.0 | >6.0 | -0.9 | -1.0 | 2.2 |
| A (8.0-12.0) | 1.0 | 0.7 | 2.0 | -1.3 | <-6.0 | >6.0 | 1.7 | 1.2 | -1.0 | -1.4 | 2.5 | -0.2 | 1.5 | -2.6 | 2.4 | 2.2 | 1.0 | 0.7 |
| L (12.0-15.0) | 2.1 | 0.1 | 2.6 | -0.8 | -4.6 | 4.1 | 0.6 | 1.7 | 0.6 | -2.0 | 2.6 | -2.0 | -2.8 | -1.1 | 2.0 | 0.9 | 0.9 | -1.1 |
| B (15.0-20.0) | 0.1 | 1.5 | -0.2 | 0.9 | -2.3 | 4.4 | 1.0 | 1.9 | -1.7 | 0.4 | 1.8 | -0.9 | 1.9 | -2.5 | 3.8 | 0.4 | 0.4 | 1.1 |
| H (20.0-30.0) | 0.2 | 0.0 | 0.6 | 0.9 | -1.2 | 2.4 | -0.3 | 0.5 | 0.3 | 0.4 | 1.3 | -0.6 | -1.0 | -3.6 | 4.1 | -0.8 | 0.4 | 0.6 |
| G (35.0-45.0) | -0.7 | -0.4 | 1.5 | 0.5 | -0.5 | 1.1 | -0.3 | 0.3 | 0.7 | 0.8 | -0.3 | 1.2 | 0.7 | -5.0 | >6.0 | -0.6 | -0.4 | 1.9 |
| A1 (8.0-10.0) | 0.1 | 2.1 | 1.9 | -3.7 | <-6.0 | >6.0 | 1.8 | 2.5 | 0.3 | -1.0 | 3.5 | 0.3 | 3.5 | -2.1 | 2.8 | 2.6 | 1.8 | -0.3 |

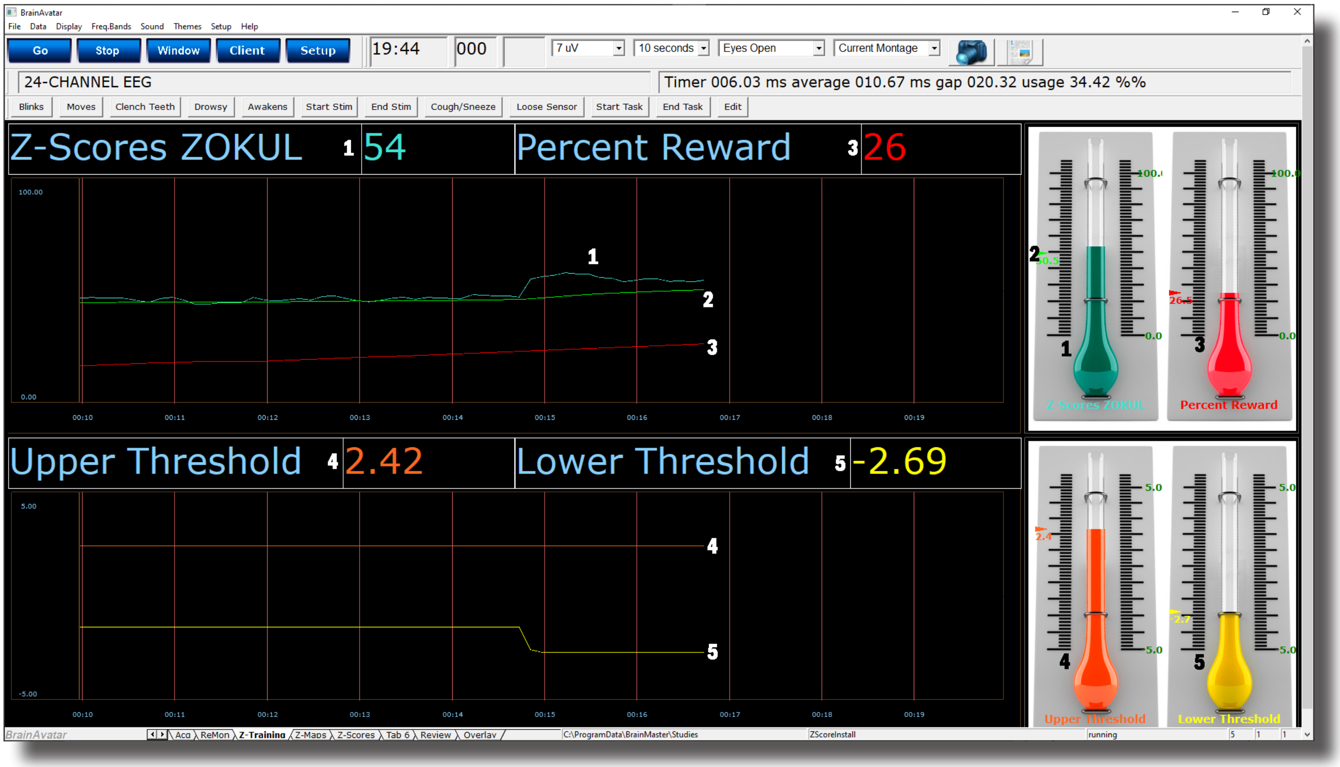
|  |  |
|---|---|
| Z-Scores ZOKUL | 32.7 |
| Percent Reward | 30.8 |
| Upper Threshold | 1.5 |
| Lower Threshold | -1.5 |

C:\ProgramData\BrainMaster\Studies | ZScoreInstall | running | 4 | 1 | 1

1. **Z-ScorePZOK/PZOKUL (Teal Line & Teal Thermometer) –** This line and thermometer is the Percent of Z-Scores with-in the defined range
2. **Z-Score Threshold (Green Line & Green Marker on Thermometer) –** This line is the threshold for the Z-Scores. When the Z-Scores are below the threshold, the system will reward the client with the chosen reward. This can either be controlled by the “C” key or Dynamically (On its own).
3. **Percent of Reward (Red Line & Red Thermometer) –** This line and thermometer shows the percent time that the Z-Scores are greater than the Z-Score threshold.
4. **Z-Score Range Definer or Z-Score Upper Range (Orange Line & Orange Thermometer) –** This line defines the range of Z-Scores that you are training. This is controlled by the “U” key, or by dragging the orange marker on the Thermometer. If this is a PZOKUL Protocol, this line defines the upper range of the Z-Score Range.
5. **Z-Score Lower Range (Yellow Line & Yellow Thermometer) –** This line is only available in PZOKUL protocols and defines the lower range of Z-Score Range. This is controlled by the “L” key, or by dragging the yellow marker on the Thermometer.
6. **Z-Score Text Stats -** This gives the moving average values of the Z-Scores for a particular metric.
7. **Acquired EEG -** This will show the EEG and relevant information to the EEG

# Z-Score Training

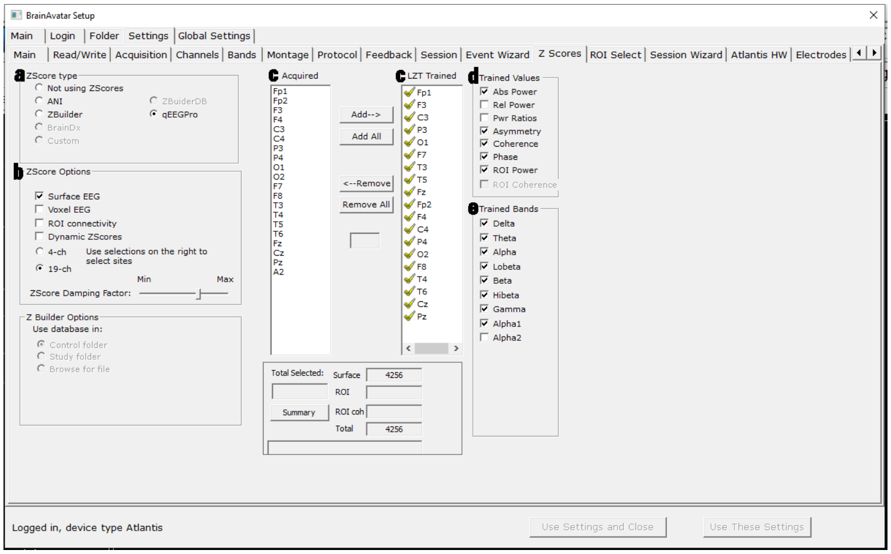
## Multi-Tab Design - Z-Score Using PercentZOK or PZOKUL


BrainAvatar
File Data Display Freq.Bands Sound Themes Setup Help
Go
Stop
Window
Client
Setup
19:44
000
7 uV
10 seconds
Eyes Open
Current Montage
24-CHANNEL EEG
Timer 006.03 ms average 010.67 ms gap 020.32 usage 34.42 %%
Blinks
Moves
Clench Teeth
Drowsy
Awakens
Start Stim
End Stim
Cough/Sneeze
Loose Sensor
Start Task
End Task
Edit
Z-Scores ZOKUL 1 54
Percent Reward 3 26
Upper Threshold 4 2.42
Lower Threshold 5 -2.69
100.00
0.00
5.00
-5.00
00:10
00:11
00:12
00:13
00:14
00:15
00:16
00:17
00:18
00:19
1
2
3
4
5
100.0
0.0
5.0
Z-Scores ZOKUL
Percent Reward
Upper Threshold
Lower Threshold
Acq
ReMon
Z-Training
Z-Maps
Z-Scores
Tab 6
Review
Overlay
C:\ProgramData\BrainMaster\Studies
ZScoreInstall
running

1. **Z-ScorePZOK/PZOKUL (Teal Line & Teal Thermometer) –** This line and thermometer is the Percent of Z-Scores with-in the defined range
2. **Z-Score Threshold (Green Line & Green Marker on Thermometer) –** This line is the threshold for the Z-Scores. When the Z-Scores are below the threshold, the system will reward the client with the chosen reward. This can either be controlled by the “C” key or Dynamically (On its own).
3. **Percent of Reward (Red Line & Red Thermometer) –** This line and thermometer shows the percent time that the Z-Scores are greater than the Z-Score threshold.
4. **Z-Score Range Definer or Z-Score Upper Range (Orange Line & Orange Thermometer) –** This line defines the range of Z-Scores that you are training. This is controlled by the “U” key, or by dragging the orange marker on the Thermometer. If this is a PZOKUL Protocol, this line defines the upper range of the Z-Score Range.
5. **Z-Score Lower Range (Yellow Line & Yellow Thermometer) –** This line is only available in PZOKUL protocols and defines the lower range of Z-Score Range. This is controlled by the “L” key, or by dragging the yellow marker on the Thermometer.
6. **Z-Score Text Stats -** This gives the moving average values of the Z-Scores for a particular metric found on another tab.
7. **Acquired EEG -** This will show the EEG and relevant information to the EEG found on another tab.

## Changing Surface Sites

1. From the Setup Menu, click Settings Tab, then click the Z-Scores Tab. Here, you can control:


BrainAvatar Setup
Main
Login
Folder
Settings
Global Settings
Main
Read/Write
Acquisition
Channels
Bands
Montage
Protocol
Feedback
Session
Event Wizard
Z Scores
ROI Select
Session Wizard
Atlantis HW
Electrodes
a
b
c
c
d
e
Add-->
Add All
<--Remove
Remove All
Summary
Min
Max
Use Settings and Close
Use These Settings

ZScore type
○ Not using ZScores
○ ANI
○ ZBuilder
○ BrainDx
○ Custom
○ ZBuiderDB
● qEEGPro

ZScore Options
☑ Surface EEG
☐ Voxel EEG
☐ ROI connectivity
☐ Dynamic ZScores
○ 4-ch
● 19-ch
Use selections on the right to select sites
ZScore Damping Factor:

Z Builder Options
Use database in:
● Control folder
○ Study folder
○ Browse for file

Acquired: Fp1, Fp2, F3, F4, C3, C4, P3, P4, O1, O2, F7, F8, T3, T4, T5, T6, Fz, Cz, Pz, A2

LZT Trained: ✓ Fp1, ✓ F3, ✓ C3, ✓ P3, ✓ O1, ✓ F7, ✓ T3, ✓ T5, ✓ Fz, ✓ Fp2, ✓ F4, ✓ C4, ✓ P4, ✓ O2, ✓ F8, ✓ T4, ✓ T6, ✓ Cz, ✓ Pz

Total Selected:
Surface 4256
ROI
ROI coh
Total 4256

Trained Values
☑ Abs Power
☐ Rel Power
☐ Pwr Ratios
☑ Asymmetry
☑ Coherence
☑ Phase
☑ ROI Power
☐ ROI Coherence

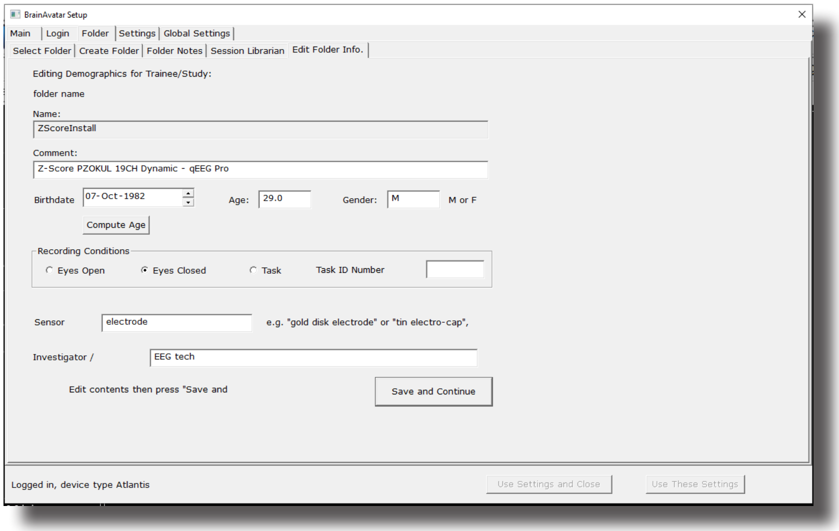
Trained Bands
☑ Delta
☑ Theta
☑ Alpha
☑ Lobeta
☑ Beta
☑ Hibeta
☑ Gamma
☑ Alpha1
☐ Alpha2

Logged in, device type Atlantis

a. **Z-Score Type –** Here, is where you can choose the type of Z-Score Training.
b. **Z-Score Options** – Here is where you can choose between 4 Channel Z-Score Method, and Up to 19 Channel Z-Score Method, VoxelZ-Score Method (BrainDX or qEEGPro), or ROI Connectivity (qEEGPro Only). If 4 Ch or 19 Ch is chosen, you will use this tab set what sites, values and bands to train.
c. **Acquired & LZT Trained Sections –** As you choose sites that are being acquired from the Acquisition Tab, they will populate in the Acquired Section. From here, you can place them into the LZT Trained section. You can do this for each individual site by highlighting the location, and clicking the Add→ Button. If you would like to add all electrodes, then click the Add All Button. ***__PLEASE NOTE:__ If you change which sites are being acquired after you have set what is to be LZT, you will have to adjust the LZT Trained Z-Scores. The same controls apply if removing a site or sites to be LZT Trained.
d. **Trained Values Section –** Here you can choose which trained values will be used for the LZT Training. You can check on or off any of the values. This will affect the total amount of Z-Scores being trained.
e. **Trained Bands Section –** Here you can choose which trained bands will be used for the LZT Training. You can check on or off any of the values. This will affect the total amount of Z-Scores being trained.

When all settings are as you would like them, confirm the changes.

2. If you would like to change other settings (Age/eye condition), this can be done in the Edit Folder Info Tab. From the Setup Menu, click the Folder Tab, and click the Edit Folder Info Tab. Here, you will be able to change these things. When completed, confirm the changes.


BrainAvatar Setup
Main
Login
Folder
Settings
Global Settings
Select Folder
Create Folder
Folder Notes
Session Librarian
Edit Folder Info.
Compute Age
Save and Continue
Use Settings and Close
Use These Settings

Editing Demographics for Trainee/Study:

folder name

Name: ZScoreInstall

Comment: Z-Score PZOKUL 19CH Dynamic - qEEG Pro

Birthdate 07-Oct-1982 Age: 29.0 Gender: M M or F

Recording Conditions

○ Eyes Open ● Eyes Closed ○ Task Task ID Number

Sensor electrode e.g. "gold disk electrode" or "tin electro-cap",

Investigator / EEG tech

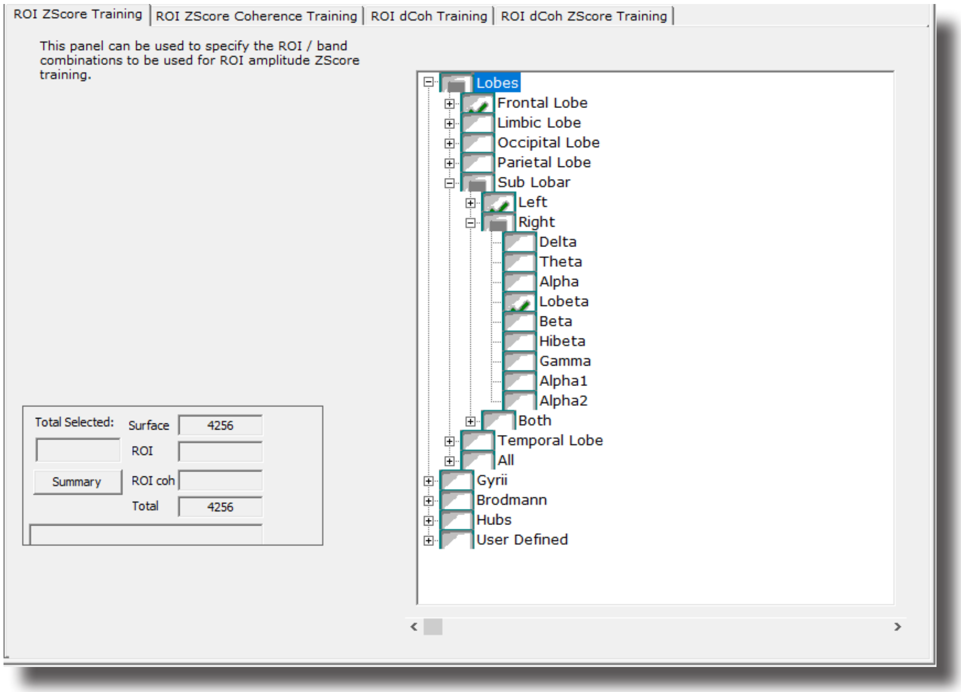
Edit contents then press "Save and

Logged in, device type Atlantis

You have now changed the sites, band, and values that are being LZT Trained. You will be able to tell this has happened, on the Training/Control Screen, the Z-Score Text Displays will match the selections that you chose.

## Changing ROI Sites

1. From the Setup Menu, click Settings Tab, then click the ROI Select Tab, here you can:


ROI ZScore Training
ROI ZScore Coherence Training
ROI dCoh Training
ROI dCoh ZScore Training
Lobes
Frontal Lobe
Limbic Lobe
Occipital Lobe
Parietal Lobe
Sub Lobar
Left
Right
Delta
Theta
Alpha
Lobeta
Beta
Hibeta
Gamma
Alpha1
Alpha2
Both
Temporal Lobe
All
Gyrii
Brodmann
Hubs
User Defined
Summary

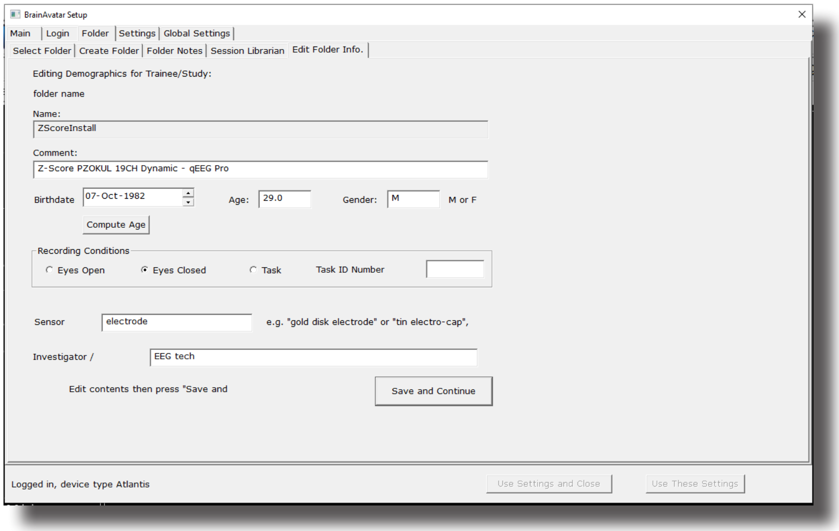
This panel can be used to specify the ROI / band combinations to be used for ROI amplitude ZScore training.

Total Selected:
Surface 4256
ROI
ROI coh
Total 4256

   a. **ROI Definition Architecture –** Here, you can use the Check Mark system to select the areas that you would like to train. The more specific of training you would like. The more you will need to click the + next to the Checkbox to make more specific. As you make the selections more specific, the Checkbox will turn to a "Gray Square" to show that changes are not to all below.

When all settings are as you would like them, confirm the changes.

2. If you would like to change other settings (Age/eye condition), this can be done in the Edit Folder Info Tab. From the Setup Menu, click the Folder Tab, and click the Edit Folder Info Tab. Here, you will be able to change these things. When completed, confirm the changes.


BrainAvatar Setup
Main
Login
Folder
Settings
Global Settings
Select Folder
Create Folder
Folder Notes
Session Librarian
Edit Folder Info.
Compute Age
Save and Continue
Use Settings and Close
Use These Settings

Editing Demographics for Trainee/Study:

folder name

Name: ZScoreInstall

Comment: Z-Score PZOKUL 19CH Dynamic - qEEG Pro

Birthdate 07-Oct-1982 Age: 29.0 Gender: M M or F

Recording Conditions

○ Eyes Open ● Eyes Closed ○ Task Task ID Number

Sensor electrode e.g. "gold disk electrode" or "tin electro-cap",

Investigator / EEG tech

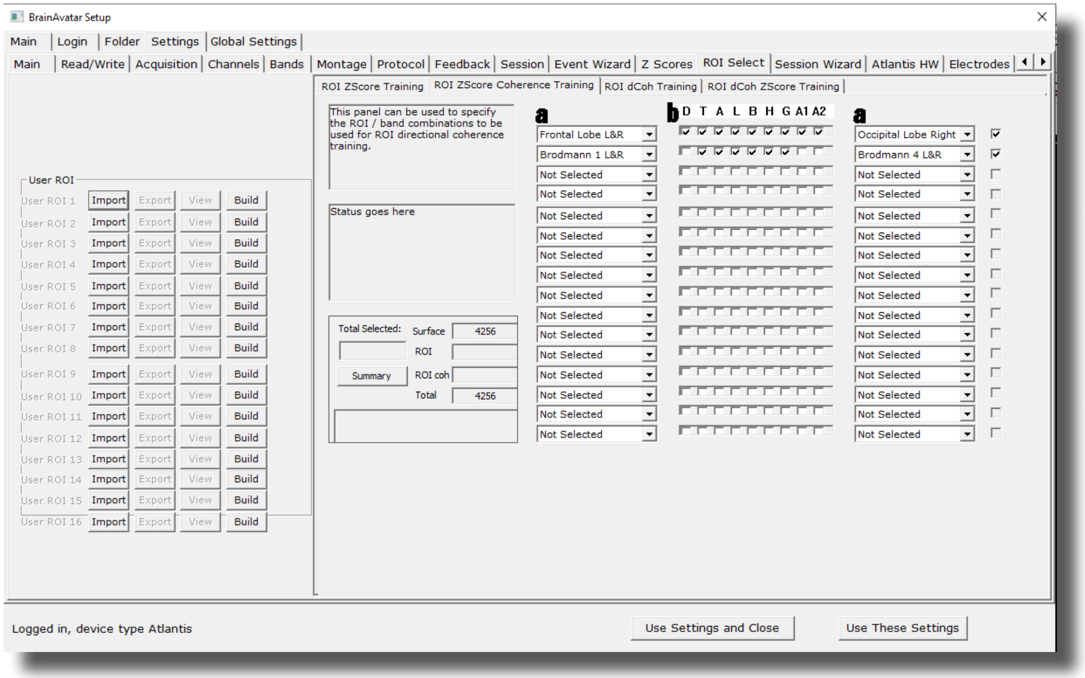
Edit contents then press "Save and

Logged in, device type Atlantis

You have now changed the ROI’s and bands that are being LZT Trained. You will be able to tell this has happened, on the Training/Control Screen, the Z-Score Text Displays will match the selections that you chose.

## Changing ROI Coherence Training

1. From the Setup Menu, click Settings Tab, then click the ROI Select Tab, then click the ROI ZScore Coherence Training Tab, here you can:


BrainAvatar Setup
Main
Login
Folder
Settings
Global Settings
Main
Read/Write
Acquisition
Channels
Bands
Montage
Protocol
Feedback
Session
Event Wizard
Z Scores
ROI Select
Session Wizard
Atlantis HW
Electrodes
ROI ZScore Training
ROI ZScore Coherence Training
ROI dCoh Training
ROI dCoh ZScore Training
User ROI
User ROI 1
User ROI 2
User ROI 3
User ROI 4
User ROI 5
User ROI 6
User ROI 7
User ROI 8
User ROI 9
User ROI 10
User ROI 11
User ROI 12
User ROI 13
User ROI 14
User ROI 15
User ROI 16
Import
Export
View
Build
a
b
D T A L B H G A1 A2
a
Summary
Use Settings and Close
Use These Settings

This panel can be used to specify the ROI / band combinations to be used for ROI directional coherence training.

Status goes here

Total Selected:
Surface 4256
ROI
ROI coh
Total 4256

Frontal Lobe L&R – Occipital Lobe Right ☑

Brodmann 1 L&R – Brodmann 4 L&R ☑

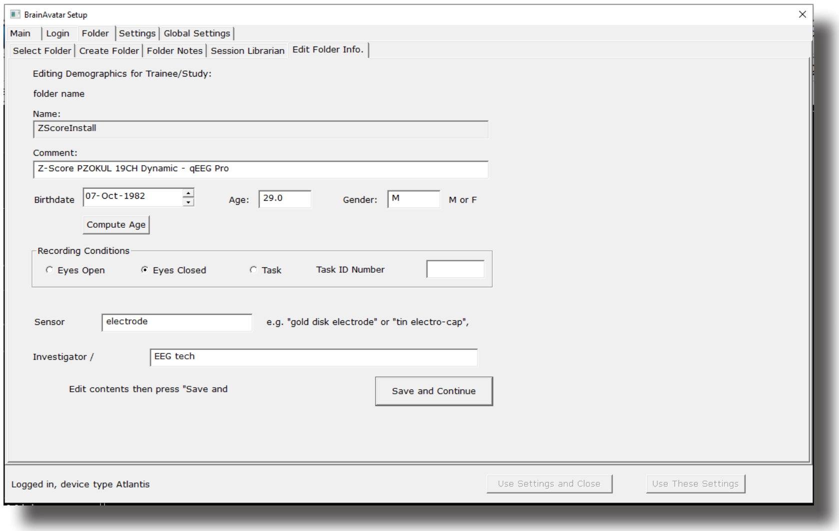
Not Selected – Not Selected ☐

Logged in, device type Atlantis

- **a. ROI Select Architecture –** Here, you will choose the ROI Combinations for training by using the Check Mark system to select the areas that you would like to train. The more specific of training you would like. The more you will need to click the + next to the Checkbox to make more specific.
- **b. Band Checkboxes -** Here, you will choose the bands that you would like to be trained for the Coherence of the ROI Combintation.

When all settings are as you would like them, confirm the changes.

2. If you would like to change other settings (Age/eye condition), this can be done in the Edit Folder Info Tab. From the Setup Menu, click the Folder Tab, and click the Edit Folder Info Tab. Here, you will be able to change these things. When completed, confirm the changes.


BrainAvatar Setup
Main
Login
Folder
Settings
Global Settings
Select Folder
Create Folder
Folder Notes
Session Librarian
Edit Folder Info.
Compute Age
Save and Continue
Use Settings and Close
Use These Settings

Editing Demographics for Trainee/Study:

folder name

Name: ZScoreInstall

Comment: Z-Score PZOKUL 19CH Dynamic - qEEG Pro

Birthdate 07-Oct-1982

Age: 29.0

Gender: M M or F

Recording Conditions

○ Eyes Open ● Eyes Closed ○ Task Task ID Number

Sensor electrode e.g. "gold disk electrode" or "tin electro-cap",

Investigator / EEG tech

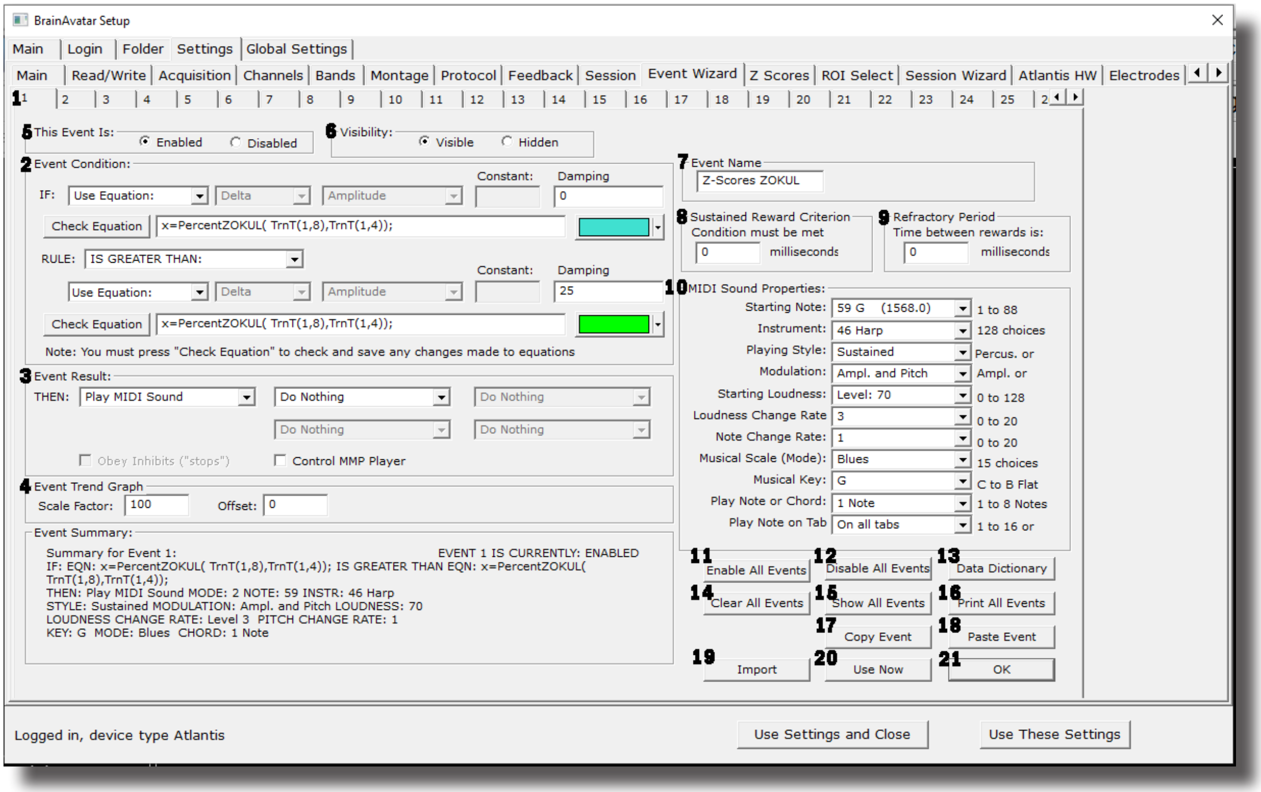
Edit contents then press "Save and

Logged in, device type Atlantis

You have now changed the ROI’s and bands that are being LZT Trained. You will be able to tell this has happened, on the Training/Control Screen, the Z-Score Text Displays will match the selections that you chose.

# Event Wizard

## Event Wizard Control Menu Display


BrainAvatar Setup
Main | Login | Folder | Settings | Global Settings
Main | Read/Write | Acquisition | Channels | Bands | Montage | Protocol | Feedback | Session | Event Wizard | Z Scores | ROI Select | Session Wizard | Atlantis HW | Electrodes
1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 2
1
2
3
4
5
6
7
8
9
10
Check Equation
Check Equation
11 Enable All Events
12 Disable All Events
13 Data Dictionary
14 Clear All Events
15 Show All Events
16 Print All Events
17 Copy Event
18 Paste Event
19 Import
20 Use Now
21 OK
Use Settings and Close
Use These Settings

This Event Is: ● Enabled ○ Disabled

Visibility: ● Visible ○ Hidden

Event Condition:

IF: Use Equation: | Delta | Amplitude | Constant: | Damping: 0

x=PercentZOKUL( TrnT(1,8),TrnT(1,4));

RULE: IS GREATER THAN:

Use Equation: | Delta | Amplitude | Constant: | Damping: 25

x=PercentZOKUL( TrnT(1,8),TrnT(1,4));

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

Event Result:

THEN: Play MIDI Sound | Do Nothing | Do Nothing

Do Nothing | Do Nothing

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

Event Trend Graph

Scale Factor: 100 Offset: 0

Event Summary:

```
Summary for Event 1:                                    EVENT 1 IS CURRENTLY: ENABLED
IF: EQN: x=PercentZOKUL( TrnT(1,8),TrnT(1,4)); IS GREATER THAN EQN: x=PercentZOKUL(
TrnT(1,8),TrnT(1,4));
THEN: Play MIDI Sound MODE: 2 NOTE: 59 INSTR: 46 Harp
STYLE: Sustained MODULATION: Ampl. and Pitch LOUDNESS: 70
LOUDNESS CHANGE RATE: Level 3  PITCH CHANGE RATE: 1
KEY: G  MODE: Blues  CHORD: 1 Note
```

Event Name: Z-Scores ZOKUL

Sustained Reward Criterion
Condition must be met: 0 milliseconds

Refractory Period
Time between rewards is: 0 milliseconds

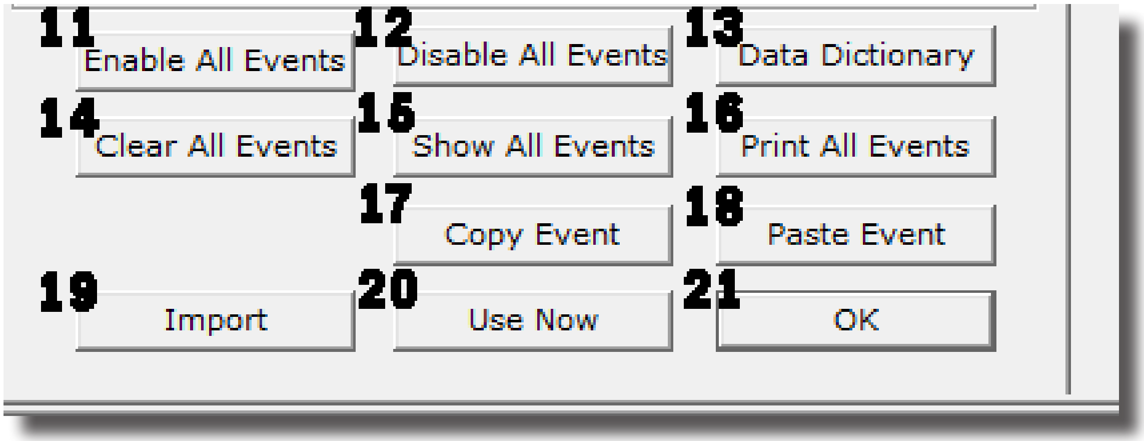
MIDI Sound Properties:

| | | |
|---|---|---|
| Starting Note: | 59 G (1568.0) | 1 to 88 |
| Instrument: | 46 Harp | 128 choices |
| Playing Style: | Sustained | Percus. or |
| Modulation: | Ampl. and Pitch | Ampl. or |
| Starting Loudness: | Level: 70 | 0 to 128 |
| Loudness Change Rate | 3 | 0 to 20 |
| Note Change Rate: | 1 | 0 to 20 |
| Musical Scale (Mode): | Blues | 15 choices |
| Musical Key: | G | C to B Flat |
| Play Note or Chord: | 1 Note | 1 to 8 Notes |
| Play Note on Tab | On all tabs | 1 to 16 or |

Logged in, device type Atlantis

1. **Event Number Section –** Section where you choose which Event you are viewing.
2. **Event Condition Section –** Section where you set the chosen Event Condition for operation.
3. **Event Result Section –** Section where you set what the chosen Event does when the Event Condition has been met.
4. **Event Trend Graph Section –** Section where you set the size for the Graph.
5. **This Event Is: Section –** Section where you set whether the chosen Event is enabled or not.
6. **Visibilty Section –** Section where you set whether the chosen Event Graph will be visible or not, when the Trend Graphs are chosen for display.
7. **Event Name Section –** Section where you can create a name for display in the text stats or thermometer.
8. **Sustained Reward Criterion Section –** Section where you set how long the chosen Event Condition must be met to produce the selected Event Result.
9. **Refractory Period Section –** Section where you set how long for a time before another reward is possible for the chosen event.
10. **MIDI Sound Properties Section –** Section where you can set the properties for MIDI reward feedback for the chosen Event.

## Event Wizard Control Menu Display (Continued)


11
Enable All Events
12
Disable All Events
13
Data Dictionary
14
Clear All Events
15
Show All Events
16
Print All Events
17
Copy Event
18
Paste Event
19
Import
20
Use Now
21
OK

11. **Enable All Events Button –** Click to enable all events.
12. **Disable All Events Button –** Click to Disable all events.
13. **Data Dictionary Button –** Click to launch the Data Dictionary.
14. **Clear All Events Button –** Click to clear the data from all events.
15. **Show All Events Button –** Click to show the Event Summary information for all events.
16. **Print All Events Button -** Click to print out the Event Summary information for all events **Currently Unsupported**
17. **Copy Event Button –** Click to copy the chosen Event.
18. **Paste Event Button –** Click to paste an Event that has been selected from the Copy Event Button.
19. **Import Button –** Click to import the Event Wizard File from a previously created folder.
20. **Use Now Button –** Click to apply all changes.
21. **OK Button –** Click to Exit the Event Wizard.

## Data Dictionary

| | |
|---|---|
| **Standard variables computed in real time using BrainMaster built-in filter for up to 4 Channel Training (AKA Legacy Variables)** | |
| D, T, A, L, B, H, G, U | channel 1 amplitude (from digital filters) for 8 components |
| DELTA, THETA, ALPHA, LOBETA, BETA, HIBETA, GAMMA, USER | channel 1 amplitude (from digital filters) for 8 components |
| DTHR, TTHR, ATHR, LTHR, BTHR, HTHR, GTHR, UTHR | channel 1 thresholds (from digital filters built-in autothresholder) |
| DX, TX, AX, LX, BX, HX, GX, UX | channel X amplitude (from digital filters) for 8 components |
| DELTAX, THETAX, ALPHAX, LOBETAX, BETAX, HIBETAX, GAMMAX, USERX | channel X amplitude (from digital filters) for 8 components |
| CXDA, CXTA, CXAA, CXLA, CXBA, CXHA, CXGA, CXUA | channel X amplitude (from digital filters) for 8 components |
| CXDF, CXTF, CXAF, CXLF, CXBF, CXHF, CXGF, CXUF | channel X modal frequency (from FFT) for 8 components |
| CXDE, CXTE, CXAE, CXLE, CXBE, CXHE, C1GE, C1UE | channel X percent energy (from FFT) for 8 components |
| CXDP, CXTP, CXAP, CXLP, CXBP, CXHP, CXGP, CXUP | channel X percent time over threshold (using digital filters) |
| CXDT, CXTT, CXAT, CXLT, CXBT, CXHT, CXGT, CXUT | channel X thresholds (from digital filters built-in autothresholder) |
| CXDV, CXTV, CXAV, CXLV, CXBV, CXHV, CXGV, CXUV | channel X variability (from digital filters) |
| **Standard functions computed in real time using BrainMaster built-in filter for up to 24 Channel Training** | |
| TrnAmplitude(X, Y) or TrnA(X, Y) | Channel X amplitude for the Y band |
| TrnThreshold(X, Y) or TrnT(X, Y) | Channel X Threshold for the Y band |
| TrnModalFreq(X, Y) or TrnF(X, Y) | Channel X Modal Frequency for the Y band |
| TrnPercentTime(X, Y) or TrnP(X, Y) | Channel X percent time over threshold for the Y band |
| TrnVariability(X, Y) or TrnV(X, Y) | Channel X variability for the Y band |
| **Standard functions for Acquired EEG** | |
| Acquired(x) | Returns the instantaneous acquired signal in micro-volts. The channels number is in the order that the software is acquired (ie: Acquired(1.0) is always Fp1, Acquired(2.0) is always F3). |

| | |
|---|---|
| **Standard variables for difference channel (not yet implemented)** | |
| DS, TS,...DELTAS, THETAS,...CSDA, CSTA,...CSGV, CSUV | The sum of channels 1 and 2 is always computed and available. Sum Channel repeats all channel1 variables shown above, with "1" replaced by "S" |
| DD, TD,...DELTAD, THETAD,...CDDA, CDTA,...CDGV, CDUV | The difference of channels 1 and 2 is always computed and available. Difference Channel repeats all channel1 variables shown above, with "1" replaced by "D" |
| **Cross-channel standard variables for up to 4 Channel Training (AKA Legacy Variables)** | |
| Note: use first channel to designate the pair (X=channels X/X+1) | |
| CT | Coherence Threshold currently in use in built-in coherence processor. This will automatically track any changes in the coherence threshold. |
| DCOH, TCOH, ACOH, LCOH, BCOH, HCOH, GCOH, UCOH | Coherence (currently selected type) between channels 1 and 2 |
| CXDC, CXTC, CXAC, CXLC, CXBC, CXHC, CXGC, CXUC | Coherence (currently selected type) between channels X and X + 1 |
| DPCOH, TPCOH, APCOH, LPCOH, BPCOH, HPCOH,GPCOH, UPCOH | "Pure" coherence between channels 1 and 2 |
| DTCOH, TTCOH, ATCOH, LTCOH, BTCOH, HTCOH, GTCOH, UTCOH | Similarity ("Training Coherence") between channels 1 and 2 |
| DSIM, TSIM, ASIM, LSIM, BSIM, HSIM, GSIM, USIM | Similarity ("Training Coherence") between channels 1 and 2 |
| DCOR, TCOR, ACOR, LCOR, BCOR, HCOR, GCOR, UCOR | "Spectral Correlation Coefficient" (SCC) between channels 1 and 2 |
| DCOM, TCOM, ACOM, LCOM, BCOM, HCOM, GCOM, UCOM | Comodulation (Sterman/Kaiser "SKIL" type) between channels 1 and 2 |
| DPHASE, TPHASE, APHASE, LPHASE, BPHASE, HPHASE, GPHASE, UPHASE | Phase between channels 1 and 2 |
| CXDH, CXTH, CXAH, CXLH, CXBH, CXHH, CXGH, CXUH | Phase between channels X and X + 1 |

| | | |
|---|---|---|
| **Standard Cross-channel functions for up to 24 Channel Training** | | |
| | TrnAA(X,Y,Z) | The Asymmetry of the Z Band between the X and Y Channel |
| | TrnCO(X,Y,Z) | The Pure Coherence of the Z Band between the X and Y Channel |
| | TrnPH(X,Y,Z) | The Phase of the Z Band between the X and Y Channel |
| | TrnCM(X,Y,Z) | The Commodulation of the Z Band between the X and Y Channel |
| | TrnTC(X,Y,Z) | The Training Coherence of the Z Band between the X and Y Channel |
| **DC and Slow Cortical Potentials Variables** | | |
| | DC1, DC2, ... | DC offset for Training channel 1, 2, ... 1 unit = 4 microvolts |
| | DCE1, DCE2, ... | Enhanced DC for channel 1, 2, ... 1 unit = 1 millivolt |
| | DCA1, DCA2, ... | DC Acquired channel 1, 2, .... 24 1 unit = 1 millivolt |
| | DCALL | DC average of all 19 10-20 channels (Discovery Only) |
| | DCFR | Frontal DC: Fp1 F3 F7 Fz Fp2 F4 F8 (Discovery Only) |
| | DCBK | Back DC: P3 P4 Pz T5 T6 O1 O2 (Discovery Only) |
| | DCLT | Left DC: Fp1 F3 F7 C3 T3 P3 T5 O1 (Discovery Only) |
| | DCRT | Right DC: Fp2 F4 F8 C4 T4 P4 T6 O2 (Discovery Only) |
| | DCFp1, DCFp2, DCF3, DCF4, ... | DC of any 10-20 site specified by name |
| **Region of Interest Training Functions (Must have BrainAvatar LLP License)** | | |
| | LoretaROIA(ROI,Band) | Trains the band activity at the chosen region of interest. The number listing of the ROI's can be found at www.brainm.com/kb/entry/461. The bands are 1 - Delta, 2 - Theta, 3 - Alpha, 4 - Lobeta, 5 - Beta, 6 - Hibeta, 7 - Gamma, 8 - User |
| | LoretaROIAL(ROI,Band) | Trains the band activity at the Left Hemisphere of the chosen region of interest. The number listing of the ROI's can be found at www.brainm.com/kb/entry/461. The bands are 1 - Delta, 2 - Theta, 3 - Alpha, 4 - Lobeta, 5 - Beta, 6 - Hibeta, 7 - Gamma, 8 - User |
| | LoretaROIAR(ROI,Band) | Trains the band activity at the Right Hemisphere of the chosen region of interest. The number listing of the ROI's can be found at www.brainm.com/kb/entry/461. The bands are 1 - Delta, 2 - Theta, 3 - Alpha, 4 - Lobeta, 5 - Beta, 6 - Hibeta, 7 - Gamma, 8 - User |

| **Region of Interest Coherence Training Functions (Must have BrainAvatar LLP and Connectivity Suite License)** | | |
|---|---|---|
| | LoretaROIACoh(ROI1, Location, ROI2, Location, Band) | Trains the Connectivity between the chosen region of interests and its location (Left, Right, or Complete). The number listing of the ROI’s can be found at https://brainmaster.com/kb-entry/id461/. The bands are in the order and the number that matches on Bands Tab. |
| | LoretaROIACohL(ROI1, ROI2, Band) | Trains the Connectivity between the Left Hemisphere of the chosen region of interest. The number listing of the ROI’s can be found at https://brainmaster.com/kb-entry/id461/. The bands are in the order and the number that matches on Bands Tab. |
| | LoretaROIAR(ROI1, ROI2, Band) | Trains the Connectivity between the Right Hemisphere of the chosen region of interest. The number listing of the ROI’s can be found at https://brainmaster.com/kb-entry/id461/. The bands are in the order and the number that matches on Bands Tab. |
| | LoretaROIALR(ROI1, ROI2, Band) | Trains the Connectivity between the chosen region of interest. The number listing of the ROI’s can be found at https://brainmaster.com/kb-entry/id461/. The bands are in the order and the number that matches on Bands Tab. |
| **Values from other events:** | | |
| | EXA | values of “antecedent” variables in Events. These are the selected component values, or the values of the “x=” equation in the “IF” portion of the event design, where X is the Event Number that you would like to be utilized |
| | EXB | “values of “”condition”” variables in Events. These are the selected component values, or the values of the “”x=”” equation after the “”RULE”” portion of the event design, where X is the Event Number that you would like to be utilized” |
| | EXF | values of flags for Events. These are 0 if the event’s condition is not met, and 1.0 if the event’s condition is met, where X is the Event Number that you would like to be utilized |
| | EXP | percent time meeting the condition for Events. These allow any events to “see” how often other events are “true” and use these values in rules, where X is the Event Number that you would like to be utilized. Values are returned as percent, e.g. between 0 and 100 |

| **Built-in Event Control Variables** | | |
|---|---|---|
| | INHFX, ENHFX, NUMEX | channel X training flags: number of “stops” meeting criterion, number of “gos” meeting criterion, number of possible “go’s” |
| | ALLOK | Indicates that all “gos” are met, and no “stops” exceed threshold. Use e.g. “x=ALLOK” for Event 5, to allow games like BrainMan and BrainCell to work automatically with any amplitude-based protocol that is set up using the standard “Training Protocol” setup. |
| **Special Built-in Functions (note that “arg” can be any number or variable name, including other Event Values, flags, etc. etc.** | | |
| | Zor1(arg) | returns 0 if argument is <1, 1 otherwise. Note: when used with a fraction e.x. X/Y, returns 1.0 if X >= Y, 0.0 otherwise |
| | GT(arg) | returns 0 if argument is <1, 1 otherwise. Note: when used with a fraction e.x. X/Y, returns 1.0 if X >= Y, 0.0 otherwise |
| | Rng(arg1, arg2, arg3) | returns 0 if arg1 is within arg2 of arg3. E.g. Rng (C1AF, 0.5, 10) returns 1 if Channel 1 Alpha Frequency is within 0.5 Hz of 10 Hz. E.g. between 9.5 and 10.5 Hz, and returns 0 otherwise |
| | Bnd(channel, low, high) or Band(channel, low, high) | returns total FFT energy in a band for a channel. E.g. Bnd(2, 4, 6) returns the energy in channel 2 between 4 Hz and 6 Hz |
| | Modf(channel, low, high) | returns modal frequency (“first moment”) from FFT in a band for a channel. E.g. Modf(2, 4, 6) returns the modal frequency in channel 2 in band from 4 Hz to 6 Hz |
| | Peakf(channel, low, high) | returns peak frequency (highest amplitude) from FFT in a band for a channel. E.g. Modf(2, 4, 6) returns the peak frequency in channel 2 in band from 4 Hz to 6 Hz |
| | SetPhoticRate(rate) or SPR(rate) | sets rate of photic stimulation to value given by “rate” |
| | SetPhoticRates(left, right) | Sets rate of photic stimulation for the left and right independently |
| | SetPhoticEnable(left, right) | Enables or disables the right or left photic stimulation. 1.0 will enable, while 0.0 will disable |
| | SetPhoticAmplitudes(left, right) | Sets the photic amplitudes for the left and right independently |

| | | |
|---|---|---|
| **Built-in Constants** | | |
| | Schumann, SCH | Schumann Frequency = 7.81 |
| | PHI, GOLDEN, GM | Golden Mean = 1.618 |
| | PI | PI = 3.14159 |
| **Standard Operators: Note: all arguments and parameters are treated as double precision floating point values** | | |
| | + - * / | add, subtract, multiply, divide |
| | % | modulus returns the remainder after an integer division |
| | ^ | power: y = x ^ 2 |
| | () | parenthetical gropuing, unlimited, e.g. (2 + BETA) / THETA |
| | ; | semicolon, needed at end of each equation in formula |
| | // | comment, single line |
| | /*...*/ | comment, multiple lines |
| | , | comma, used to separate equations in a single event without ending the equation |
| **Priority of Operators:** | | |
| | () | highest |
| | ^ | next |
| | -x (unary minus) | next (e.g. y=-x^2, the ^ occurs before - ) |
| | */^ | next |
| | +- | lowest |
| **Logical Operators:** | | |
| | and | Compares two different items. If they are both true, the event returns a value of 1. If both are not true, the event returns a value of 0. |
| | or | Compares two different items. If either is true, the event returns a value of 1. If neither are true, the event returns a value of 0 |
| | < | Compares to see if one item is less than another item. If the statement is true, the event returns a value of 1. If the statement is not true, the event returns a value of 0 |

| **Logical Operators:** | |
|---|---|
| > | Compares to see if one item is greater than another item. If the statement is true, the event returns a value of 1. If the statement is not true, the event returns a value of 0 |
| <= | Compares to see if one item is less than or equal to another item. If the statement is true, the event returns a value of 1. If the statement is not true, the event returns a value of 0 |
| >= | Compares to see if one item is greater than or equal to another item. If the statement is true, the event returns a value of 1. If the statement is not true, the event returns a value of 0 |
| == | Compares to see if one item is equal to another item. If the statement is true, the event returns a value of 1. If the statement is not true, the event returns a value of 0 |
| if(x,y,z) | Compares the value that is returned in x. If it is a true statement, the it executes the value of y. If it is untrue, then it will execute the value of z |
| **Standard Built-in Functions:** | |
| abs(x) | return absolute value |
| acos(x) | calculates arccosine |
| asin(x) | calculates arcsine |
| atan(x) | calculate arctangent |
| asinh(x) | calculates the hyperboloic arcsine |
| acosh(x) | calculates the hyperbolic arccosine |
| atanh(x) | calculates the hyperbolic arctangent |
| Cos(x) | Calculates cosine |
| Cosh(x) | Calculates hyperbolic cosine |
| exp(x) | Calculates exponential function “e to the x” |
| log(x), log10(x) | Calculates base-10 logarithm |
| log2(x) | Calculates base-2 logarithm |
| In(x) | Calculates natural logarithm |
| max(a,b,c,d,...) | Compares all variables. Returns the largest value |
| min(a,b,c,d...) | Compares all variables. Returns the smallest value |
| sin(x) | Calculates sine |
| sinh(x) | Calculates hyperbolic sine |

| | |
|---|---|
| **Standard Built-in Functions:** | |
| tan(x) | Calculates tangent |
| tanh(x) | Calculates hyperbolic tangent |
| sqrt(x) | Calculates the Square Root |
| sign(x) | Compares the value of x. If x is greater than 0 the event returns a value of 1. If x is less than 0, the event returns a value of -1. |
| rint(x) | Rounds x to the nearest integer |
| sum(a,b,c,d,...) | Calculates all variables. Retuns the sum of this calculation. |
| avg(a,b,c,d...) | Returns the mean of all variables. |
| rand() | Returns a randomised value between 0 and 1 |
| rand2(x,y) | Returns a randomised value between x and y |
| **Z-Scores Variables up to 4 Channels** | |
| ZAPXD, ZAPXT, ZAPXA, ZAPXB, ZAPX1, ZAPX2, ZAPX3, ZAPXG | channel X Absolute Power for 8 components |
| ZRPXD, ZRPXT, ZRPXA, ZRPXB, ZRPX1, ZRPX2, ZRPX3, ZRPXG | channel X Relative Power for 8 components |
| ZPRXDT, ZPRXDA, ZPRXDB, ZPRXDG, ZPRXTA, ZPRXTB, ZPRXAB, ZPRXAG, ZPRXBG | channel X Power Ratios for 10 ratios |
| ZAAXYD, ZAAXYT, ZAAXYA, ZAAXYB, ZAAXY1, ZAAXY2, ZAAXY3, ZAAXYG | Amplitude Asymmetry between channel X and Y for 8 components |
| ZCOXYD, ZCOXYT, ZCOXYA, ZCOXYB, ZCOXY1, ZCOXY2, ZCOXY3, ZCOXYG | Coherence between channel X and Y for 8 components |
| ZPHXYD, ZPHXYT, ZPHXYA, ZPHXYB, ZPHXY1, ZPHXY2, ZPHXY3, ZPHXYG | Phase between channel X and Y for 8 components |
| **Z-Scores Functions** | |
| ZScoreZAP(X,Y) | Retuns the Absolute Power Standard Deviation of the X Channel and Y Band |
| ZScoreZRP(x,y) | Returns the Relative Power Standard Deviation of the X Channel and Y Band |
| ZScoreZPR(X,Y) | Returns the Power Ratio Standard Deviation of the X Channel and Y Band |
| ZScoreZAA(X,Y,Z) | Returns the Asymmetry Standard Deviation of the Z Band between Channels X and Y |

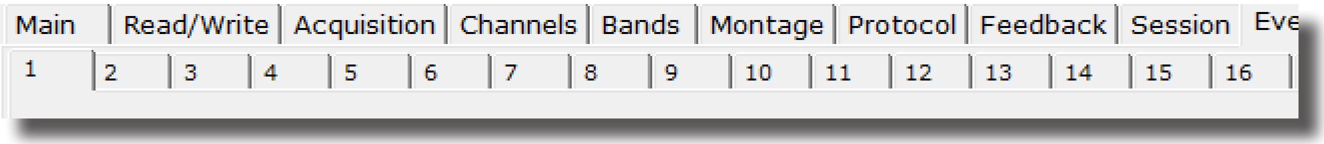
| **Z-Scores Functions** | |
|---|---|
| ZScoreZCO(X,Y,Z) | Returns the Coherence Standard Deviation of the Z Band between Channels X and Y |
| ZScoreZPH(X,Y,Z) | Returns the Phase Standard Deviation of the Z Band between Channels X and Y |
| PercentZOK(range), PZOK(range) | Percentage of Z scores that are within “range” of normal. Returns value between 0 and 100 |
| PercentZOKUL(upper, lower), PZOKUL(upper, lower) | Percentage of Z scores that are below upper limit, and above lower limit. Returns value between 0 and 100 |
| PercentZAOK(range), PZAOK(range) | Percentage of ABSOLUTE POWER Z scores that are within “range” of normal. Returns value between 0 and 100 |
| PercentZAOKUL(upper, lower), PZAOKUL(upper, lower) | Percentage of ABSOLUTE POWER Z scores that are below upper limit, and above lower limit. Returns value between 0 and 100 |
| PercentZROK(range), PZROK(range) | Percentage of RELATIVE POWER Z scores that are within “range” of normal. Returns value between 0 and 100 |
| PercentZROKUL(upper, lower), PZROKUL(upper, lower) | Percentage of RELATIVE POWER Z scores that are below upper limit, and above lower limit. Returns value between 0 and 100 |
| PercentZPROK(range), PZPROK(range) | Percentage of POWER RATIO Z scores that are within “range” of normal. Returns value between 0 and 100 |
| PercentZPROKUL(upper, lower), PZPROKUL(upper, lower) | Percentage of POWER RATIO Z scores that are below upper limit, and above lower limit. Returns value between 0 and 100 |
| PercentZASOK(range), PZASOK(range) | Percentage of ASYMMETRY Z scores that are within “range” of normal. Returns value between 0 and 100 |
| PercentZASOKUL(upper, lower), PZASOKUL(upper, lower) | Percentage of ASYMMETRY Z scores that are below upper limit, and above lower limit. Returns value between 0 and 100 |
| PercentZCOK(range), PZCOK(range) | Percentage of COHERENCE Z scores that are within “range” of normal. Returns value between 0 and 100 |
| PercentZCOKUL(upper, lower), PZCOKUL(upper, lower) | Percentage of COHERENCE Z scores that are below upper limit, and above lower limit. Returns value between 0 and 100 |

| **Z-Scores Functions** | |
|---|---|
| PercentZPOK(range), PZPOK(range) | Percentage of PHASE Z scores that are within “range” of normal. Returns value between 0 and 100 |
| PercentZPOKUL(upper, lower) or PZPOKUL(upper, lower) | Percentage of PHASE Z scores that are below upper limit, and above lower limit. Returns value between 0 and 100 |
| PercentZCCOK(range), PZCCOK(range) | Percentage of ALL CONNECTIVITY Z scores that are within “range” of normal. Returns value between 0 and 100 |
| PercentZCCOKUL(upper, lower), PZCCOKUL(upper, lower) | Percentage of ALL CONNECTIVITY Z scores that are below upper limit, and above lower limit. Returns value between 0 and 100 |
| **sLORETA Z-Scores Functions (To be used with BrainDX (optional purchase), or BrainMaster (BrainAvatar Only) Z-Score DLLs** | |
| LoretaROIZAP(ROI,Band) | Trains the Absolute Power at the chosen region of interest. The number listing of the ROI’s can be found at www.brainm.com/kb/entry/461. |
| LoretaROIZAPL(ROI,Band) | Trains the Absolute Power at the Left Hemisphere of the chosen region of interest. The number listing of the ROI’s can be found at www.brainm.com/kb/entry/461. |
| LoretaROIZAPR(ROI,Band) | Trains the Absolute Power at the Right Hemisphere of the chosen region of interest. The number listing of the ROI’s can be found at www.brainm.com/kb/entry/461. |
| PercentZBRA(range) or PZBRA(range) | Percentage of sLORETA Z Scores that are within “range” of normal. Returns a value between 0 and 100 |
| PercentZBRAUL(upper, lower) or PZBRA( upper, lower) | Percentage of sLORETA Z Scores that are below the upper limit and above the lower limit. Returns a value between 0 and 100 |
| **sLORETA ROI Coherence Z-Scores Functions - Requires an sLORETA Z-Score Training DLL (qEEGPro and Zbuilder only), Connectivity Suite, and BrainAvatar LLP License** | |
| LoretaROIZCoh(ROI1, Location, ROI2, Location, Band) | Trains the Connectivity Z-Scores between the chosen region of interests and its location (Left, Right, or Complete). The number listing of the ROI’s can be found at www.brainm.com/kb/entry/461. |
| LoretaROIZCohL(ROI1, Location, ROI2, Location, Band) | Trains the Connectivity Z-Scores between the Left Hemisphere chosen region of interest. The number listing of the ROI’s can be found at www.brainm.com/kb/entry/461. |

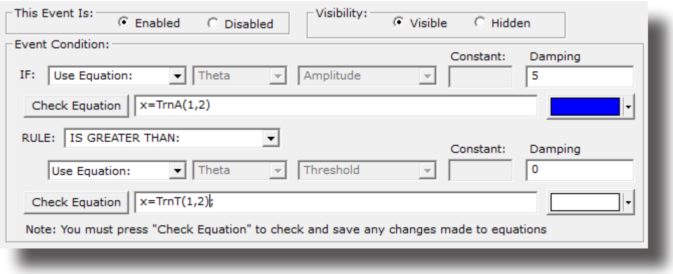
| **sLORETA ROI Coherence Z-Scores Functions - Requires an sLORETA Z-Score Training DLL (qEEGPro and Zbuilder only), Connectivity Suite, and BrainAvatar LLP License** | |
|---|---|
| LoretaROIZCohR(ROI1, Location, ROI2, Location, Band) | Trains the Connectivity Z-Scores between the Right Hemisphere of the chosen regions of interests. The number listing of the ROI's can be found at www.brainm.com/kb/entry/461. |
| LoretaROIZCohLR(ROI1, Location, ROI2, Location, Band) | Trains the Connectivity Z-Scores between the chosen region of interests. The number listing of the ROI's can be found at www.brainm.com/kb/entry/461. |
| PercentZROICO(range) or PZROICO(range) or PercentZROICoherence(range) | Percentage of sLORETA ROI Coherence Z Scores that are within "range" of normal. Returns a value between 0 and 100 |
| PercentZROICOUL(upper, lower) or PZROICOUL(upper, lower) or PercentZROICoherenceUL(upper, lower) | Percentage of sLORETA ROI Coherence Z Scores that are below the upper limit and above the lower limit. Returns a value between 0 and 100 |

## Designing an Event

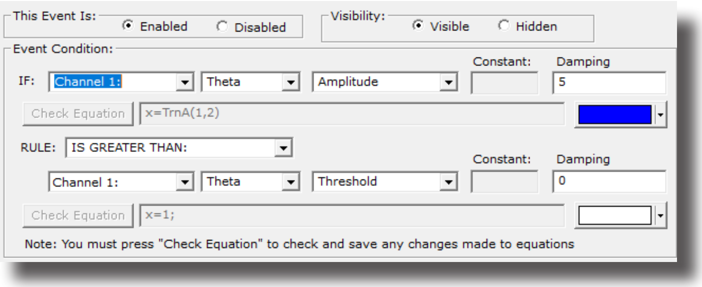
1. On The Event Wizard Screen, choose the Event Number that you would like to work with (For this Example, we will work with Event 1).



2. Next, set the Event Condition (For this example, we are going to reward the Channel 1 Theta band, when it is greater than its threshold). There are many ways that the Event Wizard can define what is being trained (See Attached pictures). If an equation is used, the Check Equation Button must be clicked, or it will not save this.

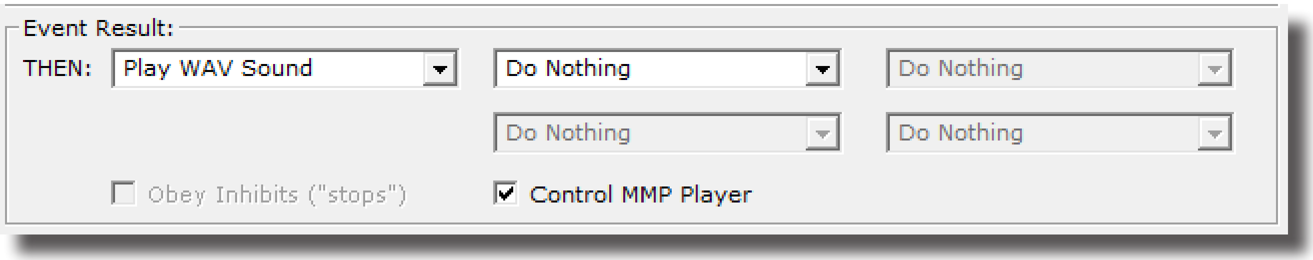

This Event Is: ● Enabled ○ Disabled
Visibility: ● Visible ○ Hidden
Event Condition:
IF: Use Equation: | Theta | Amplitude | Constant: | Damping: 5
Check Equation | x=TrnA(1,2)
RULE: IS GREATER THAN:
Use Equation: | Theta | Threshold | Constant: | Damping: 0
Check Equation | x=TrnT(1,2);
Note: You must press "Check Equation" to check and save any changes made to equations

Event Condition with Equations

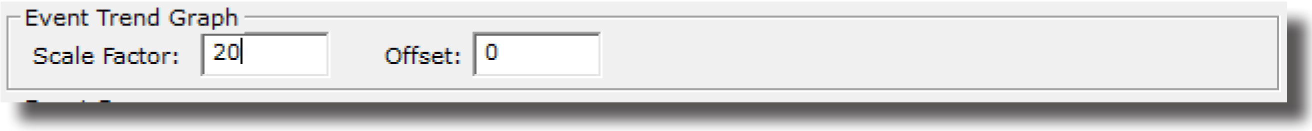

This Event Is: ● Enabled ○ Disabled
Visibility: ● Visible ○ Hidden
Event Condition:
IF: Channel 1: | Theta | Amplitude | Constant: | Damping: 5
Check Equation | x=TrnA(1,2)
RULE: IS GREATER THAN:
Channel 1: | Theta | Threshold | Constant: | Damping: 0
Check Equation | x=1;
Note: You must press "Check Equation" to check and save any changes made to equations

Event Condition with Channels

3. Next, set the Event Result (For This example, if the Event Condition is met, a .wav will play. This will also Control BMrMMP).


Event Result:
THEN: Play WAV Sound | Do Nothing | Do Nothing
Do Nothing | Do Nothing
☐ Obey Inhibits ("stops") ☑ Control MMP Player

4. Next, set the size of the Event Trend Graph. If you are not going to make your graph visible, you do not need to do anything with this (For this example, the graph will range from 0 to 20).

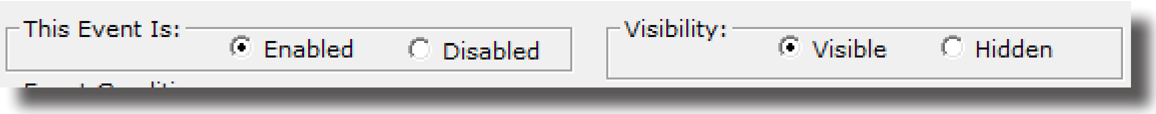


Event Trend Graph

Scale Factor: 20

Offset: 0

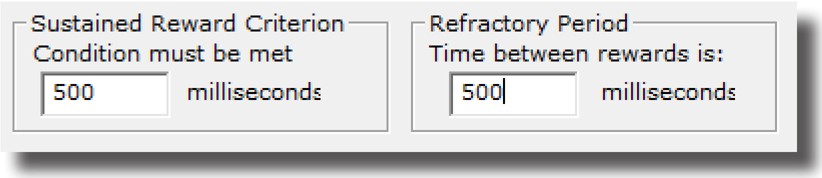
5. Next, you will need to make sure, that the Event is enabled. You will also need to choose whether you would like it visible or not. If the Event is not enabled, it will not work. But, if the Event is Hidden, it will still operate. Also, if you would like the event to have a personalized name, do so now.



This Event Is: ● Enabled ○ Disabled

Visibility: ● Visible ○ Hidden

6. Next, set the Sustained Reward Criterion, Refractory Period and the properties of the MIDI Sound. If you are not utilizing a MIDI sound for a reward sound, you do not have to set this. The Sustained Reward Criterion and Refractory Period effect how often a reward can be give (For this example, the Sustained Reward Criterion and Refractory Period are both set for 500 milliseconds. This means, that a reward will not be given unless the client stays above the threshold for 500 milliseconds. Then, another reward is not possible for another 500 milliseconds).



Sustained Reward Criterion

Condition must be met

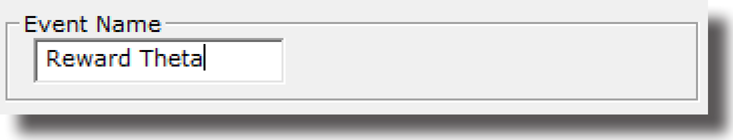
500 milliseconds

Refractory Period

Time between rewards is:

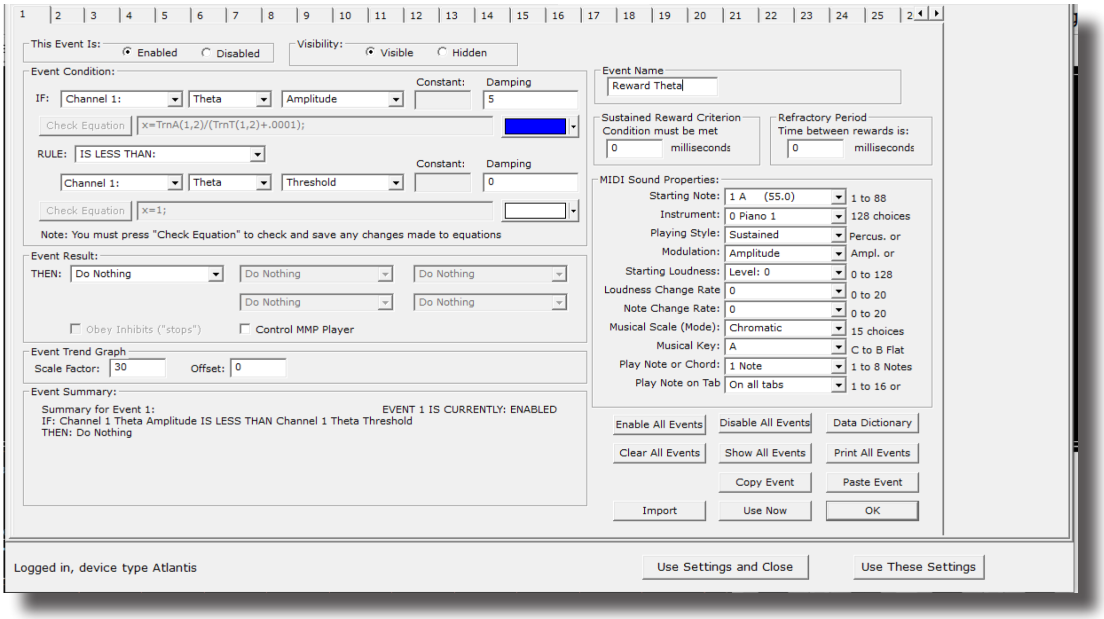
500 milliseconds

7. Finally, Set the Event Name to something that makes sense to what you are doing (For this example, the Event Name is Reward Theta). This is a completely optional. So, if you do not name the Event, it will simply display the Event Condition as its name.



Event Name: Reward Theta

8. View the entire Event Wizard Screen to confirm that the Event is set up to your needs. When ready, click the Use Now Button, and then either move to the next Event or Close the Setup Window.


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
2
Check Equation
Check Equation
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
Use Settings and Close
Use These Settings

This Event Is: ● Enabled ○ Disabled

Visibility: ● Visible ○ Hidden

Event Condition:

IF: Channel 1: | Theta | Amplitude | Constant: | Damping: 5

x=TrnA(1,2)/(TrnT(1,2)+.0001);

RULE: IS LESS THAN:

Channel 1: | Theta | Threshold | Constant: | Damping: 0

x=1;

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

Event Result:

THEN: Do Nothing | Do Nothing | Do Nothing | Do Nothing | Do Nothing

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

Event Trend Graph

Scale Factor: 30 Offset: 0

Event Summary:

Summary for Event 1: EVENT 1 IS CURRENTLY: ENABLED
IF: Channel 1 Theta Amplitude IS LESS THAN Channel 1 Theta Threshold
THEN: Do Nothing

Event Name: Reward Theta

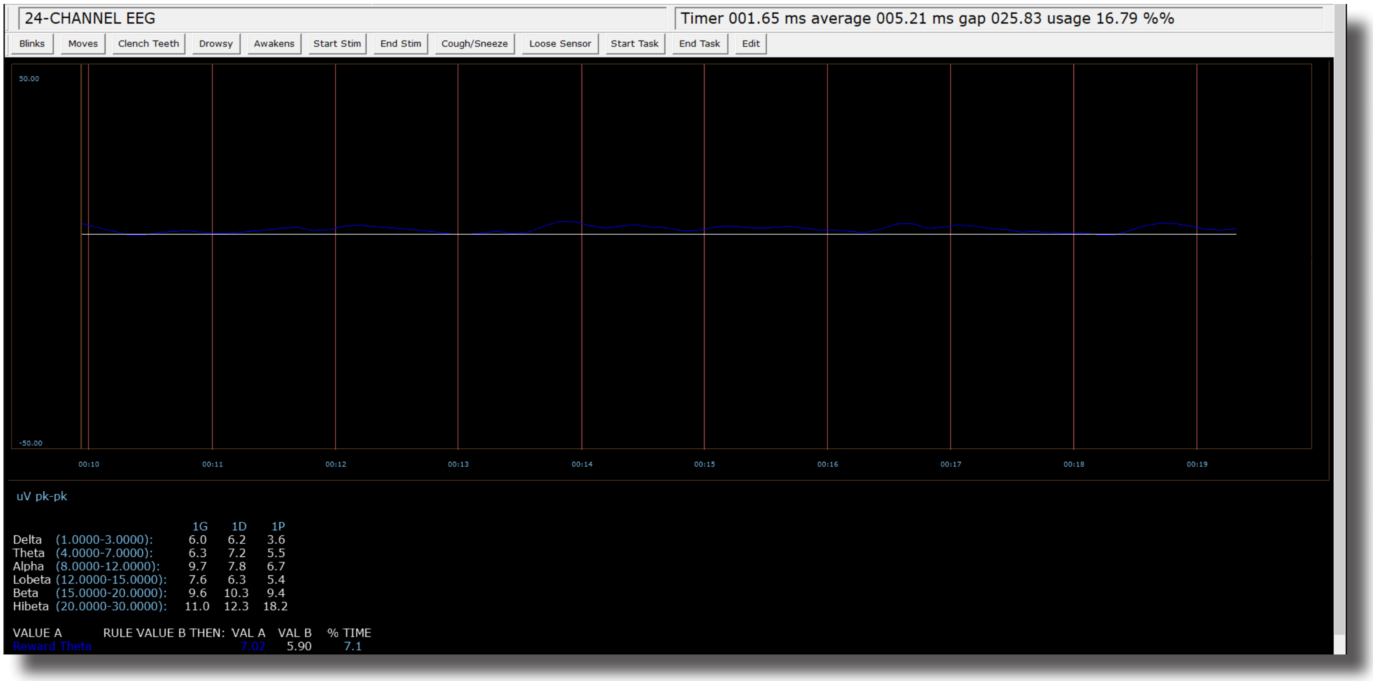
Sustained Reward Criterion
Condition must be met 0 milliseconds

Refractory Period
Time between rewards is: 0 milliseconds

MIDI Sound Properties:
Starting Note: 1 A (55.0) 1 to 88
Instrument: 0 Piano 1 128 choices
Playing Style: Sustained Percus. or
Modulation: Amplitude Ampl. or
Starting Loudness: Level: 0 0 to 128
Loudness Change Rate 0 0 to 20
Note Change Rate: 0 0 to 20
Musical Scale (Mode): Chromatic 15 choices
Musical Key: A C to B Flat
Play Note or Chord: 1 Note 1 to 8 Notes
Play Note on Tab On all tabs 1 to 16 or

Logged in, device type Atlantis

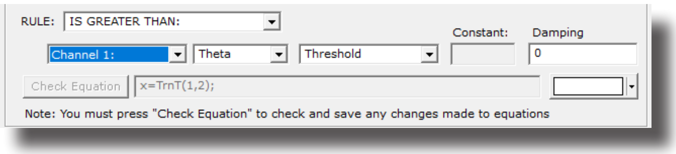
The Event Wizard has been set for the Client Folder. You will be able to tell this during the running of a session. If the Event was set to Visible, then you will see a graph if you choose the Display Event Trend Graph, or Wide Event Trend Graph. If you do not have the Event set to Visible, then you can still see that this is occurring through the Display Text Stat Panel. If you have placed a name for the Event, this will be reflected in the Text Stats, if you have these displayed, as well as the Thermometer Contour Display.


Blinks
Moves
Clench Teeth
Drowsy
Awakens
Start Stim
End Stim
Cough/Sneeze
Loose Sensor
Start Task
End Task
Edit
50.00
-50.00
00:10
00:11
00:12
00:13
00:14
00:15
00:16
00:17
00:18
00:19

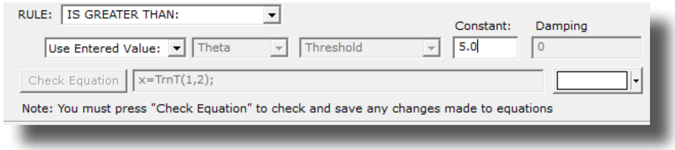
```
24-CHANNEL EEG
Timer 001.65 ms average 005.21 ms gap 025.83 usage 16.79 %%

uV pk-pk

                              1G    1D    1P
Delta   (1.0000-3.0000):      6.0   6.2   3.6
Theta   (4.0000-7.0000):      6.3   7.2   5.5
Alpha   (8.0000-12.0000):     9.7   7.8   6.7
Lobeta (12.0000-15.0000):     7.6   6.3   5.4
Beta    (15.0000-20.0000):    9.6   10.3  9.4
Hibeta (20.0000-30.0000):    11.0   12.3  18.2

VALUE A        RULE VALUE B THEN:  VAL A   VAL B   % TIME
Reward Theta                        7.02    5.90    7.1
```

## Making a Threshold to be dragged by the Thermometer

1. In order to make an adjustable threshold through a Thermometer, the Event Rule must be changed from a “Use Equation” defined threshold, to a “Use Channel 1” Threshold, or Use Entered Value.

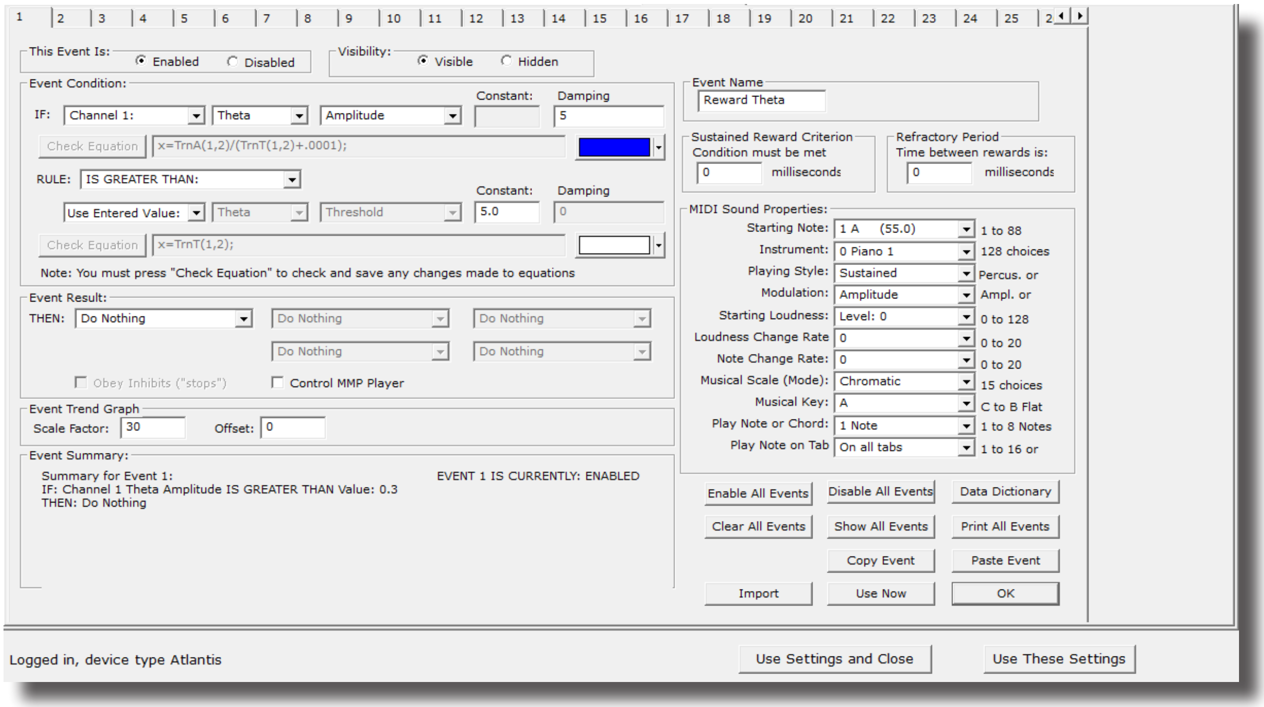

RULE: IS GREATER THAN:
Channel 1: | Theta | Threshold | Constant: | Damping: 0
x=TrnT(1,2);
Note: You must press "Check Equation" to check and save any changes made to equations
Check Equation

Use Channel 1 Example

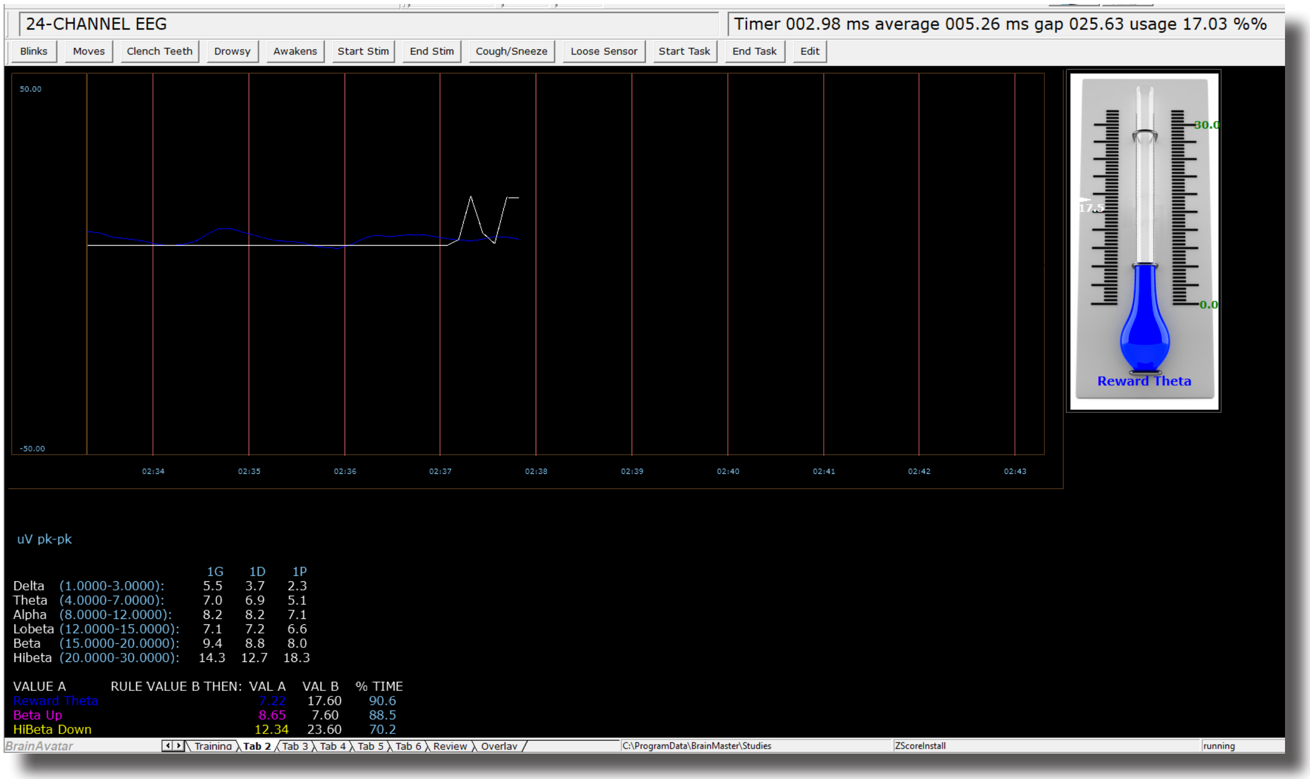

RULE: IS GREATER THAN:
Use Entered Value: | Theta | Threshold | Constant: 5.0 | Damping: 0
x=TrnT(1,2);
Note: You must press "Check Equation" to check and save any changes made to equations
Check Equation

Use Entered Value Example

2. If there are no additional changes that are required, click the Use Settings and CloseButton.


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
2
This Event Is: ● Enabled ○ Disabled
Visibility: ● Visible ○ Hidden
Event Condition:
IF: Channel 1: | Theta | Amplitude | Constant: | Damping: 5
x=TrnA(1,2)/(TrnT(1,2)+.0001);
RULE: IS GREATER THAN:
Use Entered Value: | Theta | Threshold | Constant: 5.0 | Damping: 0
x=TrnT(1,2);
Note: You must press "Check Equation" to check and save any changes made to equations
Event Result:
THEN: Do Nothing | Do Nothing | Do Nothing
Do Nothing | Do Nothing
☐ Obey Inhibits ("stops") ☐ Control MMP Player
Event Trend Graph
Scale Factor: 30 Offset: 0
Event Summary:
Summary for Event 1:
IF: Channel 1 Theta Amplitude IS GREATER THAN Value: 0.3
THEN: Do Nothing
EVENT 1 IS CURRENTLY: ENABLED
Event Name: Reward Theta
Sustained Reward Criterion
Condition must be met 0 milliseconds
Refractory Period
Time between rewards is: 0 milliseconds
MIDI Sound Properties:
Starting Note: 1 A (55.0) 1 to 88
Instrument: 0 Piano 1 128 choices
Playing Style: Sustained Percus. or
Modulation: Amplitude Ampl. or
Starting Loudness: Level: 0 0 to 128
Loudness Change Rate 0 0 to 20
Note Change Rate: 0 0 to 20
Musical Scale (Mode): Chromatic 15 choices
Musical Key: A C to B Flat
Play Note or Chord: 1 Note 1 to 8 Notes
Play Note on Tab On all tabs 1 to 16 or
Logged in, device type Atlantis
Check Equation
Check Equation
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
Use Settings and Close
Use These Settings

The Event Threshold will now be able to be controlled through the Thermometer Contour Display, by Clicking on the Threshold indicator on the left of this Display. ***__PLEASE NOTE:__ This only works with Thermometers that are displaying Events. This does not work with Thermometers that are displaying standard band values.


24-CHANNEL EEG
Blinks
Moves
Clench Teeth
Drowsy
Awakens
Start Stim
End Stim
Cough/Sneeze
Loose Sensor
Start Task
End Task
Edit
50.00
-50.00
02:34
02:35
02:36
02:37
02:38
02:39
02:40
02:41
02:42
02:43
30.0
17.6
0.0
Reward Theta
BrainAvatar
Training
Tab 2
Tab 3
Tab 4
Tab 5
Tab 6
Review
Overlav
running

Timer 002.98 ms average 005.26 ms gap 025.63 usage 17.03 %%

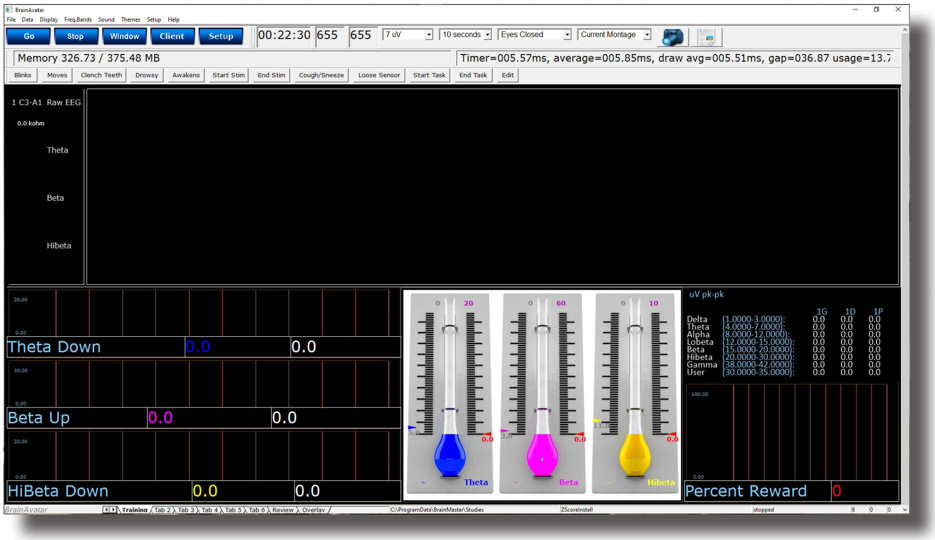
```
uV pk-pk

                              1G    1D    1P
Delta   (1.0000-3.0000):      5.5   3.7   2.3
Theta   (4.0000-7.0000):      7.0   6.9   5.1
Alpha   (8.0000-12.0000):     8.2   8.2   7.1
Lobeta (12.0000-15.0000):     7.1   7.2   6.6
Beta    (15.0000-20.0000):    9.4   8.8   8.0
Hibeta (20.0000-30.0000):    14.3  12.7  18.3

VALUE A        RULE VALUE B THEN:  VAL A   VAL B   % TIME
Reward Theta                        7.22   17.60    90.6
Beta Up                             8.65    7.60    88.5
HiBeta Down                        12.34   23.60    70.2
```

C:\ProgramData\BrainMaster\Studies

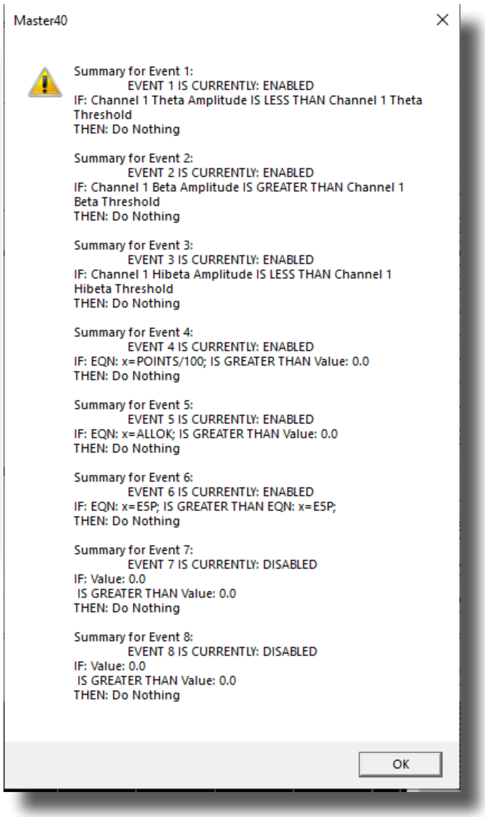
ZScoreInstall

## Basic BrainMaster Setting Protocol through the Event Wizard

### Standard Amplitude (Alert)


BrainAvatar
File Data Display Freq.Bands Sound Themes Setup Help
Go
Stop
Window
Client
Setup
00:22:30
655
655
7 uV
10 seconds
Eyes Closed
Current Montage
Blinks
Moves
Clench Teeth
Drowsy
Awakens
Start Stim
End Stim
Cough/Sneeze
Loose Sensor
Start Task
End Task
Edit
1 C3-A1 Raw EEG
0.0 kohm
Theta
Beta
Hibeta
Theta Down
Beta Up
HiBeta Down
uV pk-pk
Percent Reward

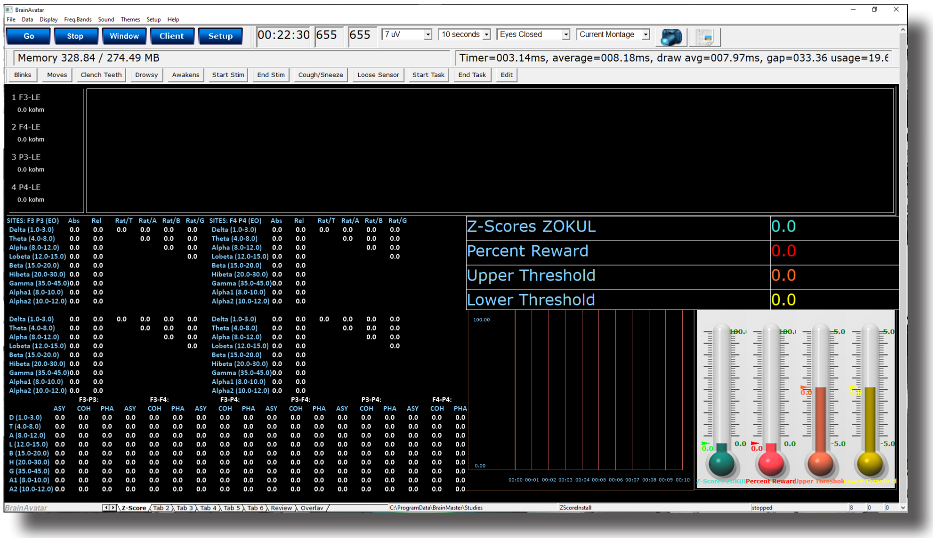
```
Memory 326.73 / 375.48 MB
Timer=005.57ms, average=005.85ms, draw avg=005.51ms, gap=036.87 usage=13.7
```


Master40
OK

```
Summary for Event 1:
            EVENT 1 IS CURRENTLY: ENABLED
IF: Channel 1 Theta Amplitude IS LESS THAN Channel 1 Theta
Threshold
THEN: Do Nothing

Summary for Event 2:
            EVENT 2 IS CURRENTLY: ENABLED
IF: Channel 1 Beta Amplitude IS GREATER THAN Channel 1
Beta Threshold
THEN: Do Nothing

Summary for Event 3:
            EVENT 3 IS CURRENTLY: ENABLED
IF: Channel 1 Hibeta Amplitude IS LESS THAN Channel 1
Hibeta Threshold
THEN: Do Nothing

Summary for Event 4:
            EVENT 4 IS CURRENTLY: ENABLED
IF: EQN: x=POINTS/100; IS GREATER THAN Value: 0.0
THEN: Do Nothing

Summary for Event 5:
            EVENT 5 IS CURRENTLY: ENABLED
IF: EQN: x=ALLOK; IS GREATER THAN Value: 0.0
THEN: Do Nothing

Summary for Event 6:
            EVENT 6 IS CURRENTLY: ENABLED
IF: EQN: x=E5P; IS GREATER THAN EQN: x=E5P;
THEN: Do Nothing

Summary for Event 7:
            EVENT 7 IS CURRENTLY: DISABLED
IF: Value: 0.0
 IS GREATER THAN Value: 0.0
THEN: Do Nothing

Summary for Event 8:
            EVENT 8 IS CURRENTLY: DISABLED
IF: Value: 0.0
 IS GREATER THAN Value: 0.0
THEN: Do Nothing
```

**Event 1: IF Channel 1 Theta Amplitude IS LESS THAN Channel 1 Theta Threshold -** This gives a Graphical and Text View of the Low Inhibit Training
**Event 2: IF Channel 1 Beta Amplitude IS GREATER THAN Channel 1 Beta Threshold -** This gives a Graphical and Text View of the The Reward Training
**Event 3: IF Channel 1 HiBeta Amplitude IS LESS THAN Channel 1 HiBeta Threshold -** This shows the ratio of the hi "stop" inhibit to its threshold.
**Event 4: x=POINTS/100 -** This shows the points divided by 100. This is merely for the Flash Game indicator.
**Event 5: x=ALLOK -** This indicates that all components meet criteria, and the Flash Game can "move" or proceed.

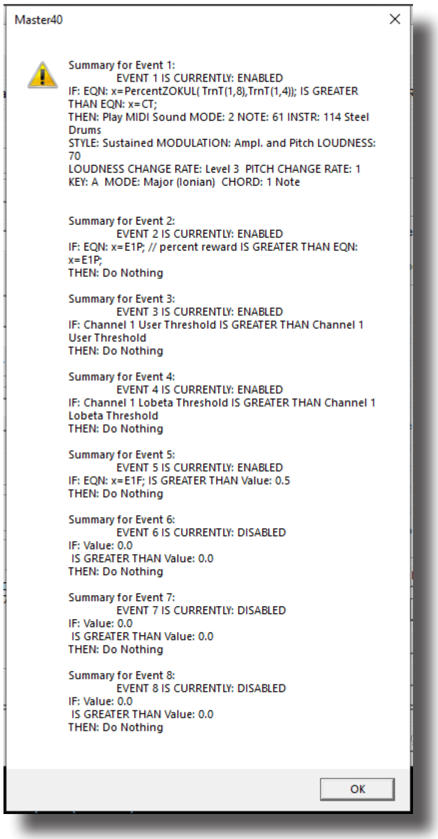
## Standard Z-Score-Based Protocol (4 Chanel PZOKUL)


BrainAvatar
File Data Display Freq.Bands Sound Themes Setup Help
Go
Stop
Window
Client
Setup
00:22:30
655
655
7 uV
10 seconds
Eyes Closed
Current Montage
Blinks
Moves
Clench Teeth
Drowsy
Awakens
Start Stim
End Stim
Cough/Sneeze
Loose Sensor
Start Task
End Task
Edit
1 F3-LE
0.0 kohm
2 F4-LE
0.0 kohm
3 P3-LE
0.0 kohm
4 P4-LE
0.0 kohm
Z-Score
Review
Overlay

Memory 328.84 / 274.49 MB

Timer=003.14ms, average=008.18ms, draw avg=007.97ms, gap=033.36 usage=19.6

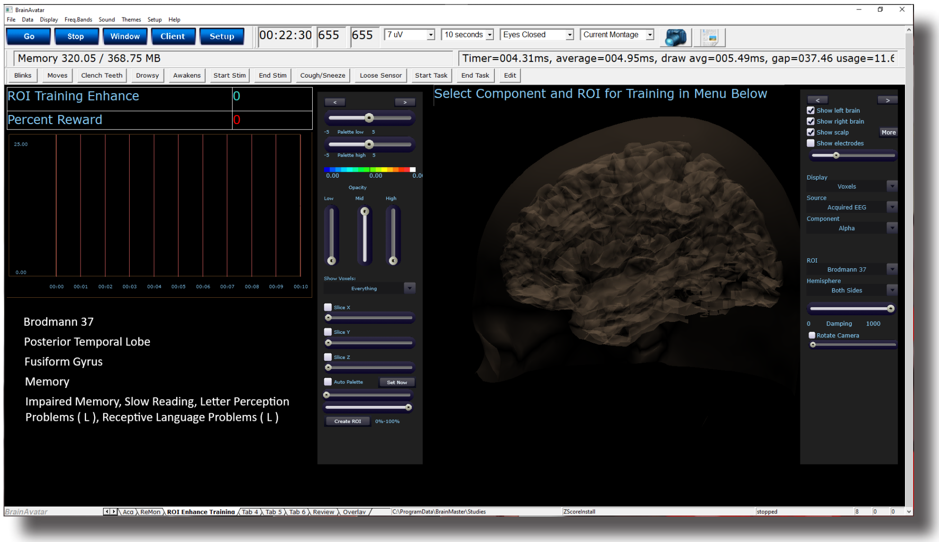
Z-Scores ZOKUL 0.0
Percent Reward 0.0
Upper Threshold 0.0
Lower Threshold 0.0


Master40
OK

```
Summary for Event 1:
            EVENT 1 IS CURRENTLY: ENABLED
IF: EQN: x=PercentZOKUL( TrnT(1,8),TrnT(1,4)); IS GREATER
THAN EQN: x=CT;
THEN: Play MIDI Sound MODE: 2 NOTE: 61 INSTR: 114 Steel
Drums
STYLE: Sustained MODULATION: Ampl. and Pitch LOUDNESS:
70
LOUDNESS CHANGE RATE: Level 3  PITCH CHANGE RATE: 1
KEY: A  MODE: Major (Ionian)  CHORD: 1 Note


Summary for Event 2:
            EVENT 2 IS CURRENTLY: ENABLED
IF: EQN: x=E1P; // percent reward IS GREATER THAN EQN:
x=E1P;
THEN: Do Nothing

Summary for Event 3:
            EVENT 3 IS CURRENTLY: ENABLED
IF: Channel 1 User Threshold IS GREATER THAN Channel 1
User Threshold
THEN: Do Nothing

Summary for Event 4:
            EVENT 4 IS CURRENTLY: ENABLED
IF: Channel 1 Lobeta Threshold IS GREATER THAN Channel 1
Lobeta Threshold
THEN: Do Nothing

Summary for Event 5:
            EVENT 5 IS CURRENTLY: ENABLED
IF: EQN: x=E1F; IS GREATER THAN Value: 0.5
THEN: Do Nothing

Summary for Event 6:
            EVENT 6 IS CURRENTLY: DISABLED
IF: Value: 0.0
 IS GREATER THAN Value: 0.0
THEN: Do Nothing

Summary for Event 7:
            EVENT 7 IS CURRENTLY: DISABLED
IF: Value: 0.0
 IS GREATER THAN Value: 0.0
THEN: Do Nothing

Summary for Event 8:
            EVENT 8 IS CURRENTLY: DISABLED
IF: Value: 0.0
 IS GREATER THAN Value: 0.0
THEN: Do Nothing
```

**Event 1: x=PercentZOKUL(UTHR, -GTHR) IS GREATER THAN CT -** This rewards the Percentage of Z-Scores that are with-in the ranges of the Upper Threshold (U Key) and Lower Threshold (L Key)that are above the threshold that is defined by the C Key.
**Event 2: x=E1P -** This shows the percentage of reward for Event 1.
**Event 3: x=-GTHR is greater than x=-GTHR -** This gives a graphical representation for the Lower threshold for the Z-Score equation.
**Event 4: x=UTHR is greater than x=UTHR -** This gives a graphical representation for the Upper threshold for the Z-Score equation.
**Event 5: x=E1F is greater than 0.5 -** This flags Event 1. When the Event 1 meets its Event Condition, Event 5 produces a 1, which indicates that this component has met criteria, and the Flash Game can “move” or proceed.

## Z-Score-Based Protocol (4 Chanel PZOKUL)


BrainAvatar
File Data Display Freq.Bands Sound Themes Setup Help
Go
Stop
Window
Client
Setup
00:22:30
655
655
7 uV
10 seconds
Eyes Closed
Current Montage
Blinks
Moves
Clench Teeth
Drowsy
Awakens
Start Stim
End Stim
Cough/Sneeze
Loose Sensor
Start Task
End Task
Edit
Show left brain
Show right brain
Show scalp
Show electrodes
More
Display
Voxels
Source
Acquired EEG
Component
Alpha
ROI
Brodmann 37
Hemisphere
Both Sides
Damping
1000
Rotate Camera
Create ROI

Memory 320.05 / 368.75 MB

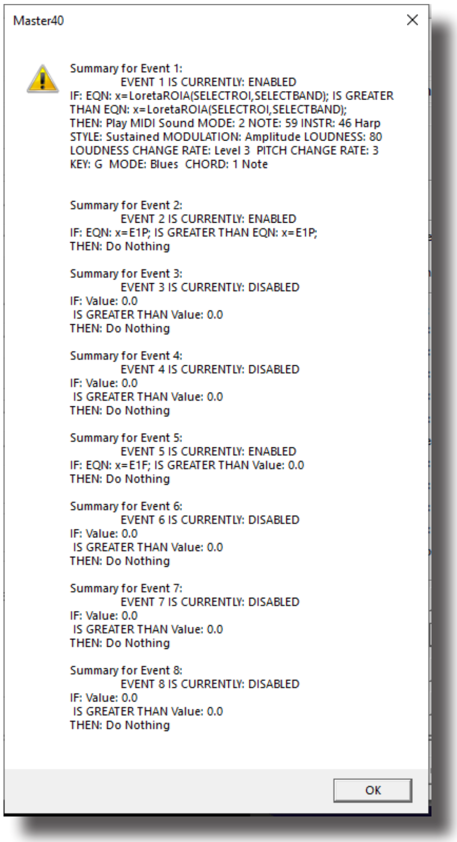
Timer=004.31ms, average=004.95ms, draw avg=005.49ms, gap=037.46 usage=11.6

ROI Training Enhance 0

Percent Reward 0

Select Component and ROI for Training in Menu Below

Brodmann 37
Posterior Temporal Lobe
Fusiform Gyrus
Memory
Impaired Memory, Slow Reading, Letter Perception Problems ( L ), Receptive Language Problems ( L )


Master40
OK

Summary for Event 1:
EVENT 1 IS CURRENTLY: ENABLED
IF: EQN: x=LoretaROIA(SELECTROI,SELECTBAND); IS GREATER THAN EQN: x=LoretaROIA(SELECTROI,SELECTBAND);
THEN: Play MIDI Sound MODE: 2 NOTE: 59 INSTR: 46 Harp
STYLE: Sustained MODULATION: Amplitude LOUDNESS: 80
LOUDNESS CHANGE RATE: Level 3 PITCH CHANGE RATE: 3
KEY: G MODE: Blues CHORD: 1 Note

Summary for Event 2:
EVENT 2 IS CURRENTLY: ENABLED
IF: EQN: x=E1P; IS GREATER THAN EQN: x=E1P;
THEN: Do Nothing

Summary for Event 3:
EVENT 3 IS CURRENTLY: DISABLED
IF: Value: 0.0
IS GREATER THAN Value: 0.0
THEN: Do Nothing

Summary for Event 4:
EVENT 4 IS CURRENTLY: DISABLED
IF: Value: 0.0
IS GREATER THAN Value: 0.0
THEN: Do Nothing

Summary for Event 5:
EVENT 5 IS CURRENTLY: ENABLED
IF: EQN: x=E1F; IS GREATER THAN Value: 0.0
THEN: Do Nothing

Summary for Event 6:
EVENT 6 IS CURRENTLY: DISABLED
IF: Value: 0.0
IS GREATER THAN Value: 0.0
THEN: Do Nothing

Summary for Event 7:
EVENT 7 IS CURRENTLY: DISABLED
IF: Value: 0.0
IS GREATER THAN Value: 0.0
THEN: Do Nothing

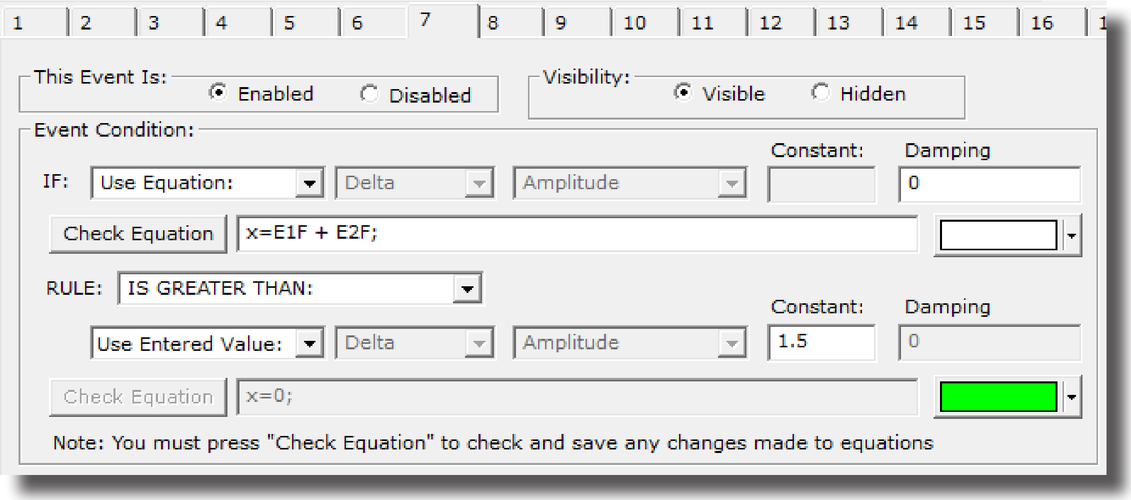
Summary for Event 8:
EVENT 8 IS CURRENTLY: DISABLED
IF: Value: 0.0
IS GREATER THAN Value: 0.0
THEN: Do Nothing

**Event 1: x=LoretaROIA(SELECTROI,SELECTBAND) IS GREATER THAN x= LoretaROIA(SELECTROI,SELECTBAND)** - This will train the Region of Interest and the Band frequency that has been selected for viewing on ROI Head Map, and by using a damped (averaged)value of itself as the threshold creates a Dynamically changing Threshold.
**Event 2: x=E1P** - This shows the percentage of reward for Event 1.
**Event 5: x=E1F is greater than 0.5** - This flags Event 1. When the Event 1 meets its Event Condition, Event 5 produces a 1, which indicates that this component has met criteria, and the Flash Game can “move” or proceed.

## Advanced Event Wizard Controls

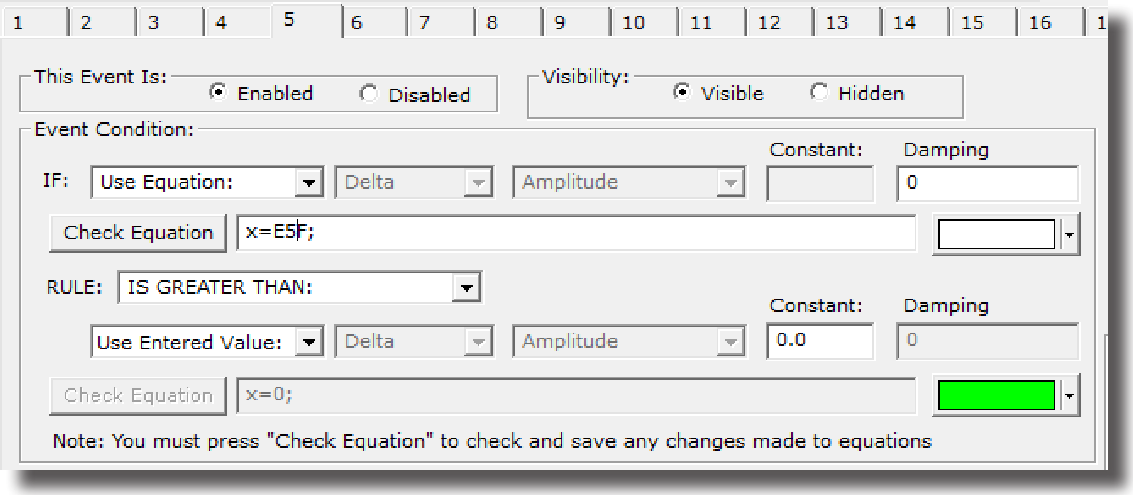
### Enabling Multiple Events to control Flash Player (2 Event Example)

1. Create an Event (Event 7) that Flags (Whether the Event is True or False) for these Events, and requires them to be greater than the possible combination with-out all being met (For this example, since there are two Events, we want the Event Condition to be greater than 1.5. This way, we are only successful when both Event 1 and Event 2 have been met).



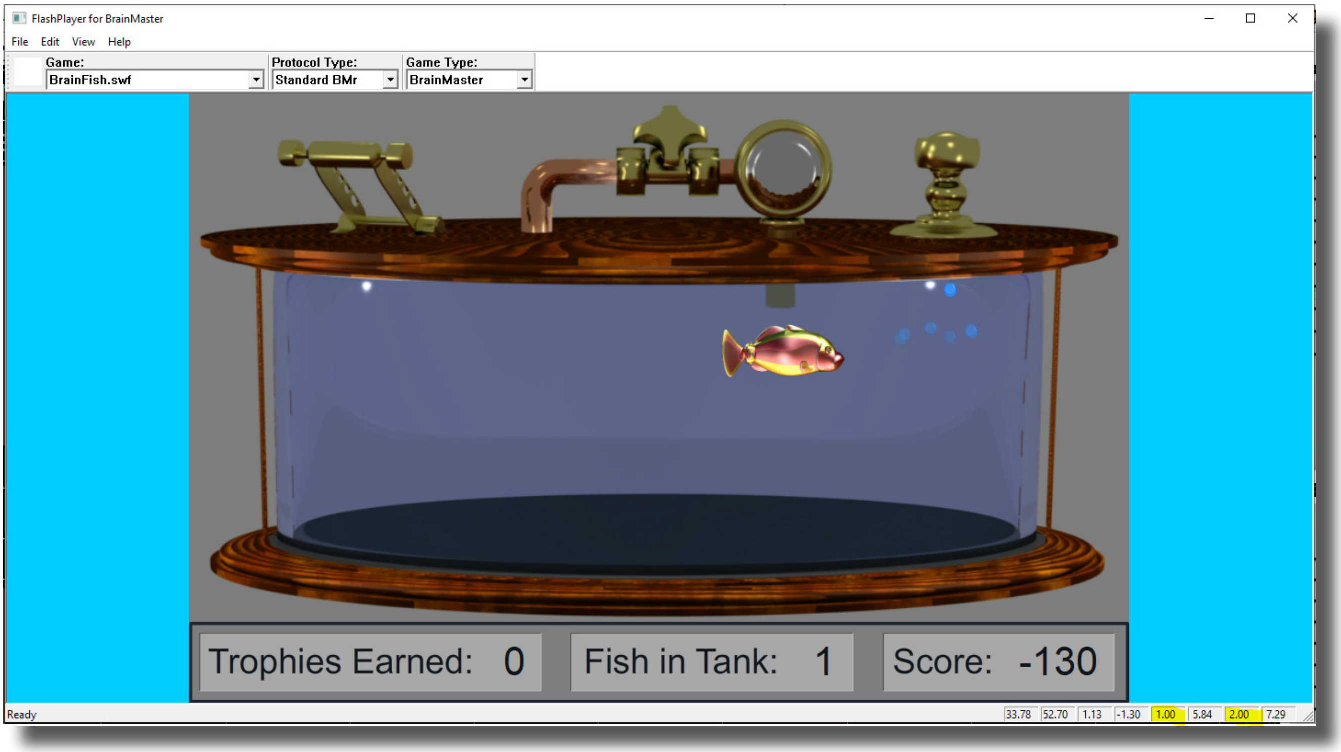
This Event Is: ● Enabled ○ Disabled
Visibility: ● Visible ○ Hidden
Event Condition:
IF: Use Equation: | Delta | Amplitude | Constant: | Damping: 0
x=E1F + E2F;
RULE: IS GREATER THAN:
Use Entered Value: | Delta | Amplitude | Constant: 1.5 | Damping: 0
x=0; 🟩
Note: You must press "Check Equation" to check and save any changes made to equations

2. Next, we will need to flag the results of this last created Event into Event 5, so that the Flash Player can be controlled.



This Event Is: ● Enabled ○ Disabled
Visibility: ● Visible ○ Hidden
Event Condition:
IF: Use Equation: | Delta | Amplitude | Constant: | Damping: 0
x=E5F;
RULE: IS GREATER THAN:
Use Entered Value: | Delta | Amplitude | Constant: 0.0 | Damping: 0
x=0; 🟩
Note: You must press "Check Equation" to check and save any changes made to equations

Your protocol will now be able to drive the Flash Player when all Event criteria has been met for the different Event Conditions. You will be able to tell, as you can see that the Flash Player will operate to Event 5, as well as seeing that Event 5 equals 1 when Event 7 equals 2.


FlashPlayer for BrainMaster
File
Edit
View
Help

Game: BrainFish.swf

Protocol Type: Standard BMr

Game Type: BrainMaster

Trophies Earned: 0

Fish in Tank: 1

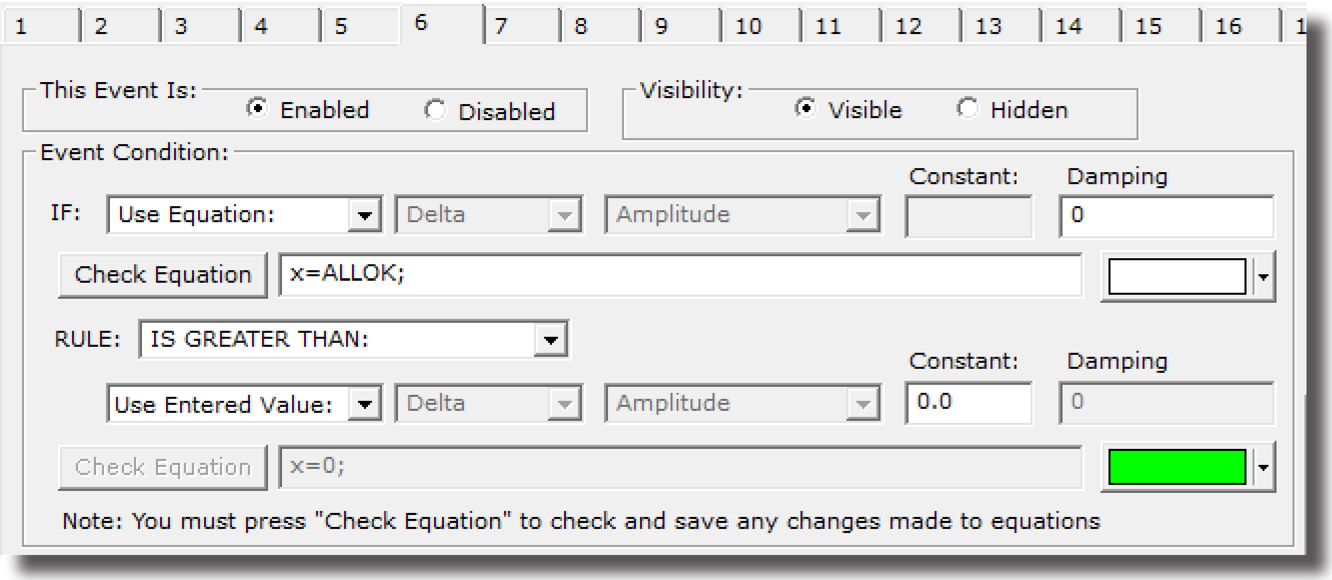
Score: -130

Ready

33.78 52.70 1.13 -1.30 1.00 5.84 2.00 7.29

## Enabling Amplitude Plus Events to control Flash Player

1. Create an Event (Event 6) to indicate that all amplitude components have met their criteria.



This Event Is: ● Enabled ○ Disabled

Visibility: ● Visible ○ Hidden

Event Condition:

IF: Use Equation: | Delta | Amplitude | Constant: | Damping: 0

Check Equation x=ALLOK;

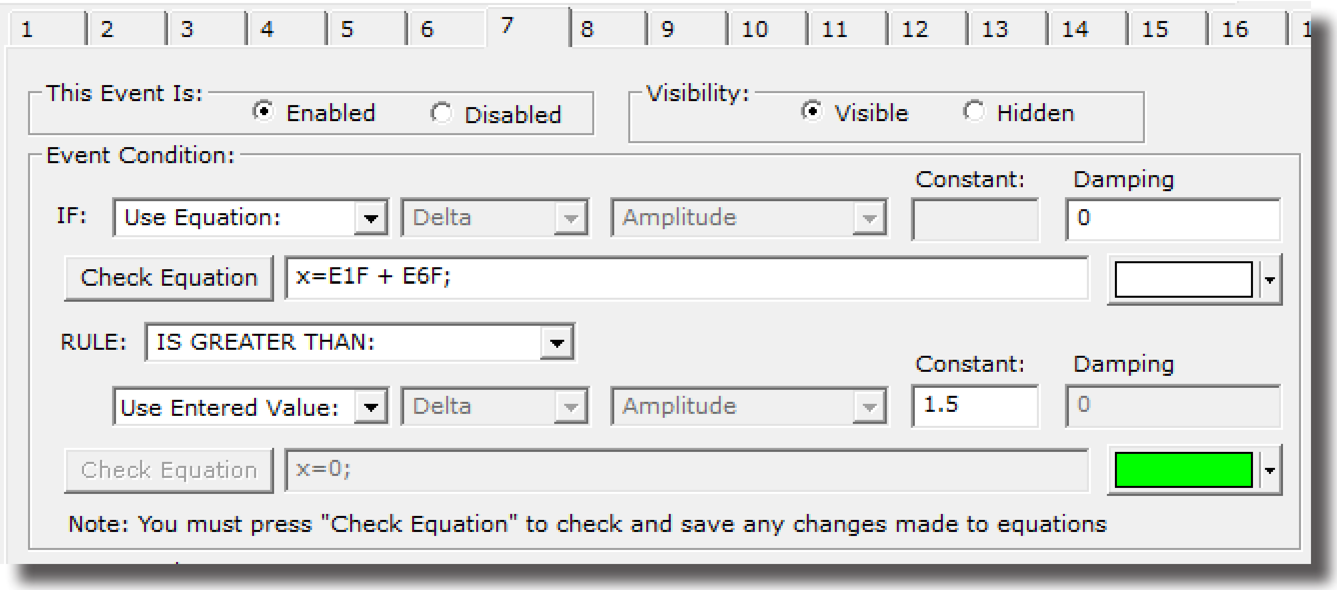
RULE: IS GREATER THAN:

Use Entered Value: | Delta | Amplitude | Constant: 0.0 | Damping: 0

Check Equation x=0; 🟩

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

2. Create an Event (Event 7) that Flags these Events, and requires them to be greater than the possible combination with-out all being met (For this example, since there are two Events, we want the Event Condition to be greater than 1.5. This way, we are only successful when both Event 1 and Event 6 have been met).



This Event Is: ● Enabled ○ Disabled

Visibility: ● Visible ○ Hidden

Event Condition:

IF: Use Equation: | Delta | Amplitude | Constant: | Damping: 0

Check Equation x=E1F + E6F;

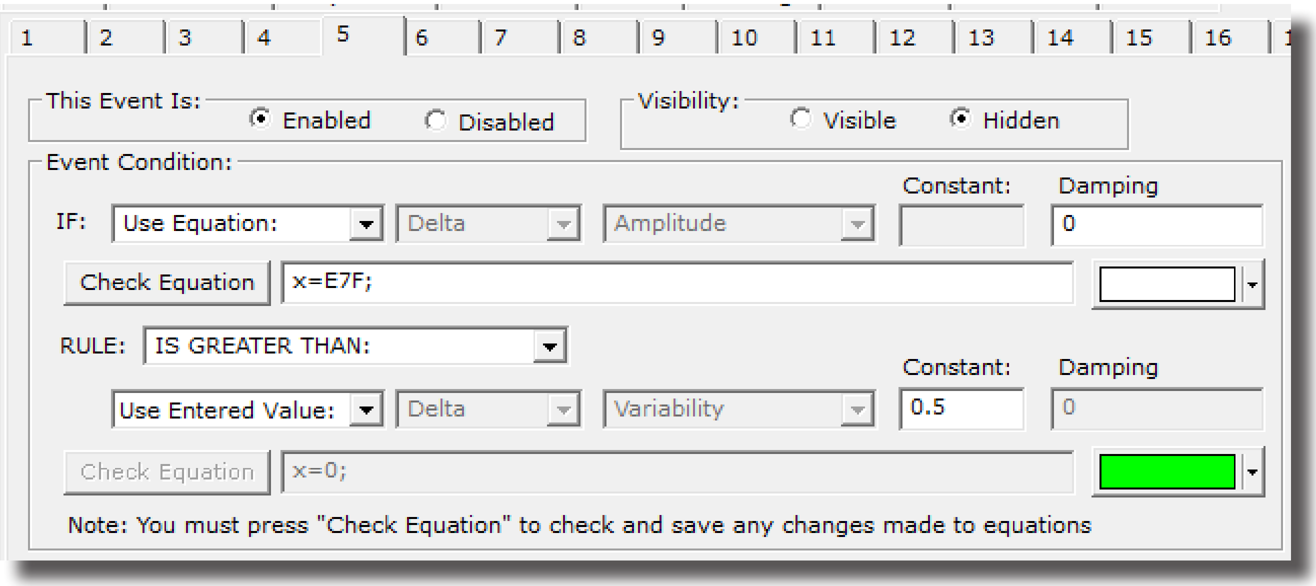
RULE: IS GREATER THAN:

Use Entered Value: | Delta | Amplitude | Constant: 1.5 | Damping: 0

Check Equation x=0; 🟩

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

3. Next, we will need to flag the results of this last created Event into Event 5, so that the Flash Player can be controlled.


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

This Event Is: ● Enabled ○ Disabled

Visibility: ○ Visible ● Hidden

Event Condition:

IF: Use Equation: | Delta | Amplitude | Constant: | Damping: 0

x=E7F;

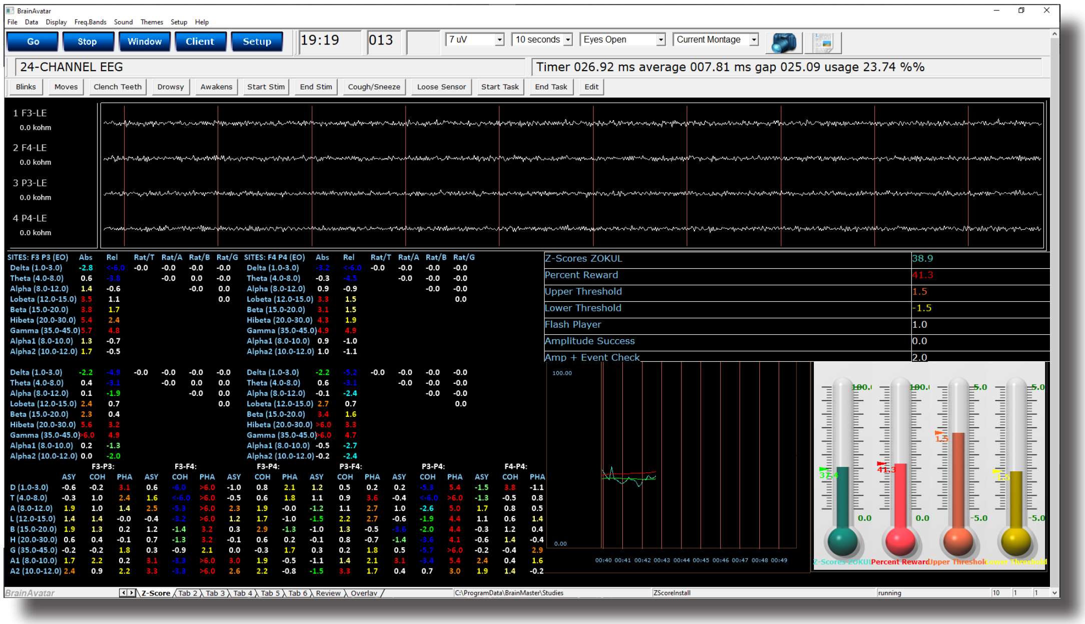
RULE: IS GREATER THAN:

Use Entered Value: | Delta | Variability | Constant: 0.5 | Damping: 0

x=0;

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

Your protocol will now be able to drive the Flash Player when all Event criteria has been met for the different Event Conditions. You will be able to tell, as you can see that the Flash Player will operate to Event 5


BrainAvatar
File
Data
Display
Freq.Bands
Sound
Themes
Setup
Help
Go
Stop
Window
Client
Setup
Blinks
Moves
Clench Teeth
Drowsy
Awakens
Start Stim
End Stim
Cough/Sneeze
Loose Sensor
Start Task
End Task
Edit
1 F3-LE
0.0 kohm
2 F4-LE
0.0 kohm
3 P3-LE
0.0 kohm
4 P4-LE
0.0 kohm
100.00
0.00
100.0
100.0
5.0
5.0
0.0
0.0
-5.0
-5.0

19:19 | 013 | 7 uV | 10 seconds | Eyes Open | Current Montage

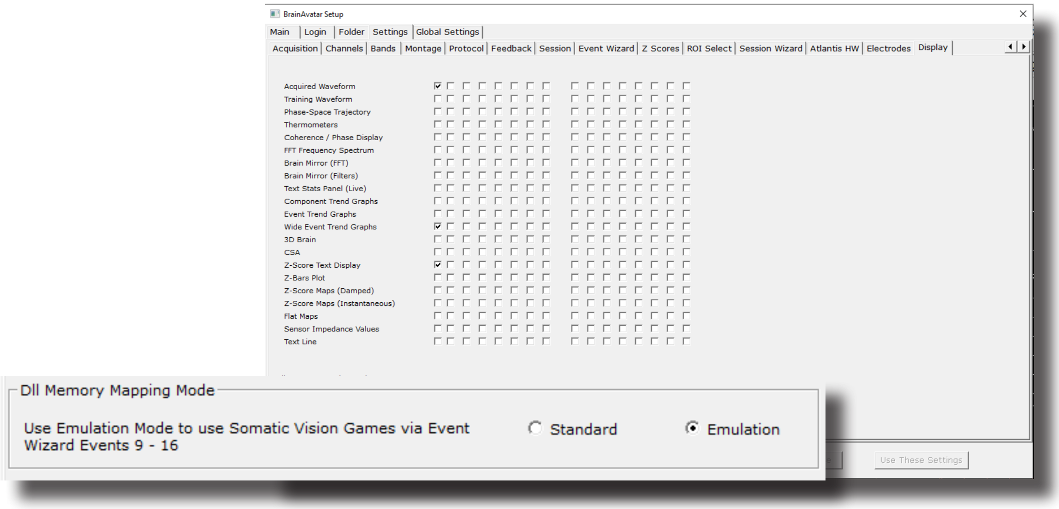
24-CHANNEL EEG

Timer 026.92 ms average 007.81 ms gap 025.09 usage 23.74 %%

| | |
|---|---|
| Z-Scores ZOKUL | 38.9 |
| Percent Reward | 41.3 |
| Upper Threshold | 1.5 |
| Lower Threshold | -1.5 |
| Flash Player | 1.0 |
| Amplitude Success | 0.0 |
| Amp + Event Check | 2.0 |

## Enabling Events to control Third-Party Games

1. If the Third-Party game is a SomaticVision Game (InnerTube or Particle Editor), the BrainMaster Software has to be set into Emulation Mode. This is accomplished in the Display Options Menu under the DLL Memory Mapping Mode.

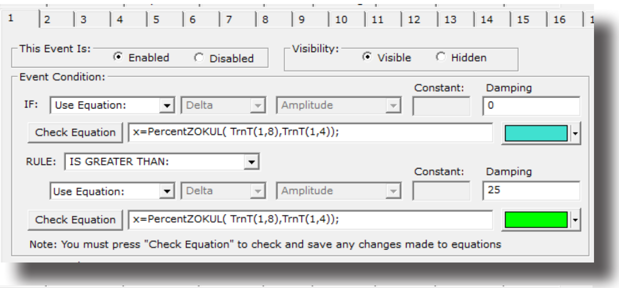

BrainAvatar Setup
Main
Login
Folder
Settings
Global Settings
Acquisition
Channels
Bands
Montage
Protocol
Feedback
Session
Event Wizard
Z Scores
ROI Select
Session Wizard
Atlantis HW
Electrodes
Display
Acquired Waveform
Training Waveform
Phase-Space Trajectory
Thermometers
Coherence / Phase Display
FFT Frequency Spectrum
Brain Mirror (FFT)
Brain Mirror (Filters)
Text Stats Panel (Live)
Component Trend Graphs
Event Trend Graphs
Wide Event Trend Graphs
3D Brain
CSA
Z-Score Text Display
Z-Bars Plot
Z-Score Maps (Damped)
Z-Score Maps (Instantaneous)
Flat Maps
Sensor Impedance Values
Text Line
Use These Settings

Dll Memory Mapping Mode

Use Emulation Mode to use Somatic Vision Games via Event Wizard Events 9 - 16 ○ Standard ● Emulation

2. Next we have to set the Events so that they will properly operate. This is accomplished, by utilizing Events 9-16 to emulate the Filtered Waveforms (Somatic Vision) or is just used by that software (BeyondVR). A list of the Events to what band they are referring to, see below (For this example, we are going to want the game to react to training done on the Lobeta band. Because of this, we will use Event 12). For proper reaction, the Event Condition must be Event must be met (For this example, we want the training reaction from Event 1. So, because of this the Event Condition is "IF Equation: x=E1A, is GREATER THAN Equation x=E1B"). You can do this for up to all 8 Events.

| Event Number | Third-Party "Filtered band |
|---|---|
| 9 | Delta |
| 10 | Theta |
| 11 | Alpha |
| 12 | Lobeta |
| 13 | Beta |
| 14 | Hibeta |
| 15 | Gamma |
| 16 | User |


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

This Event Is: ● Enabled ○ Disabled

Visibility: ● Visible ○ Hidden

Event Condition:

IF: Use Equation: Delta Amplitude Constant: Damping 0

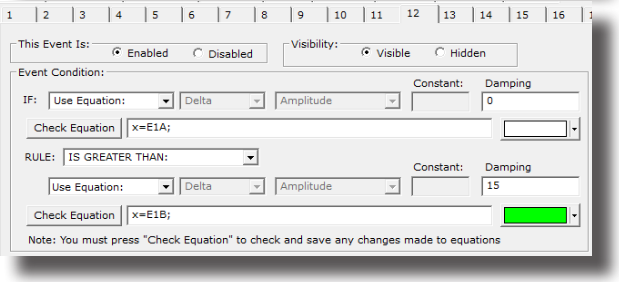
x=PercentZOKUL( TrnT(1,8),TrnT(1,4));

RULE: IS GREATER THAN:

Use Equation: Delta Amplitude Constant: Damping 25

x=PercentZOKUL( TrnT(1,8),TrnT(1,4));

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


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

This Event Is: ● Enabled ○ Disabled

Visibility: ● Visible ○ Hidden

Event Condition:

IF: Use Equation: Delta Amplitude Constant: Damping 0

x=E1A;

RULE: IS GREATER THAN:

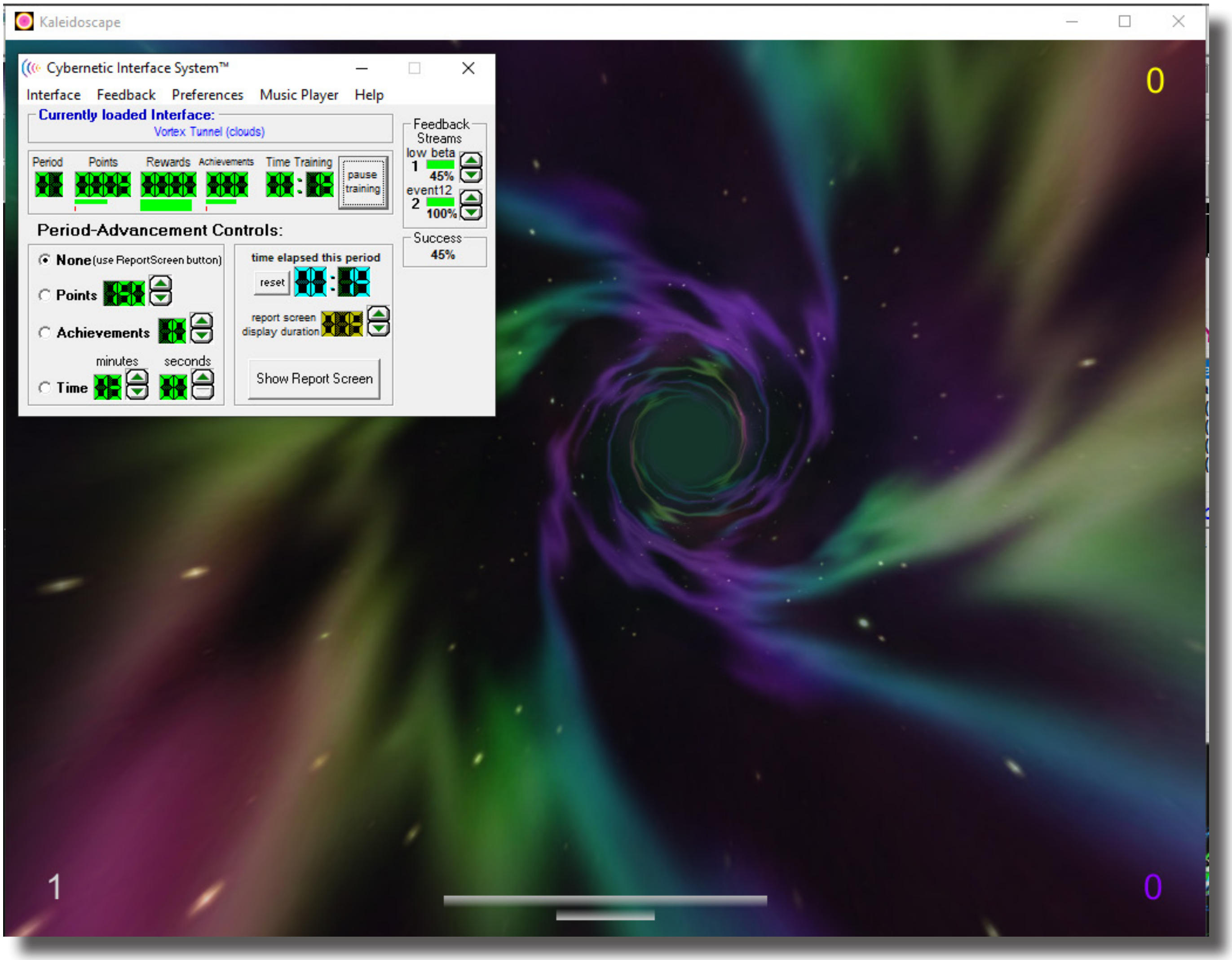
Use Equation: Delta Amplitude Constant: Damping 15

x=E1B;

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

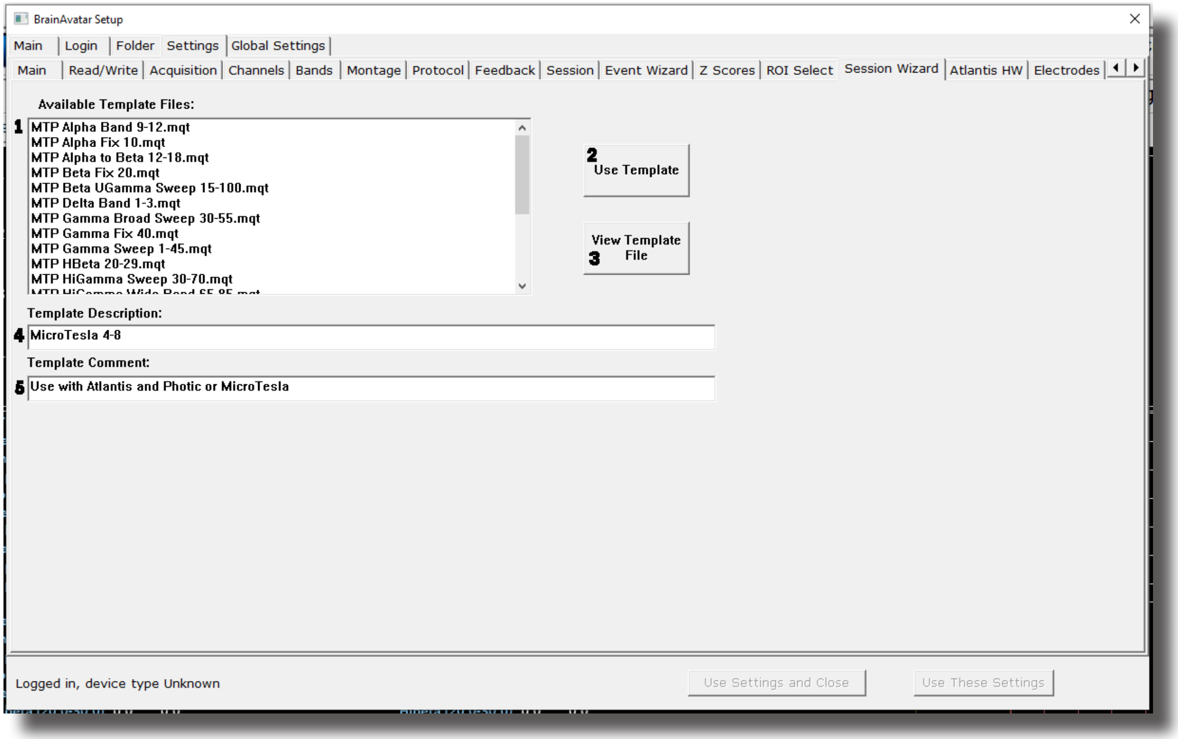
# Event Wizard

You have now enabled the BrainMaster protocol to have its Events be seen as a Filtered waveband in the third-party game. You will be able to see this, by starting the third-party game, and seeing the band that you chose to affect the games reward. If this is not working, please make sure that you have set the reward for the game to the bands that you have chosen.


Kaleidoscape
Cybernetic Interface System™
Interface
Feedback
Preferences
Music Player
Help
Currently loaded Interface:
Vortex Tunnel (clouds)
Period
Points
Rewards
Achievements
Time Training
pause training
Feedback Streams
low beta
1
45%
event12
2
100%
Success
45%
Period-Advancement Controls:
● None (use ReportScreen button)
○ Points
○ Achievements
minutes
seconds
○ Time
time elapsed this period
reset
report screen display duration
Show Report Screen
0
1
0

# Session Wizard

## Session Wizard Control Screen


BrainAvatar Setup
Main
Login
Folder
Settings
Global Settings
Main
Read/Write
Acquisition
Channels
Bands
Montage
Protocol
Feedback
Session
Event Wizard
Z Scores
ROI Select
Session Wizard
Atlantis HW
Electrodes
1
2
Use Template
View Template File
3
4
5
Use Settings and Close
Use These Settings

Available Template Files:

- MTP Alpha Band 9-12.mqt
- MTP Alpha Fix 10.mqt
- MTP Alpha to Beta 12-18.mqt
- MTP Beta Fix 20.mqt
- MTP Beta UGamma Sweep 15-100.mqt
- MTP Delta Band 1-3.mqt
- MTP Gamma Broad Sweep 30-55.mqt
- MTP Gamma Fix 40.mqt
- MTP Gamma Sweep 1-45.mqt
- MTP HBeta 20-29.mqt
- MTP HiGamma Sweep 30-70.mqt

Template Description: MicroTesla 4-8

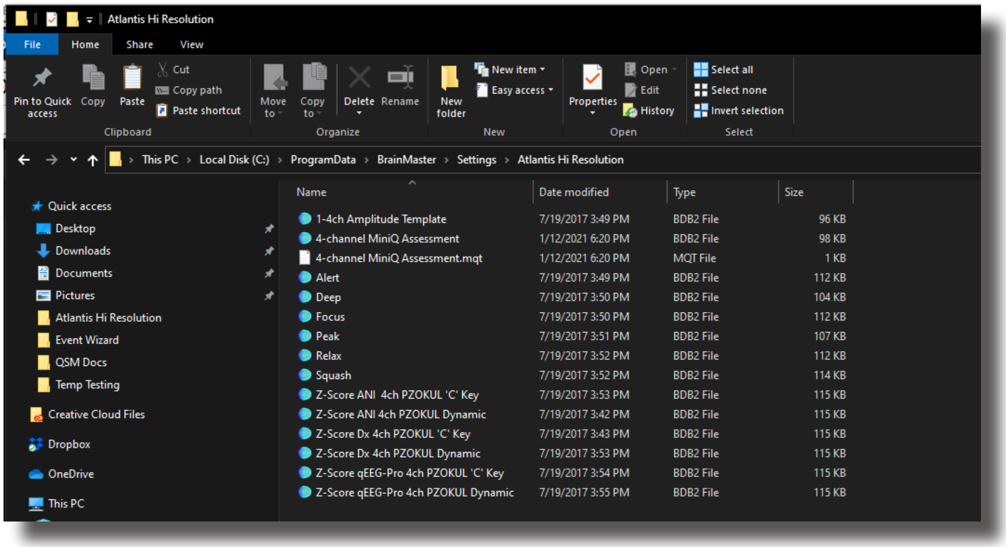
Template Comment: Use with Atlantis and Photic or MicroTesla

Logged in, device type Unknown

1. **Available Template Section –** Section where you can choose the Session Wizard Template you would like to use.
2. **Use Template Button –** Click to use the Session Wizard Template this is selected from the Available Template Section.
3. **View Template File Button –** Click to View the Template of the Session Wizard Template that has been selected.
4. **Template Description Section –** Section that displays the Template’s description of the selected Session Wizard Template.
5. **Template Comment Section –** Section that displays the Template’s comment of the selected Session Wizard Template.

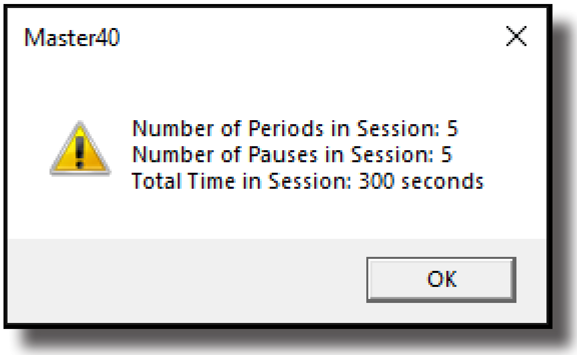
## Loading a Protocol that has a Pre-Loaded Session Wizard File

1. The Process for loading a Protocol that has a Pre-Configured Session Wizard File, is no different than the process in the BrainAvatar Trainee Screen (Page 35). Pre-Configured Protocols will have both the .bdb2 file as well as a .mqt file in the same working directory. If the matching .mqt file is not located in the same directory, this will not work as expected.


Atlantis Hi Resolution
File
Home
Share
View
Pin to Quick access
Copy
Paste
Cut
Copy path
Paste shortcut
Clipboard
Move to
Copy to
Delete
Rename
Organize
New folder
New item
Easy access
New
Properties
Open
Edit
History
Open
Select all
Select none
Invert selection
Select
This PC › Local Disk (C:) › ProgramData › BrainMaster › Settings › Atlantis Hi Resolution
Quick access
Desktop
Downloads
Documents
Pictures
Atlantis Hi Resolution
Event Wizard
QSM Docs
Temp Testing
Creative Cloud Files
Dropbox
OneDrive
This PC

| Name | Date modified | Type | Size |
|---|---|---|---|
| 1-4ch Amplitude Template | 7/19/2017 3:49 PM | BDB2 File | 96 KB |
| 4-channel MiniQ Assessment | 1/12/2021 6:20 PM | BDB2 File | 98 KB |
| 4-channel MiniQ Assessment.mqt | 1/12/2021 6:20 PM | MQT File | 1 KB |
| Alert | 7/19/2017 3:49 PM | BDB2 File | 112 KB |
| Deep | 7/19/2017 3:50 PM | BDB2 File | 104 KB |
| Focus | 7/19/2017 3:50 PM | BDB2 File | 112 KB |
| Peak | 7/19/2017 3:51 PM | BDB2 File | 107 KB |
| Relax | 7/19/2017 3:52 PM | BDB2 File | 112 KB |
| Squash | 7/19/2017 3:52 PM | BDB2 File | 114 KB |
| Z-Score ANI 4ch PZOKUL 'C' Key | 7/19/2017 3:53 PM | BDB2 File | 115 KB |
| Z-Score ANI 4ch PZOKUL Dynamic | 7/19/2017 3:42 PM | BDB2 File | 115 KB |
| Z-Score Dx 4ch PZOKUL 'C' Key | 7/19/2017 3:43 PM | BDB2 File | 115 KB |
| Z-Score Dx 4ch PZOKUL Dynamic | 7/19/2017 3:53 PM | BDB2 File | 115 KB |
| Z-Score qEEG-Pro 4ch PZOKUL 'C' Key | 7/19/2017 3:54 PM | BDB2 File | 115 KB |
| Z-Score qEEG-Pro 4ch PZOKUL Dynamic | 7/19/2017 3:55 PM | BDB2 File | 115 KB |

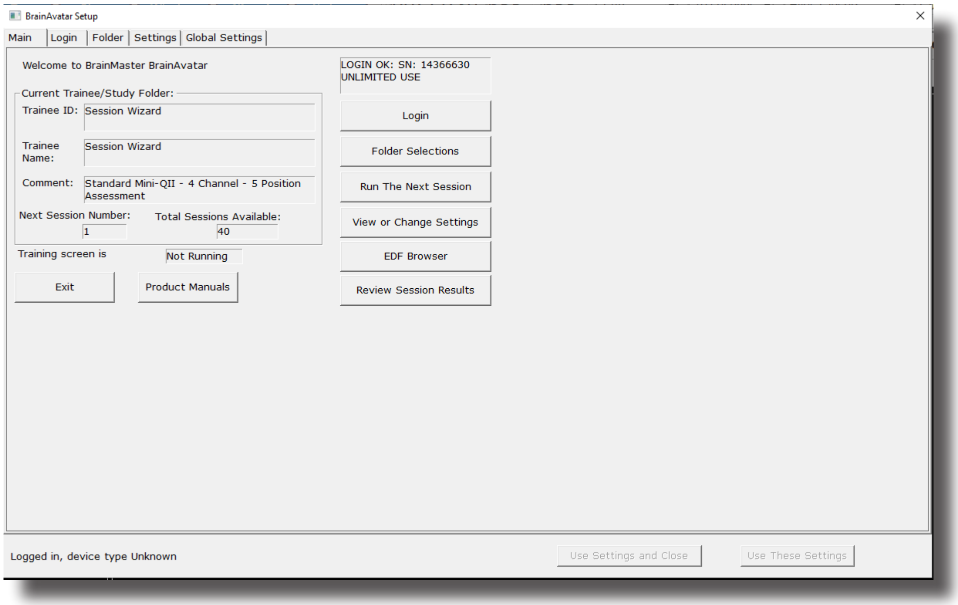
The protocol will now run, with various portions of the protocol being controlled by the Session Wizard File. You will be able to tell this, as there will be a message stating the Number of periods, pauses, and total time in the session, and/or site locations being acquired or trained.


Master40
OK

Number of Periods in Session: 5
Number of Pauses in Session: 5
Total Time in Session: 300 seconds

## Loading a Session Wizard File to a Pre-Existing Protocol

1. When you have loaded the trainee folder that you will utilize the Session Wizard File with, from the Main Menu, click the Settings Tab.


BrainAvatar Setup
Main
Login
Folder
Settings
Global Settings
Login
Folder Selections
Run The Next Session
View or Change Settings
EDF Browser
Review Session Results
Exit
Product Manuals
Use Settings and Close
Use These Settings

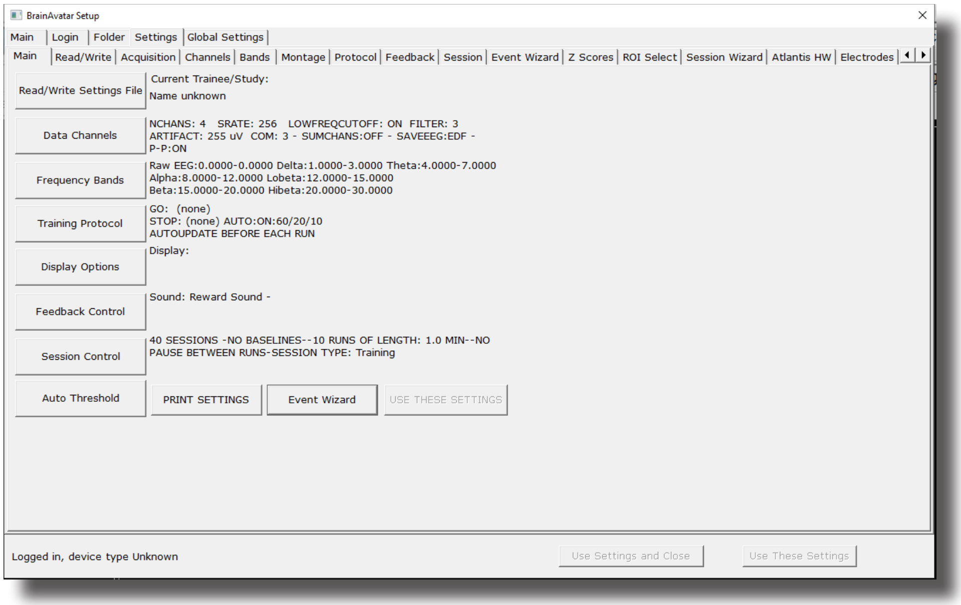
Welcome to BrainMaster BrainAvatar

LOGIN OK: SN: 14366630
UNLIMITED USE

Current Trainee/Study Folder:
Trainee ID: Session Wizard
Trainee Name: Session Wizard
Comment: Standard Mini-QII - 4 Channel - 5 Position Assessment
Next Session Number: 1
Total Sessions Available: 40
Training screen is Not Running

Logged in, device type Unknown

2. From the Setup Menu, click the Session Wizard Tab.


BrainAvatar Setup
Main
Login
Folder
Settings
Global Settings
Main
Read/Write
Acquisition
Channels
Bands
Montage
Protocol
Feedback
Session
Event Wizard
Z Scores
ROI Select
Session Wizard
Atlantis HW
Electrodes
Read/Write Settings File
Data Channels
Frequency Bands
Training Protocol
Display Options
Feedback Control
Session Control
Auto Threshold
PRINT SETTINGS
Event Wizard
USE THESE SETTINGS
Use Settings and Close
Use These Settings

Current Trainee/Study:
Name unknown

NCHANS: 4 SRATE: 256 LOWFREQCUTOFF: ON FILTER: 3
ARTIFACT: 255 uV COM: 3 - SUMCHANS:OFF - SAVEEEG:EDF -
P-P:ON

Raw EEG:0.0000-0.0000 Delta:1.0000-3.0000 Theta:4.0000-7.0000
Alpha:8.0000-12.0000 Lobeta:12.0000-15.0000
Beta:15.0000-20.0000 Hibeta:20.0000-30.0000

GO: (none)
STOP: (none) AUTO:ON:60/20/10
AUTOUPDATE BEFORE EACH RUN

Display:

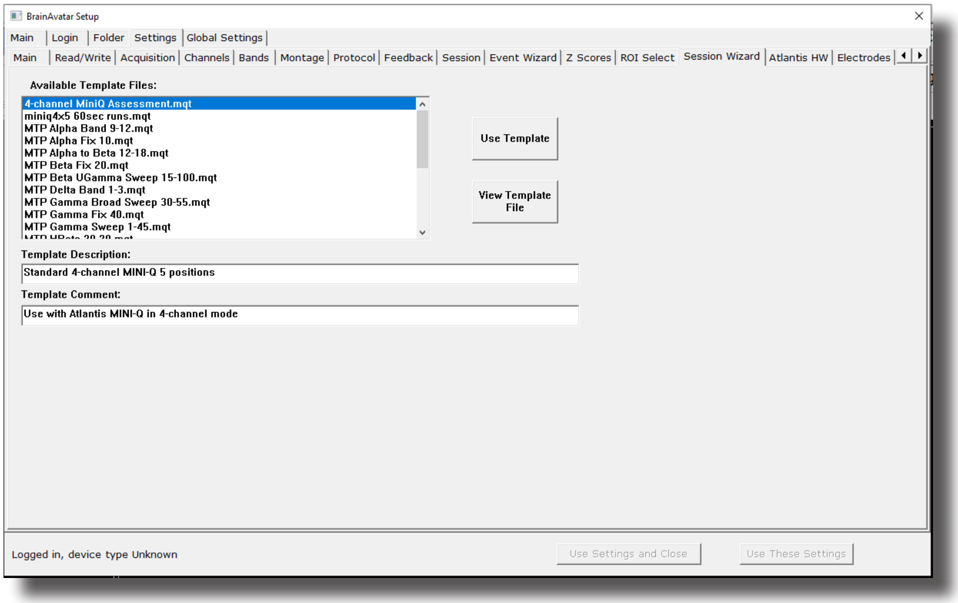
Sound: Reward Sound -

40 SESSIONS -NO BASELINES--10 RUNS OF LENGTH: 1.0 MIN--NO
PAUSE BETWEEN RUNS-SESSION TYPE: Training

Logged in, device type Unknown

# Session Wizard

3. From the Session Wizard Control Menu, choose the Session Wizard Template you would like to use. When you have the file you would like to use, click the Use Template Button to confirm the choice.


BrainAvatar Setup
Main
Login
Folder
Settings
Global Settings
Main
Read/Write
Acquisition
Channels
Bands
Montage
Protocol
Feedback
Session
Event Wizard
Z Scores
ROI Select
Session Wizard
Atlantis HW
Electrodes
Use Template
View Template File
Use Settings and Close
Use These Settings

Available Template Files:

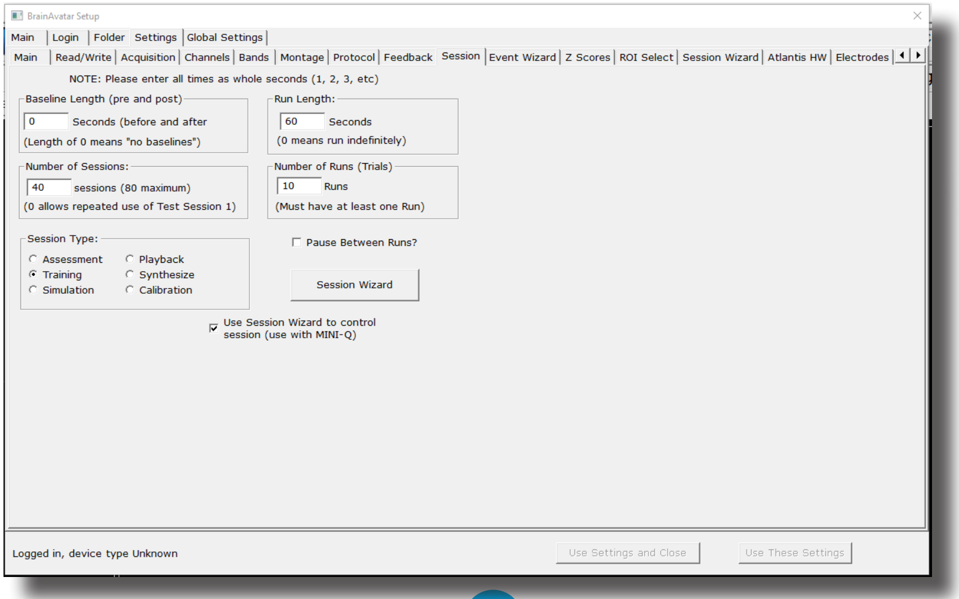
- 4-channel MiniQ Assessment.mqt
- miniq4x5 60sec runs.mqt
- MTP Alpha Band 9-12.mqt
- MTP Alpha Fix 10.mqt
- MTP Alpha to Beta 12-18.mqt
- MTP Beta Fix 20.mqt
- MTP Beta UGamma Sweep 15-100.mqt
- MTP Delta Band 1-3.mqt
- MTP Gamma Broad Sweep 30-55.mqt
- MTP Gamma Fix 40.mqt
- MTP Gamma Sweep 1-45.mqt

Template Description: Standard 4-channel MINI-Q 5 positions

Template Comment: Use with Atlantis MINI-Q in 4-channel mode

Logged in, device type Unknown

4. From the Session Wizard Control Menu, choose the Session Tab, and click the Use Session Wizard to control session (use with MINI-Q) to allow Session Wizard to be utilized.


BrainAvatar Setup
Main
Login
Folder
Settings
Global Settings
Main
Read/Write
Acquisition
Channels
Bands
Montage
Protocol
Feedback
Session
Event Wizard
Z Scores
ROI Select
Session Wizard
Atlantis HW
Electrodes
Session Wizard
Use Settings and Close
Use These Settings

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

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

Run Length: 60 Seconds
(0 means run indefinitely)

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

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

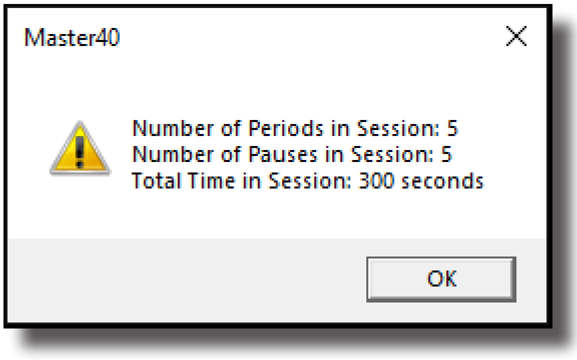
Session Type:
○ Assessment ○ Playback
● Training ○ Synthesize
○ Simulation ○ Calibration

☐ Pause Between Runs?

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

Logged in, device type Unknown

The protocol will now run, with various portions of the protocol being controlled by the Session Wizard File. You will be able to tell this, as there will be a message stating the Number of periods, pauses, and total time in the session, and/or site locations being acquired or trained.



Number of Periods in Session: 5
Number of Pauses in Session: 5
Total Time in Session: 300 seconds

## Data Dictionary for the Session Wizard

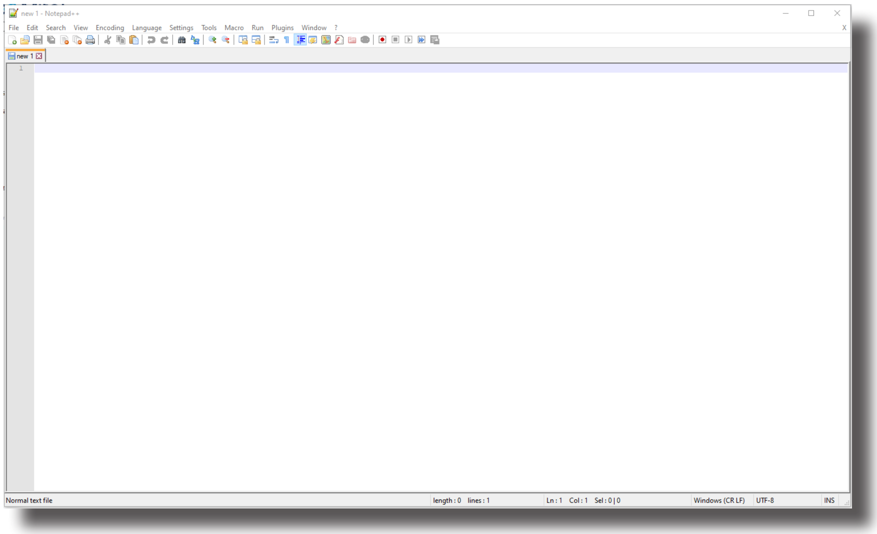
| | |
|---|---|
| **Session Wizard Basic Variables** | |
| NAME | Defines the name of the Session Wizard Template. The name placed here, will be in view on the Sesssion Wizard Control Screen. |
| VERSION | Defines what version of the Session Wizard Template. This is not displayed anywhere only in the actual Session Wizard Template |
| COM | Defines the comment of the Session Wizard Template. The comment placed here, will be in view on the Session Wizard Control Screen |
| NCHANS | Defines the number of channels that will be used by the Session Wizard Template. |
| DO | Starts the Session Wizard Template. |
| DONE | Ends the Session Wizard Template. |
| // | Classifies a comment for the user. Use to place comments in your Session Wizard Template, with-out the Session Wizard seeing these comments. |
| BEGCYCLE | Begins an area to create a pre-defined cycle to be used in the DO section of the Session Wizard Template. The CYCLE is created outside of the DO Section. |
| ENDCYCLE | Ends an area to create a pre-defined cycle to be used in the DO section of the Session Wizard Template. The CYCLE is created outside of the DO section. |
| DOCYCLE | Used in the DO section of the Session Wizard Template. Calls to a pre-defined CYCLE with-in the Sessio Wizard Template. |
| **Session Wizard Session Variables** | |
| MESG1 | Displays a message before the run begins. |
| MESG2 | Displays a message after the run ends. |
| SITES | Programs the run for the specific locations that will be acquired/trained. |
| PERIOD | States how long the run will be |
| FEEDBACK | Variable that can be used for the Session Wizard Template. This value will only be kept for the period declared. |

| | |
|---|---|
| DUTY | Percentage Variable that controls the FEEDBACK variable. This allows FEEDBACK to be worth its stated value for the percentage of time of DUTY (If PERIOD is 30, FEEDBACK is 10, and DUTY is 50, then FEEDBACK=10 |
| INTENSITY | Variable that can be used for the Session Wizard Template. This value will only be kept for the period declared. |
| Session Wizard Session Variables for Discovery | |
| EYES OPEN | Creates an EDF File with the EO mark when the PERIOD is complete. |
| EYES CLOSED | Creates an EDF File with the EC mark when the PERIOD is complete. |
| TASK | Creates an EDF File with the TASK mark when the PERIOD is complete. You will have to declare the Task for this. |
| Session Wizard Session Variables for Peripherals | |
| PHOTICRATE | Variable that sets the rate for Photic glasses to be used for the Session Wizard Template. This value will only be kept for the period declared. |
| PHOTICENABLE | Enable or Disable Photic Output. 1 Enables Photic Output. 0 Disables Photic Output. |

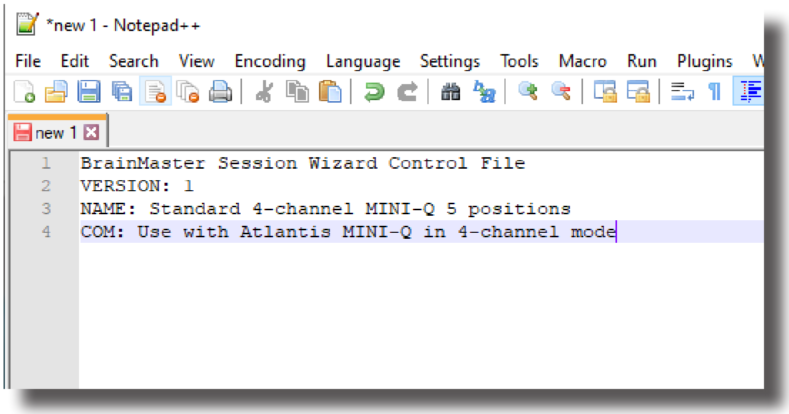
## Designing a Session Wizard Template

*****PLEASE NOTE:** A Session Wizard Template can be designed in any Notepad-based program. For this demonstration, Notepad++ is used. For more information on Notepad++, please visit [http://notepad-plus-plus.org/](http://notepad-plus-plus.org/).

1. Open your Notepad-based program.

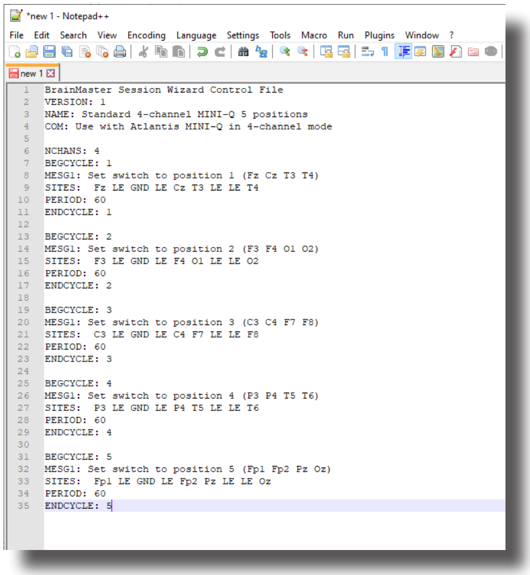

new 1 - Notepad++
File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?
new 1
Normal text file
length : 0 lines : 1
Ln : 1 Col : 1 Sel : 0 | 0
Windows (CR LF)
UTF-8
INS

2. Create your Header information. The Header information will contain the Line “BrainMaster Session Wizard Control File”. It will also contain the Version, Name, Comment, and Number of channels.


*new 1 - Notepad++
File Edit Search View Encoding Language Settings Tools Macro Run Plugins W
new 1

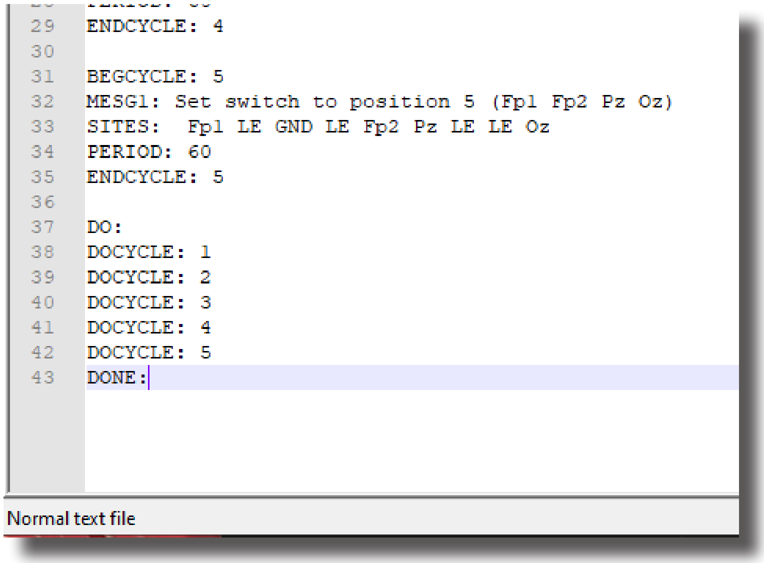
```
BrainMaster Session Wizard Control File
VERSION: 1
NAME: Standard 4-channel MINI-Q 5 positions
COM: Use with Atlantis MINI-Q in 4-channel mode
```

3. Next, define the number of Training Channels that will be controlled by the Session Wizard File, as well as create any cycles that will be used.


*new 1 - Notepad++
File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?
new 1

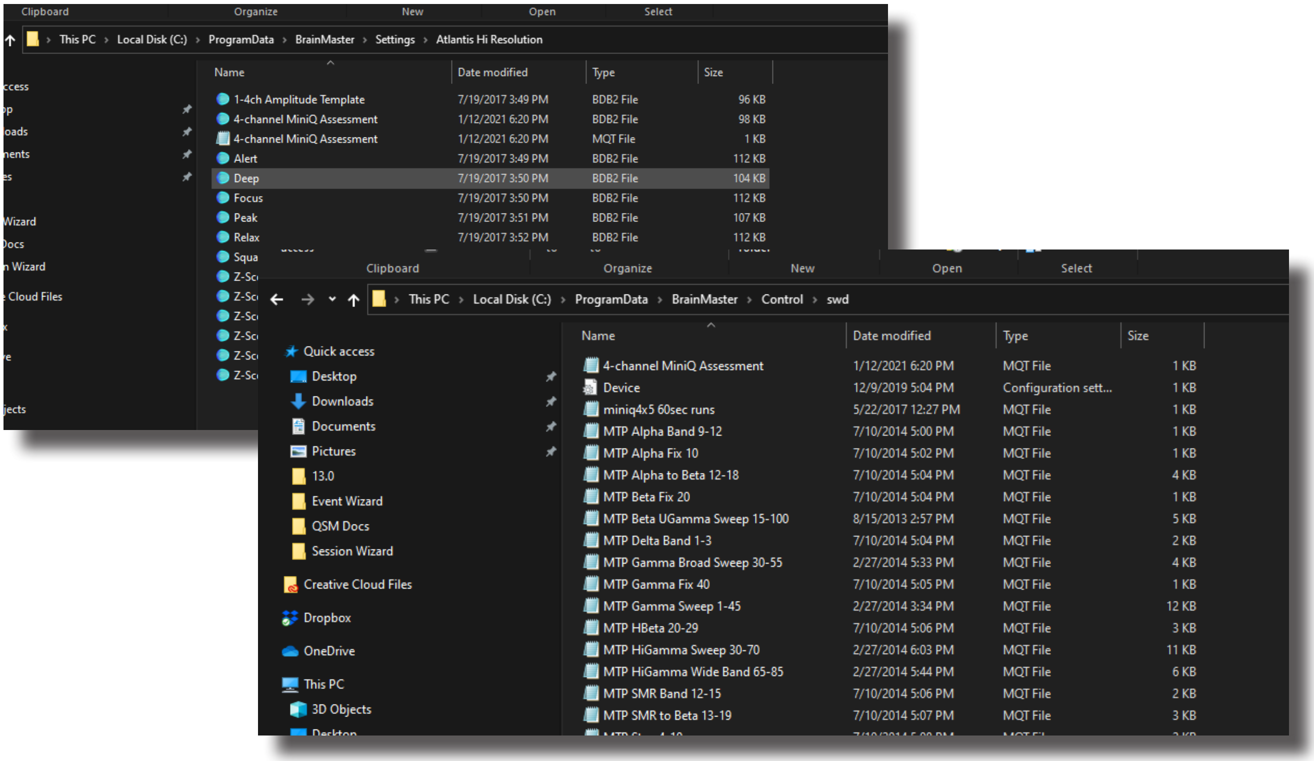
```
BrainMaster Session Wizard Control File
VERSION: 1
NAME: Standard 4-channel MINI-Q 5 positions
COM: Use with Atlantis MINI-Q in 4-channel mode

NCHANS: 4
BEGCYCLE: 1
MESG1: Set switch to position 1 (Fz Cz T3 T4)
SITES:  Fz LE GND LE Cz T3 LE LE T4
PERIOD: 60
ENDCYCLE: 1

BEGCYCLE: 2
MESG1: Set switch to position 2 (F3 F4 O1 O2)
SITES:  F3 LE GND LE F4 O1 LE LE O2
PERIOD: 60
ENDCYCLE: 2

BEGCYCLE: 3
MESG1: Set switch to position 3 (C3 C4 F7 F8)
SITES:  C3 LE GND LE C4 F7 LE LE F8
PERIOD: 60
ENDCYCLE: 3

BEGCYCLE: 4
MESG1: Set switch to position 4 (P3 P4 T5 T6)
SITES:  P3 LE GND LE P4 T5 LE LE T6
PERIOD: 60
ENDCYCLE: 4

BEGCYCLE: 5
MESG1: Set switch to position 5 (Fp1 Fp2 Pz Oz)
SITES:  Fp1 LE GND LE Fp2 Pz LE LE Oz
PERIOD: 60
ENDCYCLE: 5
```

4. Now, create the DO section of the template section of the Session Wizard Template. All that is created in the DO section will control the session. When the DO section is completed, end with DONE.



```
ENDCYCLE: 4

BEGCYCLE: 5
MESG1: Set switch to position 5 (Fp1 Fp2 Pz Oz)
SITES:  Fp1 LE GND LE Fp2 Pz LE LE Oz
PERIOD: 60
ENDCYCLE: 5

DO:
DOCYCLE: 1
DOCYCLE: 2
DOCYCLE: 3
DOCYCLE: 4
DOCYCLE: 5
DONE:
```

5. When completed with you Session Wizard Template, it is now time to save it.  The location that you will need to save this in for use is c:\ProgramData\BrainMaster\Settings as well as the c:\ProgramData\BrainMaster\control\swd with the exact name that matches the Settings it will be used with for use in the BrainMaster BrainAvatar Software.  You will save the file as  “YourSessionWizardTemplateName”.mqt.  If you are using a Notepad program that allows this action, no further action will be required.  If you are using a Notepad program that will not support this naming, you will have to force the .mqt ending in Windows manually.



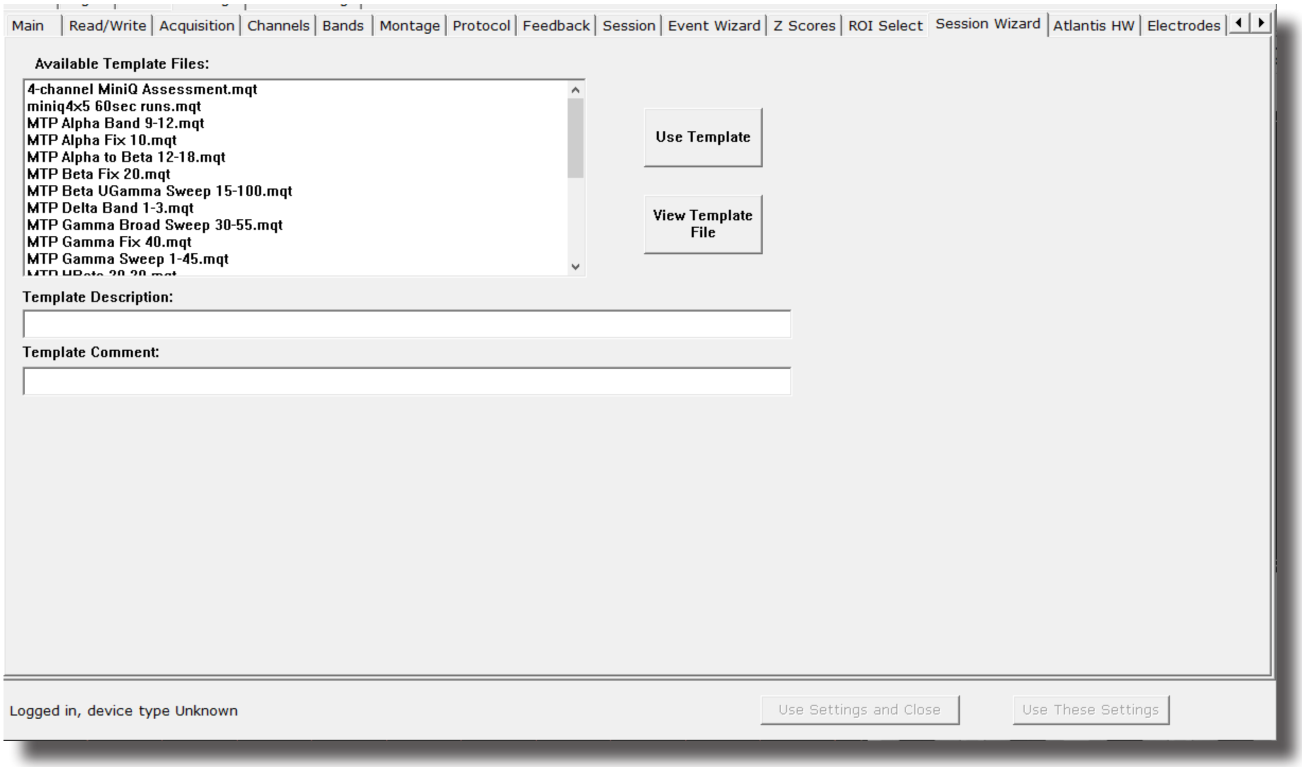
This PC › Local Disk (C:) › ProgramData › BrainMaster › Settings › Atlantis Hi Resolution

| Name | Date modified | Type | Size |
|---|---|---|---|
| 1-4ch Amplitude Template | 7/19/2017 3:49 PM | BDB2 File | 96 KB |
| 4-channel MiniQ Assessment | 1/12/2021 6:20 PM | BDB2 File | 98 KB |
| 4-channel MiniQ Assessment | 1/12/2021 6:20 PM | MQT File | 1 KB |
| Alert | 7/19/2017 3:49 PM | BDB2 File | 112 KB |
| Deep | 7/19/2017 3:50 PM | BDB2 File | 104 KB |
| Focus | 7/19/2017 3:50 PM | BDB2 File | 112 KB |
| Peak | 7/19/2017 3:51 PM | BDB2 File | 107 KB |
| Relax | 7/19/2017 3:52 PM | BDB2 File | 112 KB |

This PC › Local Disk (C:) › ProgramData › BrainMaster › Control › swd

| Name | Date modified | Type | Size |
|---|---|---|---|
| 4-channel MiniQ Assessment | 1/12/2021 6:20 PM | MQT File | 1 KB |
| Device | 12/9/2019 5:04 PM | Configuration sett... | 1 KB |
| miniq4x5 60sec runs | 5/22/2017 12:27 PM | MQT File | 1 KB |
| MTP Alpha Band 9-12 | 7/10/2014 5:00 PM | MQT File | 1 KB |
| MTP Alpha Fix 10 | 7/10/2014 5:02 PM | MQT File | 1 KB |
| MTP Alpha to Beta 12-18 | 7/10/2014 5:04 PM | MQT File | 4 KB |
| MTP Beta Fix 20 | 7/10/2014 5:04 PM | MQT File | 1 KB |
| MTP Beta UGamma Sweep 15-100 | 8/15/2013 2:57 PM | MQT File | 5 KB |
| MTP Delta Band 1-3 | 7/10/2014 5:04 PM | MQT File | 2 KB |
| MTP Gamma Broad Sweep 30-55 | 2/27/2014 5:33 PM | MQT File | 4 KB |
| MTP Gamma Fix 40 | 7/10/2014 5:05 PM | MQT File | 1 KB |
| MTP Gamma Sweep 1-45 | 2/27/2014 3:34 PM | MQT File | 12 KB |
| MTP HBeta 20-29 | 7/10/2014 5:06 PM | MQT File | 3 KB |
| MTP HiGamma Sweep 30-70 | 2/27/2014 6:03 PM | MQT File | 11 KB |
| MTP HiGamma Wide Band 65-85 | 2/27/2014 5:44 PM | MQT File | 6 KB |
| MTP SMR Band 12-15 | 7/10/2014 5:06 PM | MQT File | 2 KB |
| MTP SMR to Beta 13-19 | 7/10/2014 5:07 PM | MQT File | 3 KB |

You have now created a Session Wizard Template, that can now be used for future sessions. You will be able to tell that this has been completed, by opening the Session Wizard Control Screen, and seeing your newly created Session Wizard Template ready for use. Or, by simply choosing the protocol that matches it's name.


Main
Read/Write
Acquisition
Channels
Bands
Montage
Protocol
Feedback
Session
Event Wizard
Z Scores
ROI Select
Session Wizard
Atlantis HW
Electrodes
Use Template
View Template File
Use Settings and Close
Use These Settings

Available Template Files:

4-channel MiniQ Assessment.mqt
miniq4x5 60sec runs.mqt
MTP Alpha Band 9-12.mqt
MTP Alpha Fix 10.mqt
MTP Alpha to Beta 12-18.mqt
MTP Beta Fix 20.mqt
MTP Beta UGamma Sweep 15-100.mqt
MTP Delta Band 1-3.mqt
MTP Gamma Broad Sweep 30-55.mqt
MTP Gamma Fix 40.mqt
MTP Gamma Sweep 1-45.mqt

Template Description:

Template Comment:

Logged in, device type Unknown

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