

BrainMaster BrainAvatar Software User Manual

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Minimum PC Computer Requirements

BrainAvatar™ 4.0 Software

CPU:	Quad-core or above
Operating System:	Windows Vista, Windows 7, Windows 8 Professional with Media Center Pack Add-On
Memory(RAM):	4GB
Graphics Card:	DirectX 10 or above compatible graphics card
	1GB Dedicated
Optical Drives:	DVD-ROM Drive: Required for BMrDVD**
Input:	1 USB Port
Additional SW:	Microsoft Office: Required for certain reports and EEGAudio**
	Windows Media Player or 3rd Party DVD Decoder: Required for BMrDVD**
	Adobe Acrobat Reader
	Adobe Flash Player: Required for BMrFlash Player
	Adobe Shockwave Player: Required for BMrFlash Player

*BMrMMP is an optional purchase

BrainAvatar Software Display

Main Screen Menu

Avatar Setup	where there have been top		
Main Login	Folder Settings EDF Browser Review Global	Settings	
) BrainMaster Avatar inee/Study Folder:	1LOGIN OK: SN: 60229 UNLIMITED USE CLINICAL LICENSE	
	Temporary Session	1	
		3 Login	
Trainee Name:		4 Folder Selections	
Comment:	comment	5 Run The Next Session	
Next Session	1 Total Sessions Available:	6 View or Change Settings	
Training scre	een is Not Running click here to	7 EDF Browser	
10 Exit	11Product Manuals refresh this screen	8 Review Session Results	
Logged in, dev	ice type Discovery		12Use Settings and Close 13Use These Settings Exit

- 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.
- Exit Button Click to close the Avatar Setup Screen. ***Please Note: We do not at any point in time recommend that you use the red "X" located in the top portion of the various menus and screens of our software, unless otherwise stated.
- 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

BrainAvatar Setup			×
Main Login Folder Settings EDF Browser Review Global Settings 1 Current Login Approved for Clinical Please enter your module Serial Number and PassKey; 2 CLINICAL LICENSE (You may enter "basic" with no PassKey for basic use) Serial Number: 3 60266 : THY9W-#-#=-#-# > PassKey: 4 THY9W-HUEAW-KRB19-CWSRU-7H18E _ Delete This Key ANI Z DLI Z Score Training is enabled ANI Z DLI Personal Information: _ _ _ _ 7 Login 7 _ _ _ _			×
– Logged in, device type Discovery	Use Settings and Close	Use These Settings	Exit

- 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.
- 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.
- 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.

Avatar Setup Main Login Folder Settings EDF Browser Review (Slobal Settings	×
Select Folder Create Folder Folder Notes Session Libr		
Select Folder: (you may double-click to select)		
1 [] [Temporary Session]	2 Create New Folder	
	3 Folder Notes	
	4 Session Librarian	
	5 Edit Folder Info.	
	6 ОК	
File Name (Trainee ID):		
Temporary Session Trainee Name:	Sessions Used:	
Comment:	0	
comment	Max Sessions:	
	9999	
Session Genie		
7 Administer Session Genie	8 Push to Server and Delete Folder	
Logged in, device type Discovery		Use These Settings Exit

- 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. **Session Librarian Button** Click this to utilize the Session Librarian to create a BMZ File. You can also click the Session Librarian Tab at the top.
- 5. 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.
- 6. **OK Button** Click to confirm the folder that you have highlighted and exit the Select Trainee/Study Folder Menu
- Administer Session Genie Click to utilize the Session genie. ***PLEASE NOTE: Administer Session Genie will not be available on Remote User Systems.
- 8. **Push to Server and Delete Folder** 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.

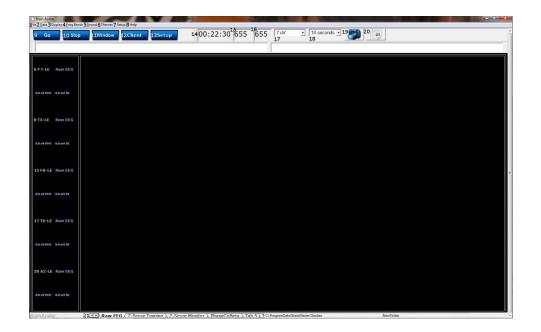
BrainAvatar Setup	the local data in the	The second second	×
Main Login Folder Settings EDF Browser Review Global Settings			
Select Folder Create Folder Folder Notes Session Librarian Edit Folder Info.			
1			
	2 Save		
Logged in, device type Atlantis	Use Settings and Close	Use These Settings	Exit

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

BrainAvatar Setup		
ain Login Folder Settings EDF Browser Review Global Settings		
Select Folder Create Folder Folder Notes Session Librarian Edit Folder Info.		
Editing Demographics for Trainee/Study: folder name		
Name:		
CreatingTrainingFolder		
1 Comment:		
comment		
2 Birthdate 01- Jan - 2001 + 4Age: 50 5 Gender: M	M or F	
3 Compute Age 6 Recording Conditions		
6 Recording Conditions	-cap",	
6 Recording Conditions C Eyes Open C Eyes Closed C Task Task ID Number	-cap*,	
6 Recording Conditions C Eyes Open C Eyes Closed C Task Task ID Number 7 Sensor e.g. "gold disk electrode" or "tin electro		
6 Recording Conditions C Eyes Open C Eyes Closed C Task Task ID Number 7 Sensor electrode e.g. "gold disk electrode" or "tin electro 8 Investigator / EEG tech		(E

- 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.
- 3. **Compute Age Button** Click to automatically compute the age of the client based on their entered Birthday.
- 4. Age Line Line where you enter the clients age.
- 5. Gender Line Line where you enter the clients gender.
- 6. Recording Conditions Section Section where you can adjust the 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.

Training/Control Screen



- 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.
- 19. **Picture Button** Click to capture a screenshot of what is happening on the screen. The image will be saved to the Current Study folder.
- 20. **Report Button** Click to create a report, that will take a screen capture and save the picture in this report.
- 21. Tab Section Area where you can switch which display tab you wish to look at.

opups X-Wing	BoxFlow	2 BMr Multimedia MultiMedia Playe		lacromedia lash Player
BrainMan	Mini BMirr	DVD Player	5 Additio	onal Software
2D Spectral	BrainScape	4 Audio/Video Interfa	aces	G Synthesizer
Numbers	TrendView	AVI Extensions		Browse
Thermos	LongTrend			
Waves	Circles	6 Contributed Games	Puzzle	Space
LissaView	ReturnMap	George Martin's Jim Zdunek's	Cricket	BugRun
		8 Cancel		

- 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.
- 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.
- 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.
- 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

Avatar Setu	up	
Main Lo	gin Folder Setti	ings EDF Browser Review Global Settings
1 Main R	Read/Write Channe	els Bands Protocol Display Feedback Session Event Wizard Acquisition Montage Auto Threshold Z Scores Session Wizard
1 Read/W	Mailes Cablinger City	Current Trainee/Study: Name unknown
1 Da	ata Channels	NCHANS: 2 SRATE: 256 LOWFREQCUTOFF: OFF FILTER: 3 ARTIFACT: 240 uV COM: 0 - SUMCHANS:OFF - SAVEEEG:EDF - PP:ONF3-LE F4-LE
1 Fred	quency Bands	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 Hubeta:20.0000-30.0000
1 Trai	ining Protocol	GO: (none) STOP: (none) AUTO:ON:0/0/0 AUTOUPDATE BEFORE EACH RUN
1 Dis	splay Options	Display:
1 Fee	edback Control	Sound:
1 Ser		9999 SESSIONS -BASELINES: 1.0 MINUTES8 RUNS OF LENGTH: 2.0 MINPAUSE BETWEEN RUNS-SESSION TYPE: Training
1 Au	uto Threshold	2 PRINT SETTINGS 3 USE THESE SETTINGS
Logged in,	, device type Disco	Use Settings and Close Use These Settings Exit

- 1. Various Menu Buttons Click to open the associated menus. You can also click the tabs that are located at the top.
- PRINT SETTINGS Button Click to print a hard copy of all of your Settings.
 USE THESE SETTINGS Button Click to confirm all settings changes.

Read/Write Settings File Menu

Avstar Setup Main Login Folder Settings EDF Browser Review Global Settings Main Read/Write Channels Bands Protocol Display Feedback Sess 1Built-In Settings Identifies (double-click to read in settings and proceed) If chan therms.bdb2 Feedback Sess Image: Settings Settings Settings Image: Settings Settings Settings Settings Image: Se	sion Event Wizard Acquisition Montage Auto Threshold Z Scores Session Wizard Use this screen to manage your Settings File tibrary. You can change settings within any trained-study folder, without using this screen. 2 Save Current Settings to a New File Settings Description: Directory: Temporary Session 3 Read In Settings From a Selected File 5 Cancel 4 OK
Logged in, device type Discovery	Use Settings and Close Use These Settings Exit

- 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. See 533-311 for more information.
- 2. Save Current Settings to a New File Button Click to save the current Studies folders settings into a new Settings file. See 533-311 for more information
- 3. Save Current Settings To Selected File Button Click to save the current Studies folder settings into the selected Settings file from the Settings File Name Section. See 533-311 for more information.
- 4. **Read In Settings From Selected File Button** Click to read the Settings file from the Settings File Name Section into the current Studies folder. See 533-311 for more information.
- 5. OK Button Click to confirm changes and exit the Read/Write Settings File Menu.
- 6. **Cancel Button** Click to cancel changes and exit the Read/Write Settings File Menu.

Data Channels Menu

5			Brai	nAvatar Setup						
Main Login Folder Settings EDF Browser Review Global Set	tings									
Main Read/Write Channels Bands Protocol Display Feedba	ck Sess	ion	Event	Wizard Acqu	isitior	Montag	ge Z Scores	Session Wizar	d Atlantis HW	
1 Training Channels: 2Software Digital Filter Order: One C nIR HEG C 1 C 2 C 3 C 4 C 5		Act. 14	Eqn. 15	Active 16	Refe 17	erence	User Label 18	19	Equation	
C Two pIR HEG or C Four TEMP I lower order is faster, higher	1	Ч П	Г	C3 -	A1	•	 	C3-A1;		-
C Other: 1 order is more selective	3	Г	Г							
3Sum-Channel Mode: C ON © OFF 4 Acquisition Control	4		Г			-	İ			
64-channel Sum Method: C Split Combine 5 Atlantis Hardware Control	6			× ×	-	*		-		-
7File Output 8 Amplitude Scale: © EDF+ ASCII (CSV format)	7 8						[
Lexicor F BSM BDF+ F BBSM 255 microvolts	9	Г	Г	×		<u> </u>				
9 Low Frequency Cutoff	11	Ε	Г			× •	[
11 Software Notch Filters:	12	Г	Г	<u>*</u>		~				
🔽 60 Hz Notch Filter 🗌 50 Hz Notch Filter	13	Г	Г	<u>*</u>		-				
NOTE: Using both 50 Hz and 60 Hz filters produces a bandwidth of 1.5 Hz to 40 Hz ("MindSet" Compatible).	14 15		Г	<u> </u>	_	 				
12 EEG Data Sampling Rate:	16	Г	Г		<u> </u>			í — — — — — — — — — — — — — — — — — — —		-
	17	Г	Г		í –	~	<u> </u>	- í		-
1	18	Г	Г		<u> </u>			·		-
13 Electrodes & Trainee Info	19	Г	Г							-
	20	Г	Г		<u> </u>					-
	21	Г	Г		<u></u>					
	22									1
ogged in, device type Discovery	12.5						Jse Settings a	nd Close	Use These Settings	Exit

- 1. **EEG 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. **Discovery Acquisition Control Button** Click to enter the Discovery Acquisition Control Menu. You can also click the tab at the top.
- 5. Atlantis Hardware Control Button Click to enter the Atlantis Hardware Control Menu. You can also click the 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. **Amplitude Scale Section** Section where you can set the Amplitude scale to either Peak-to-Peak or RMS.
- 8. **File Output Section** Section where you can choose what type of File Outputs that you would like to be created for review.
- 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. **EEG Data Sampling Rate Section** Section where you can adjust the Sample rate you are collecting from the data.
- 13. Electrode & Trainee Info Button Click to enter the Electrode & Trainee Info Menu. You can also click the Tab (Montage) at the top.

Data Channels Menu (Continued)

$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	Training Channels: 2Software Digital Filter Order:		Act. Eqr 14 15		Reference 17	User Label 18	Equation 19	
C ON G OFF 4 Acquisition Control 54-channel Sum Method: 5 Atlantis Hardware Control 5 5 Combine 8 Amplitude Scale: 7 7 7 E00-00 8 Amplitude Scale: 7 7 7 E00-00 9 Amplitude Scale: 7 7 7 E00-00 10 Artifact Threshold: 8 7 7 8 E00-00 10 Artifact Threshold: 255 microvolts 9 7 7 9 E00-00 10 F 9 7 7 9 10 10 F 7 9 7 7 9 10 10 F 7 9 7 7 10 10 9 6 7 7 9 10 <	C Four TEMP lower order is faster, higher order is more selective	1 2 3		C3 •	A1 •		C3-A1;	
Generative Spite S Attantis Hardware Control S Attantis Hardware Control C Spite C Combine S Amplitude Scale: 7 F E0F+ G Pask-to-Pask C PMS 8 7 7 F E0F+ G Pask-to-Pask C PMS 8 7 7 9 I DArtifact Threshold: 255 microvolts 9 7 7 7 I DArtifact Threshold: 255 microvolts 9 7 7 7 7 I Software Notch Filters: I Software Notch Filter 50 Hz Notch Filter 50 Hz Notch Filter 10 7 7 7 11 7 7 11 12 12 12 7 7 12 13 14 17 14 14 15 15 15 15 15 15 15 15 15 16 17 7 16 17	C ON © OFF 4 Acquisition Control	4			_			
If EDF-f Image: Comparison of the peak-to-Peak if RMS Image: Comp	C Split Combine 5 Atlantis Hardware Control	6			<u> </u>			
1200 Frequency Cutoff Image: Cutoff of the second seco	F EDF+ C Peak-to-Peak C RMS ASCII (CSV format) IOArtifact Threshold: IOArtifact Threshold:	7 8 9			* *			
III software Notch Filters: IV 60 Hz Notch Filter 50 Hz Notch Filter IV 60 Hz Notch Filter NOTE: Using both 50 Hz and 60 Hz filters produces a bandwidth of 1.5 Hz to 40 Hz ('MindSet' Compatible). IV IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII		11	ГГ					
bandwidth of 1.5 Hz to 40 Hz ("MindSet" Compatible). 15 7 7 12 EEG Data Sampling Rate: 16 7 7 7 13 Electrodes & Trainee Info 19 7 7 7					<u>v</u>		-	
12 EEG Data Sampling Rate: 16 7 7 13 Electrodes & Trainee Info 19 7 7					<u> </u>			
13 Electrodes & Trainee Info		100	1. A.					
	13 Electrodes & Trainee Info				¥ ¥			

- 14. 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.
- 15. 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.
- 16. 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.
- 17. **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.
- 18. 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.
- 19. 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.

Main Login Folder Settings EDF Browser Review Global Settings Main Read/Write Channels Bands Protocol Display Feedback Sess Select Channels to Acquire © Discovery C Atlantis Beforential C Atlantis Bipolar F7 F3 F2 F4 F8 T3 C3 C2 C4 T4 T5 P3 P2 P4 T6 A1 O1 O2 O2 A2 23A 23R OND 24R AUX1 AUX1 	24A 23A 8 Edit Aux
	DC2 F DCE1 F DCE2 DC4 F DCE3 F DCE4 1
Logged in, device type Discovery	Use Settings and Close Use These Settings

- Select Channels to Acquire Section Section where you can choose individual channels to either acquire, or not acquire from. If you are using an Atlantis, this lets you choose between Atlantis Referential (Using the acquisition screen to choose your training sites and channel order acquired to LE or A1), or Bipolar (Defining the connection and channel order through the Montage Screen).
- 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. Edit Aux Button Click to change the names of the 23A, 23R, 24A, and 24R.
- 9. **Standard Settings Button** Click to change the acquired channels to the Standard 20 Channel (See Picture above).
- Add Trained Channels Button Click to add only the trained channels to be acquired.
 ***PLEASE NOTE: You must acquire from the channels or sites that are being used for amplitude training.

*Atlantis Switch outputs do not come standard

Montage Info Menu

Brain	Avata	r Setup	Contract of Contract of	Succession of the	-		
Main	Log	gin F	older Setting	gs EDF Brow	vser Review G	obal Settings	
Main	R	ead/W	rite Channel	s Bands Pi	otocol Display	Feedback Session Event Wizard Acquisition	Montage Auto Threshold Z Scores Session Wizard Atlantis HW
Ch	Act. 1	Eqn.	Active 3	Reference 4	User Label 5	Equation 6	
1	1	Г	F3 •	LE 👻		F3-LE;	7 Load Montage
2	$\overline{\mathbf{v}}$	Г	F4 •	LE •		F4-LE;	
3	⊽	Г	C3 •	LE 💌		C3-LE;	8 Save Montage
4	₽	Г	C4 •	LE •		C4-LE;	9 Set From Acquired
5	₽	Г	P3 •	LE 💌		P3-LE;	
6	₽	Г	P4 •	LE 💌		P4-LE;	
7	Γ	Г	v				Fp1 Fp2 Fp2
8		Г					10
9	Г	Г	v				
10	Γ	Г	¥	v			Fz F4 UV
11		Г		v			
12		Г		v			(17/T3 C3 Cz C4 (T8/T4)
13	Г	Г	×				
14	Γ	Г	Ψ	×			PZ P4 P8/T6
15	Γ	Г	v				
16		Г		<u>_</u>			
17	Г	Г	<u> </u>	×			A1 01 02 02 A2
18	Г	Г	<u> </u>	*			
19		Г	<u> </u>	-			
20			<u> </u>	-			
21		Г	×	· ·			
22	<u> </u>	Г	<u> </u>	×			•
23		Г				1	
Logge	d in,	devic	e type Atlanti:	5			Use Settings and Close Use These Settings Exit

- 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.
- 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.
- 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.
- 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.
- 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.

13 7Standard Settings 14 7Standard Settings 15 9 BrainDx Settings 10 ANI Settings	1 ▼ 0 Raw EEG ▼ 1 Delta ▼ 2 Theta ▼ 3 Alpha ▼ 4 Lobeta ▼ 5 Beta ▼ 6 Hibeta ▼ 7 Gamma ▼ 8 User □ 10 11 □ 12 12	1.0000 4.0000 8.0000 12.0000 15.0000 20.0000 38.0000 30.0000 48.0000 52.0000 56.0000	0.0000 3.0000 7.0000 12.0000 15.0000 20.0000 30.0000 42.0000 55.0000 55.0000 60.0000 64.0000	Use values 0. (def Golgital Filter Amplitud Global Smoothing W alsow ampitude displays and traini filters). Specify # to smooth ov 0-1000 (0=no smoot Text Damping F further slow value cl displays). Use	for on-the-fly band changes. 0001 - 1.0000 fault = 0.5000) e Smoothing and Damping Factor changes for all ng using digital of millisecond er. Use values thing, default = -actor (used to	5	
	and the second sec	-		-			

- 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. Loreta 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. ANI Settings Button Click to adjust all frequency bands to the ANI Settings.

Main Login Folder Settings EDF Browser Review Global Setting Main Read/Write Channels Bands Protocol Display Feedback 1Aii I73-LE I74-LE C3-LE C4-LE P3-LE P4-LE Band Go Stop Ignore Band Go Stop Ignore Delte C G 0.0 Thete C G 0.0 Alpha C G 0.0 Thete C G 0.0 Beta C G 0.0 Hibeta C G 0.0 Global Sustained Reward Criterion (all channels) Training Conditions must be met for: 500 milliseconds Training Conditions must be met for: 500 milliseconds to achieve a reward point and sound (use value = 0 - 10000, default=500) 3 Global Refactory Period (al channels)	Ings Event Wizard Acquisition Montage Auto Threshold Z Scores Session Wizard Atlantis HW Note: All thresholds are in microvolts 7 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 8 Autothresholding is: C ON C OFF 9 Threshold Updating: C Manual (Press 'y' on keyboard to update) C Autoupdate cre, after pre-baseline C Autoupdate cre, after pre-baseline + after each run C Autoupdate cre, after pre-baseline + after each run C Autoupdate cre, after pre-baseline + after each run Autothreshold Epoch Autothreshold Epoch Autothreshold Epoch Autothreshold Epoch Autothreshold Epoch Autothreshold pues epoch length of 60 seconds to compute autothreshold values (use value = 1 to 60, default = 60)
Logged in, device type Atlantis	Use Settings and Close Use These Settings

- 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.
- "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 <u>www.brainm.com/kb/entry/111</u> 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

n Read/Write Channels I	Bands Protocol Display Feedback Session Event Wizard Acquisition Montage Auto Threshold Z Scores Session Wizard
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)	
Flat Maps	
Raw EEG Text Display	
Sensor Impedance Values	
Text Line	
Memory Mapping Mode	
se Emulation Mode to use externa (S, etc) via. Event Wizard Events	al games (Somatic Vision, 🕫 Standard C Emulation

- 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.

Avatar Setup			
Main Login Folder Settings EDF Browser R	Display Feedback Session Event Wiza 2MIDI Voice: 19 Church org. 1 3MIDI Style: Sustained (held) Notes Percussive (struck) Notes MIDI Modulation	d Acquisition Montage Auto Threshold	
Logged in, device type Discovery		Use Settings and	Close Use These Settings

- 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 EDF Browser F Main Read/Write Channels Bands Protocol NOTE: Please enter all times as who 1 Baseline Length (pre and post) I Seconds (before and after (Length of 0 means "no baselines") 3 Number of Sessions: I 40 sessions (80 maximum) (0 allows repeated use of Test Session 1) 5 Session Type: C Assessment C Training C Simulation C Calibration	eview Global Settings Display Feedback [Session] Event Wizard Acquisition Montage Z Scores Session Wizard Atlantis HW	
Logged in, device type Discovery	Use Settings and Close	ttings Exit

- 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

REF 531-322 v1.3 10/23/2013

Z-Score Training Menu

n Login Folder Settings EDF Browser Rev I Read/Write Channels Bands Protocol D IZSore type C Not using ZScores C Use BrainDx ZScores C Use BrainDx ZScores C Use BrainDx ZScores C Use Custom ZScores ZZScore Options ZZScore Options Value EEG C 4-ch Use selections on the right to c 19-ch Win Max ZScore Damping Factor: JSCore Damping Factor: JSCore Damping Factor: Dise database in: C C Another Folder C Use separate filters Filiname of the database:	hisplay Feedback Sess 4 Acquired C3 6 Add 7 Add 8 eRe 9 Remo- 10 Ca 10 C	S L2T Trainer All nove re All Z-Score Count face 0 I	10 Trained Values 12 12 Abs Power 12 Abs Power 12 Abs Power 12 Par Ratios 13 Abs Power 14 Power 15 Par Ratios 15 Par Ratios 16 Par Ratios 17 Trained Bands 10 Delta 10 Delta	2 Scores Sessi Frontal Lobe Limbic Lobe Observations of the session Sub Lobar Temporal Lobe All Anterior Cingulate Cuneus Extra Nuclear Fusform Gyrub Inferior Parietal Inferior Parietal Inferior Temporal Middle Cocipital Middle Cocipital Peaterior Cingulate Precentral Gyrus Sub Cirvis Sub Cir	✓ Leff. — Right. □ Leff. — <th>is HW</th> <th>pha2</th>	is HW	pha2
				Superior Temporal Supramarginal Transverse Uncus Brodmann 1 Brodmann 2	Left Right Left Right Left Right Left Right Left Right Left Right		•

- 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.
- 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. **CREMOVE 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. **ROI Values Section –** Section that allows you to choose which Region of Interests, as well which bands in the Regions of Interests that you would like to be LZT Trained.

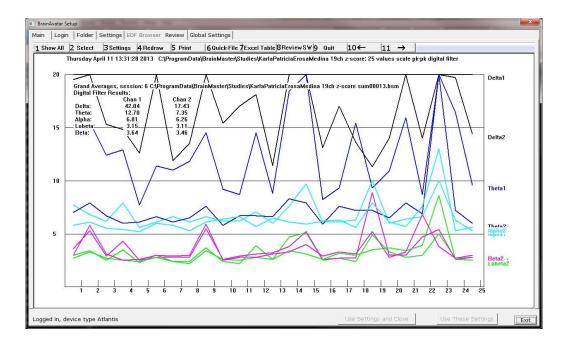
*Z-Score is an optional purchase

Atlantis Hardware Control Menu

BrainAvatar Setup	
Main Login Folder Settings EDF Browser Review Global Settings	
Main Read/Write Channels Bands Protocol Display Feedback Sess LHardware Environment / Notch Filtering O US Domestic (60 Hz) International (50 Hz) No HW Filtering US Domestic (60 Hz) International (50 Hz) No HW Filtering ZHardware Emulation Mode 3Low Frequency Cutoff © 2EW Wideband C Full Atlantis © 2E (0.5 Hz) Low (<0.5Hz)	on Event Wizard Acquisition Montage Auto Threshold Z. Scores Session Wizard Atlantis HW
4Photic Stimulator 6 % Autonomous/Immersive ^ PC Controlled Left Pulse width 10 Right Amplitude: 16	
G Autonomous/Immersive	
Logged in, device type Discovery	Use Settings and Close Use These Settings

- 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 feedback. Stimulation.
- 5. Auditory Stimulator Section Section where you can adjust auditory feedback.
- 6. Vibrotactile Stimulator** Section Section where you can adjust vibrotactile feedback.

Review Session Menu

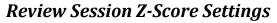


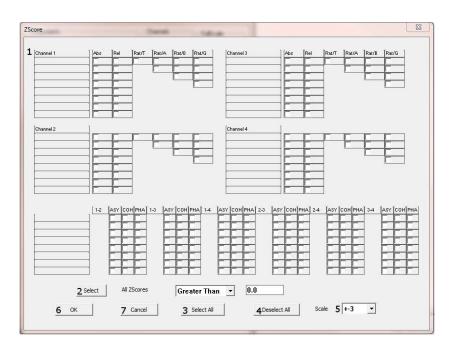
- 1. Show All Button Click to display all Amplitude Training at one time in a Bar Graph Format.
- Select Button Click to choose a specific Training session or another clients Review information.
- 3. Settings Button Click to change the settings for display of the Reviewed Information.
- **4.** Redraw Button Click to have the graph be redrawn. This is used if information has been changed.
- 5. Print Button Click to print out the screen as it is displayed.
- 6. Quick-File Button Click to create a CSV file of the session being reviewed.
- 7. Excel Table Button Click to create a CSV file of the session being reviewed.
- 8. Review SW Button Click to open a directory with simple assessment program add-ons
- 9. Quit Button Click to close the software
- 10. ← Button Click To go back a single session
- **11. → Button** Click To go forward a single session

Review Session Settings Menu

	2 Channels	3 FullScale
🗖 Delta1 🔽 Beta	🔽 Channel 1	C 5 uV
🔽 Delta 🔲 Sum	Channel 2	@ 10.1V
🔽 Theta 🗌 Betai	2 Coherence 1-2	C 20 µV
🔽 Alpha 🛛 🗍 Gam	ma	C 30 uV
T Aux	Channel 4	C 50 W
4 Format	Coherence 3-4	C 100 JV
	port	C 200 uV
Show % Time Above Threshold Show Modal Frequency Show Standard Deviation Show Phase	7-Data Source	Show By Session
	,	
9View C All Session @ One Session	C Zoom	less than 5 second:
C All Session C One Session		
C All Session C One Session Events 10 Event 1 Event 5	Event 9	Event 13
C All Session I One Session Events 10 Event 1 Event 5 Event 2 Event 6	⊑ Event 9 ⊏ Event 10	□ Event 13 □ Event 14
C All Session C One Session Events 10 Event 1 Event 5	☐ Event 9 ☐ Event 10 ☐ Event 11	Event 13

- 1. Components Section Section where you can choose the components that you would like to be viewed.
- 2. Channels Section Section where you can set which channels (decided from Montage) that you would like to be viewed.
- 3. FullScale Section Section where you can set the Scale Factor for the graphs
- 4. Format Section Section where you set the format for the information that you would like to be viewed.
- 5. Single Session Section Section specifically for Single Session View, where you can choose to have additional display options.
- 6. All Sessions Section Section specifically for All Session View, where you can choose to have additional display options.
- 7. Data Source Section Section where you can set the Data Source between FFT or Digital Filters.
- 8. Zoom Section Section where you can set the Filer & Epoch Size when the software is in Zoom mode.
- 9. View Section Section where you can choose how you would like to view the data.
- 10. Events Section Section where you can choose any or all of the 16 Events to be viewed.





- 1. **Z-Selection Section –** Section where you can choose the Z-Scores (Up to 4 Channels) that you would like to be selected for Reviewing.
- 2. Select Button and Section This will select all Z-Scores that fit in the criteria, either less than or greater than and a Standard Deviation range.
- 3. Select All Button Selects all Z-Scores (Up to 4 Channels) that you would like to be selected for Reviewing.
- 4. Deselect All Button Deselects all Z-Scores from being reviewed.
- 5. **Scale Drop-Down Box –** Drop-Down Box which allows you to choose the scale-factor for the viewing size of the Z-Score Review Screen.
- 6. **OK Button –** Click to confirm your selection, and return to the Review Session Settings Menu.
- 7. **Cancel Button –** Click to cancel your selections, and return to the Review Session Settings Menu.

Global Settings Menu

BrainAvatar Setup					23
Main Login Folder Settings EDF Browser	Review Global Settings				
Global ZScores Perfomance					
COM Port Select:					
Enter COM Port Number (1, 2, 3,, 32)	1 Discovery on COM7	-			
	2 Atlantis on COM3				
Enter Secondary COM Port Number					
	3 Refresh				
Logged in, device type Discovery			Use Settings and Close	Use These Settings	Exit

- 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.

Z-Scores* Global Settings Menu

BrainAvatar Setup		×
BrainAvatar Setup Main Login Folder Settings EDF Browser Review Global Settings Global ZScores Perfomance I Z-Scores Image: Construct of the set o		
Logged in, device type Atlantis	Use Settings and Close	Use These Settings

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

*Z-Score is an optional purchase

BrainAvatar Trainee Folders

Classic (Setup Menu) Method

Creating a Trainee Folder

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

 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.

 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.

vatar Setup		
n Login Folder Settings EDF Browser Re	view Global Settings	
lect Folder Create Folder Folder Notes Sessi	on Librarian Edit Folder Info.	
Select Folder: (you may double-click to select)		
[-]	Create New Folder	
[Temporary Session]	Create New Polder	
	Folder Notes	
	Session Librarian	
	Edit Folder Info.	
	ок	
File Name (Traince ID):		
Temporary Session		
Trainee Name:	Sessions Used:	
Comment	0	
comment	Max Sessions:	
	9999	
Session Genie		
Administer Session Genie	Push to Server and Delete Folder	
ged in, device type Discovery	Use Settings and Clo	se Use These Settings E

lvatar Setup		
in Login Folder Settings EDF Browser Review Global Set		
elect Folder Create Folder Folder Notes Session Librarian Edit	t Folder Info.	
Text		
Name:		
CreatingTrainingFolder	Use Name for File ID	
File ID:		
CreatingTrainingFolder		
A comment will be added later, that you can edit		
Cancel	OK	
gged in, device type Discovery	Use Settings and Close Use These Settings	D

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

Are you Name:	CreatingTrainingFolde					
ID:	CreatingTrainingFolde	1f				
	A comment will be add	led later, that you can edit				
		elect' to choose a teplate set	tings file.			
	Cano	el				
Create W	ith Current Settings	Create and Select Settings	Create With Defaults			
Create W	ith Current Settings	Create and Select Settings	Create With Defaults			
Create W	ith Current Settings	Create and Select Settings	Create With Defaults			
Create W	ith Current Settings	Create and Select Settings	Create With Defaults			
Create W	ith Current Settings	Create and Select Settings	Create With Defaults			
Create W	ith Current Settings	Create and Select Settings	Create With Defaults			
Create W	ith Current Settings	Create and Select Settings	Create With Defaults			
Create W	ith Current Settings	Create and Select Settings	Create With Defaults			
Create W	ith Current Settings	Create and Select Settings	Create With Defaults			
Create W	ith Current Settings	Create and Select Settings	Create With Defaults			
Create W	ith Current Settings	Create and Select Settings	Create With Defaults			
Create W	ith Current Settings	Create and Select Settings	Create With Defaults			

- 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.

Open				×
C V ProgramData > BrainMaster > Studies >	CreateFolderTest1		arch CreateFolderTest1	م
Organize 🔻 New folder) · · · ·	0
Recently Change Name	Date modified	Туре	Size	
Public Settings.bdb2	9/21/2011 3:13 PM	BDB2 File	68 KB	
Downloads Dropbox ■				
W Recent Places				
🥽 Libraries				
Documents				
Music				
Pictures				
🚼 Videos				
r Computer				
🏭 WINVISTA (C:)				
DATA (D:)				
File <u>n</u> ame:			ıp Files	-
		Setu	p Files setting files (e.g. settings)	
		All F	iles (*.*)	

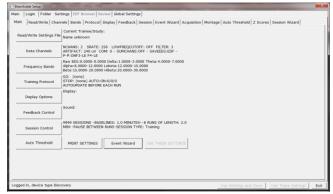
the second se	tings EDF Browser Review Glo	bal Settings			
ect Folder Create Fold	er Folder Notes Session Libraria	an Edit Folder Info.			
Editing Demographics	for Trainae/Ghufu:				
folder name					
Name:					
Test2					
Comment:					
comment				_	
lat. he	-				
Birthdate 01- Jan -	2001 * Age: 0	Gender	- M	M or F	
Compute	Age				
Recording Condition					
C Eyes Open		ask Task ID Num	ber		
- cjo opar					
	trode e	.g. *gold disk electrode	* or *tin electro	cap*,	
Sensor elec					
Sensor elec	EEG tech				
Investigator /			Com and C		
Investigator /	EEG tech		Save and C	ontinue	

You have now created a folder for training.

Current Train		er Avatar Folder:		LOGIN OK: SN: 60229 UNLIMITED USE CLINICAL LICENSE	
frainee ID:	CreatingTi	rainingFolder		Login	
frainee lame:	CreatingTr	rainingFolder		Folder Selections	
Comment:	comment			Run The Next Session	
ext Session		Total Sessions Ava 9999	ailable:	View or Change Settings	
raining scree	in is	Not Running	click here to	EDF Browser	
Exit		Product Manuals	refresh this screen	Review Session Results	

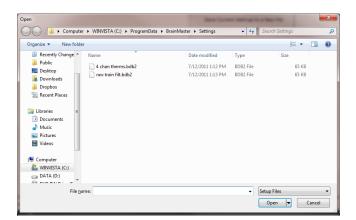
PLEASE NOTE: This process can only be done if you have purchased a BrainMaster Clinical License.

- 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.
- 2. On the Read or Write Settings File Menu, click the Read In Settings From Selected File Button to continue.



BreinAvster Setup	
ain Login Folder Settings EDF Browser Review Global Settings	s
	Session Event Witard Acquisition Montage Auto Threshold 2 Scores Session Witard Use the screens to manye your Stituys its Use the screens to manye your Stituy its Sesse Correct Stituy is a like Vite Sesse Correct Stituy is a like Vite Settrap Description:
	Oranis/Training/Sider Directory: Creating/Training/Sider Read in Settings from a Selected File
1	Cancel OK

 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).



BrainAvatar Software User Manual

The settings for your Trainee folder have now been changed.

Sever. Se	Built-In Settings Files: (double-click to read in settings and proceed 4 chan therms.bdb2	Use this screen to manage your Settings File Dibrary. You can change settings within any trained/uside/ folder, without uping this
CreatingTrainingHoter Directory CreatingTrainingHoter Read In Settings from a Setected File	rew train fil.bdb2	screen.
		CreatingTrainingRolder Directory:

Changing settings to a Settings Files

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

 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 Set	tings EDF Browser Review Global Settings	
Main Read/Write Chan	nels Bands Protocol Display Feedback Session Event Wizard Acquisition Montage Auto Threshold Z Scores Session Wizard	
Read/Write Settings File	Current Trainee/Study: Name unknown	
Data Channels	NCHANS: 2 SRATE: 256 LOWFREQCUTOFF: OFF FILTER: 3 ARTIFACT: 240 UV COM: 0 - SUMCHANS:OFF - SAVEEE6:EDF - P-PrONF3-LE F-LE	
Frequency Bands	Raw (EG: 0.0000-0.0000 Delta:1.0000-3.0000 Theta:4.0000-7.0000 Alpha:8.0000-12.0000 Delta:12.0000-5.0000 Beta:15.0000-20.0000 Hibeta:22.0000-30.0000	
Training Protocol	(GO: (none) STOP: (none) AUTO:ON:0/0/0 AUTO/POATE BEFORE EACH RUN	
Display Options	Display:	
Feedback Control	Sound:	
Session Control	19999 SESSIONS - BASELINES: 1.0 MINUTES 8 KUNS OF LENGTH: 2.0 MINPAUSE BETWEEN RUNS-SESSION TYPE: Training	
Auto Threshold	PRINT SETTINGS Event Wizard USE THESE SETTINGS	
Logged in, device type Disc	overy Use Settings and Close Use These Settings	Exit

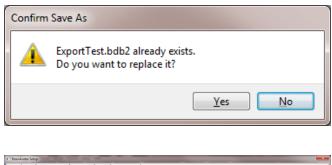
2. On the Read or Write Settings File Menu, click the click Save Current Settings to a New File Button to continue.

8 BreinAveter Setup	
Main Login Folder Settings EDF Browser Review Global Settings Main Read/Write Channels Bands Protocol Disclay Feedback S	ession Event Wizard Acquisition Montage Auto Threshold Z. Scores Session Wizard
Balt In Settings Field (Sobel-click to read in settings and proceed) Educe parents able read train fit.bdb2	Loss file sources file and provide file file sources and a source instance in the source instance in the source instance in the source instance in the source instance instance in the source instance in
	Berling Developen Create p ¹ Homophile Developy Creating Tearing Hole
	Read In Settings From a Selected File
	Cancel OK
ogged in, device type Discovery	Use Settings and Close Use These Settings Exit

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, and then click the Save Button to continue.

Save As			See Long	Contrage in a lite	-	×
Com	outer 🕨 WINVISTA	A (C:) 🕨 ProgramData 🕨	BrainMaster > Settings	🕶 🍕 Sear	rch Settings	٩
Organize 🔻 New f	older				80 🔻	0
Nesktop	 Name 	^	Date modified	Туре	Size	
Downloads	4 chan	therms.bdb2	7/12/2011 1:12 PM	BDB2 File	65 KB	
Dropbox Recent Places	Export	Test.bdb2	9/22/2011 3:59 PM	BDB2 File	69 KB	
Recent Places	📄 raw tra	in filt.bdb2	7/12/2011 1:13 PM	BDB2 File	65 KB	
 ☐ Libraries ☐ Documents J Music ☐ Pictures ☑ Videos 	E					
1 Computer						
MINVISTA (C:)	. .					
File name: E	portTest.bdb2					-
Save as <u>t</u> ype: Se	tup Files					•
Hide Folders					Save Canc	el

4. You will have to confirm the replacement of the file. Click the Yes Button to continue.



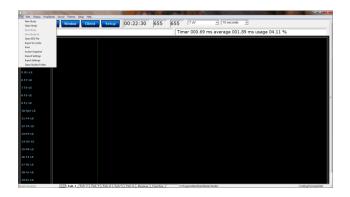
The settings have now been changed with the adjustments you have added.

	serie (study faber, whore using the """ See Current Settings to a tree File Settings Description Creating Training Setting Creating Training Setting Creating Training Setting Creating Training Setting Created Concel OK
--	--

Training Screen Method

Creating a Trainee Folder

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



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.

Ivatar Setup			
n Login Folder Settings EDF Browser Review			
elect Folder Create Folder Folder Notes Session Lit	orarian Edit Folder Info.		
Select Folder: (you may double-click to select)			
[] [Temporary Session]	Create New Folder		
	Folder Notes		
	Session Librarian		
	Edit Folder Info.		
	ок		
File Name (Trainee ID): Temporary Session			
Trainee Name:	Sessions Used:		
Comment: comment	Max Sessions:		
	9999		
Session Genie			
Administer Session Genie	Push to Server and Delete Folder		
gged in, device type Discovery		Use Settings and Close	Use These Settings

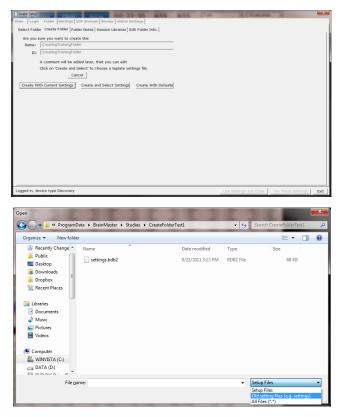
 Type in the name that you would like, and the file ID for the folder in the proper fields.
 When naming the folder, please take HIPAA compliance into consideration. When you have entered the name and file ID, click OK to continue.

Avatar Setup	
tain Login Folder Settings EDF Browser Review Global Settings	
Select Folder Create Folder Folder Notes Session Librarian Edit Folder Info.	
Text	
Name:	
	Jse Name for File ID
File ID:	
CreatingTrainingFolder	
A comment will be added later, that you can edit	
Cancel OK	
ogged in, device type Discovery	Use Settings and Close Use These Settings

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



anAvatar Setup	
h Login Folder Settings EDF Browser Review Global Settings	
lect Folder Create Folder Folder Notes Session Librarian Edit Folder Info.	
Editing Demographics for Trainee/Study:	
folder name	
Name:	
Test2	
Comment:	
comment	
Birthdate 01- Jan - 2001 + Age: 0 Gender: M M or F	
Conpute Age Recording Conditions C Eyes Open & Eyes Closed C Task Task ID Number	
Sensor e.g. *gold disk electrode* or *tin electro-cap*,	
Sensor electrode e.g. 'gold disk electrode' or 'bn electro-cap', Investigator / EEC tech	

You have now created a folder for training.



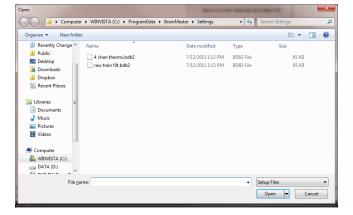
Changing to a new Settings Files

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

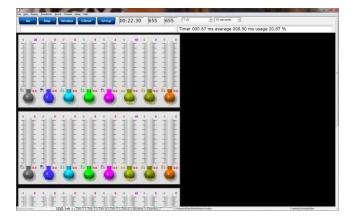
1. From the Training Screen, click the File Tab and then click Import Settings.



 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).



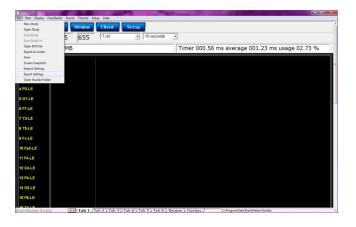
The settings for your Trainee folder have now been changed.



Changing settings to a 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.



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, and then click the Save Button to continue.

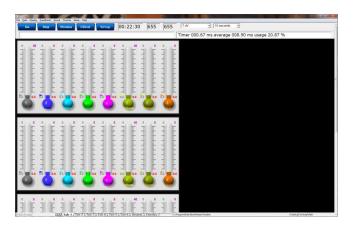
Save As			Same Carrier	· Service in a	and the local division of the local division	×
🔾 🖉 - 🚺 🕨 Comp	puter	→ WINVISTA (C:) → ProgramData → BrainMa	ster 🕨 Settings	→ 4 9 Se	earch Settings	Q
Organize 🔻 New f	older					
🧮 Desktop	*	Name	Date modified	Туре	Size	
🚺 Downloads		4 chan therms.bdb2	7/12/2011 1:12 PM	BDB2 File	65 KB	
J Dropbox		ExportTest.bdb2	9/22/2011 3:59 PM	BDB2 File	69 KB	
Recent Places		📄 raw train filt.bdb2	7/12/2011 1:13 PM	BDB2 File	65 KB	
Computer	11					
🏭 WINVISTA (C:)						
DATA (D:)	. .					
File name: D	qortTe	est.bdb2				-
Save as type: Se	tup Fil	les				•
Hide Folders					Save Car	ncel

3. You will have to confirm the replacement of the file. Click the Yes Button to continue.

Confirm	Save As
	ExportTest.bdb2 already exists. Do you want to replace it?
	<u>Y</u> es <u>No</u>

BrainAvatar Software User Manual

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



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.

Organize • Dpen •	Burn New folder				相•	
🐨 Favorites	Name	Date modified	Туре	Size		
Recently Changed	Back-Up	8/17/2012 1:43 PM	File folder			
Jublic Public	4Ch PZOK DPhase Hbeta Invertube Santi	9/13/2012 3:55 PM	BDB2 File	129 KB		
E Desktop	Alert-Panel Design	8/25/2012 2:05 PM	BDB2 File	87 KB		
bownloads	Alert-Tab Design	8/25/2012 2:06 PM	EDE2 File	79.KB		
Secent Places	Amplitude with Coherence	9/13/2012 2:15 PM	8082 File	89 KB		
😝 Dropibax	Deep-Panel Design	8/25/2012 2:07 PM	BDB2 File	B1.KB		
	Deep-Tab Design	8/25/2012 2:05 PM	EDE2 File	72.KB		
Libraries	Focus-Panel Design	8/25/2012 2:09 PM	8D82 File	87 KB		
Documents	Focus-Tab Design	8/25/2012 2:09 PM	EDE2 File	79 KB		
J Music	🗟 g2ax_expert_resource_win32_x86_en_US_430.dll	8/16/2012 5:36 PM	Application extens	3,232 KB		
Rectures	No Limit QEEG Assessment-Discovery	8/25/2012 2:11 PM	BDB2 File	75 KB		
Videos	Peak-Panel Design	8/17/2012 9:53 AM	EDE2 File	54 KB		
	Peak-Tab Design	8/17/2012 9-49 AM	BDB2 File	77 KB		
Computer	PercentZOK using PZMO and PZME	10/27/2011 1:15 PM	BDB2 File	89-KB		
KINVISTA (C:)	Relas-Panel Design	8/13/2012 6-29 PM	BDB2 File	85 KB		
DATA (D:)	Relax-Tab Design	8/17/2012 9:56 AM	BDB2 File	79 KB		
	Santi Phase InnerTubeH68eta	9/4/2012 4:37 PM	EDE2 File	114 KB		
Network	slofeta ZAP	8/31/2012 2:15 PM	8DB2 File	103 KB		
	Squash-Panel Design	8/17/2012 5:35 PM	BDB2 File	E5 KB		
	Squash-Tab Design	8/17/2012 5:35 PM	EDE2 File	79 KB		
	Z Scores Using PZOK-Panel Design	8/17/2012 5:34 PM	BDB2 File	90 KB		
	Z Scores Using PZOK-Tab Design	8/17/2012 5:34 PM	EDE2 File	90 KB		
	Z Scores Using PZOKUL with 2 Channel Amplitude Training	9/5/2012 5:21 PM	8DB2 File	91 KB		
	Z Scores Using PZOKUL-Panel Design	8/25/2012 11:55 AM	8D82 File	94 KB		
	Z Scores Using PZOKUL-Tab Design	8/25/2012 11:56 AM		90 KB		
	ZScore PZOKUL with Head-Atlantis Design	8/17/2012 5:32 PM	BDB2 File	95 KB		
	ZScore PZOKUL with ROIA Training-Discovery Design	8/17/2012 5/32 PM	EDE2 File	105 KB		

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

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
Cancel

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.

BrainAvatar Software User Manual

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		
tain Login Folder S	iettings EDF Browser Review G	lobal Settings		
Select Folder Create Fo	older Folder Notes Session Libra	rian Edit Folder Info.		
Text				
Name:				
FileExplorerTrainingFol	der	Use Name for File ID	1	
File ID:				
FileExplorerTrainingFol	der			
	ed later, that you can edit	α		

- 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:
 - 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.

		BrainAvatar Setu	ib.	
	gs EDF Browser Review Global S			
ielect Folder Create Folder	Folder Notes Session Librarian E	dit Folder Info.		
Are you sure you want to	create this			
Name: FileExplorerTrain	vingFolder			
ID: FileExplorerTrain	vingFolder			
A comment will b	e added later, that you can edit			
	and Select' to choose a teplate set	ttings file.		
	Cancel			
Create With Current Settin	gs Create and Select Settings	Create With Defaults		
create with current setun	erano ano panece partinga	CLEAR ALL DE LA CALL		

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.

	eate Folder Folder Notes Sessi	view Global Settings	
Editing Demo folder name Name: Test2	ographics for Trainee/Study:		
Comment:			
comment			
en ensace 1	Compute Age	Age: 0 Gender: M M c	or F
C Eyes C	open 🔅 Eyes Closed	C Task Task ID Number	
C Eyes C	Open Gyes Closed	C Task Task ID Number e.g. "gold disk electrode" or "tin electro-cap	*
	electrode		~

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You have now created a folder for training.

n Login	Eolder S	ettings EDF Browser Review Globs	BrainAvatar Setup	
	BrainMast	er BrainAvatar	LOGIN OK: SN: 60179 UNLIMITED USE CLINICAL LICINSE	
		rTrainingFolder	Login	
Trainee Name:	FileExplore	rTrainingFolder	Folder Selections	
Comment:			Run The Next Session	
Next Session	n Number:	Total Sessions Available: 40	View or Change Settings	
fraining scre	ien is	Not Running click here to	EDF Browser	
Exit		Product Manuals refresh this screen	Review Session Results	

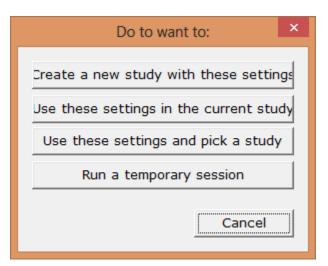
Changing to a new Settings Files

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.

Organize • Open •	Burn New folder				月• 🖬 🕯
🙀 Favorites	Name	Date modified	Type	Size	
Recently Changed	Back-Up	8/17/2012 1:43 PM	File folder		
Public	4Ch PZOK DPhase Hbeta Invertube Santi	9/13/2012 3:55 PM	BDB2 File	129 KB	
E Desktop	Alert-Panel Design	8/25/2012 2:05 PM	8D82 File	E7 KB	
bownloads	Alert-Tab Design	8/25/2012 2:06 PM	EDE2 File	79.KB	
Secent Places	Amplitude with Coherence	9/13/2012 2:15 PM	8082 File	89 KB	
😝 Dropibax	Deep-Panel Design	8/25/2012 2:07 PM	BDB2 File	E1 KB	
	Deep-Tab Design	8/25/2012 2:05 PM	EDE2 File	72.KB	
Libraries	Ecus-Panel Design	8/25/2012 2:09 PM	8D82 File	87 KB	
Documents	Focus-Tab Design	8/25/2012 2:09 PM	EDE2 File	79 KB	
Music	glax, expert, resource, win32, 185, en_US_430.dll	8/16/2012 5:36 PM	Application extens	3,232 KB	
Rictures	No Limit QEEG Assessment-Discovery	8/25/2012 2:11 PM	BDB2 File	75 KB	
Videos	Peak-Panel Design	8/17/2012 9:53 AM	BDB2 File	84 KB	
	Peak-Tab Design	8/17/2012 9:49 AM	8D82 File	77 KB	
Computer	PercentZOK using PZMO and PZME	10/27/2011 1:15 PM	8D82 File	89.KB	
KINVISTA (C:)	Relax-Panel Design	8/13/2012 6-29 PM	BDB2 File	85 KB	
DATA (D:)	Relax-Tab Design	8/17/2012 9:56 AM	BDB2 File	79 KB	
	Santi Phase InnerTubeHiBeta	9/4/2012 4:37 PM	BDE2 File	114 KB	
Network	slofeta zap	8/31/2012 2:15 PM	8D82 File	103 KB	
	Squash-Panel Design	8/17/2012 5:35 PM	BDB2 File	E5 KB	
	Squash-Tab Design	8/17/2012 5:35 PM	EDE2 File	79 KB	
	Z Scores Using PZOK-Panel Design	8/17/2012 5:34 PM	BDB2 File	90 KB	
	Z Scores Using PZOK-Tab Design	8/17/2012 5:34 PM	BDE2 File	90 KB	
	Z Scores Using PZOKUL with 2 Channel Amplitude Training	9/5/2012 5:21 PM	8DB2 File	91 KB	
	Z Scores Using PZOKUL-Panel Design	8/25/2012 11:55 AM		94 KB	
	Z Scores Using PZOKUL-Tab Design	8/25/2012 11:56 AM		90 KB	
	ZScore PZOKUL with Head-Atlantis Design	8/17/2012 5:32 PM	BDB2 File	96 KB	
	ZScore PZOKUL with ROSA Training-Discovery Design	8/17/2012 5/32 PM	BDB2 File	105 KB	

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

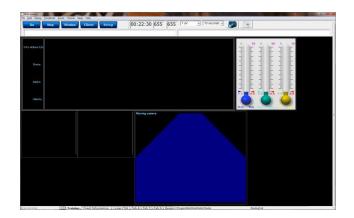


into. After you have picked, it will open the software to this Study Folder.

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 change settings to a folder, click either option b or option c, based on the Study Folder you would like these loaded into.

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.

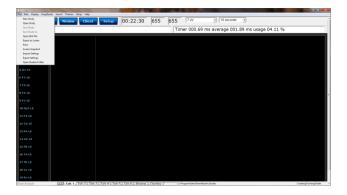
BrainAvatar Software User Manual

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)".
 - 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.
 - 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.

***PLEASE NOTE: You have now imported the Settings file to be used for THIS STUDY FOLDER ONLY! TO USE FOR FUTURE STUDIES:



n the	;			Avatar Se	-			
				Atlantis S	ettin	igs Fi		ler
				Discovery	y Sett	tings	Fo	old
		IBWISTA (C:) + bra	ainm,20 🕨 settin	gs + Basic2ChEMG	 ◆ ◆ Sept 	∧ Basic2ChB4S j⊞ ▼	61	х Р
		(INVISTA (C;) → bri Name	ainm.20 > settin	gs + Basic2ChEMG Date modified	• +9 Sear		-	х Р 0

BrainMaster Avatar



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BrainAvatar Software User Manual

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



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.

Organize New folder Bit ● Important Date modified Type Size Important Dorphox Statute Timed Assessment-E0,EC,Task 10/27/2011 1:05 PM B082 File 75 K8 Important Adert 10/27/2011 1:05 PM B082 File 75 K8 Important Important Focus 10/27/2011 1:07 PM B082 File 75 K8 Important Important Important 10/27/2011 1:07 PM B082 File 75 K8 Important Important Important 10/27/2011 1:07 PM B082 File 75 K8 Important Important Important Important 10/27/2011 1:07 PM B082 File 75 K8 Important Important Important Important 10/27/2011 1:07 PM B082 File 76 K8 Important Important Important Important Important Important Important Important Important Important Important Important Important Important Important Important	0
Destrop field Name Date modified Type Size ib Download 3 Minute Timed Assessment-EQ.EC.Task 10/27/2011 105 PM 8082 File 75 KB ib Darimotified ib Darimotified 10/27/2011 105 PM 8082 File 75 KB ib Darimotified ib Dep 10/27/2011 105 PM 8082 File 75 KB ib Darimotified ib Dep 10/27/2011 105 PM 8082 File 75 KB ib Documents ib No Limit QEEG Assessment 10/27/2011 115 PM 8082 File 75 KB ib No Limit QEEG Assessment 10/27/2011 115 PM 8082 File 75 KB 67 KB ib Numic ib Pack 10/27/2011 116 PM 8082 File 75 KB 67 KB	ſ
Loppbar Ling Minute Timed Assessment-ED_EC_Tark L027/2011 L105 PM 8002 File 75 K8 L027/2011 L105 PM 8002 File 76 K8 L027/2011 L107 PM 8002 File 76 K8 L027/2011 L107 PM 8002 File 76 K8 L027/2011 L105 PM 8002 File 76 K8 L027/2011 L105 PM 8002 File 76 K8 L027/2011 L105 PM 8002 File 77 K8 Pack L027/2011 L105 PM 8002 File 77 K8 L027/2011 L107 PM R027 File 77 K8 R	
Recent Place Alet 10/27/2011 1/07 PM B082 File 79 K8 B Deep 10/27/2011 1/07 PM B082 File 72 K8 B Decop 10/27/2011 1/07 PM B082 File 78 K8 B Decop 10/27/2011 1/07 PM B082 File 78 K8 Music B No Limit QEEG Assessment 10/27/2011 1/15 PM B082 File 63 K8 Music Peak 10/27/2011 1/15 PM B082 File 63 K8 Peak 10/27/2011 1/16 PM B082 File 73 K8	
Libraries Libraries Decuments Music	
Ibraries Image: Constraint of the second seco	
Documents Music Peak NoLimit QEEG Assessment 10/27/2011.115 PM B082 File 63 K8 10/27/2011.116 PM B082 File 77 K8 Peak 10/27/2011.116 PM B082 File 78 K8	
Music E Peak 10/27/2011 1:16 PM BDB2 File 77 KB Percent7QK using P7MQ and P7ME 10/27/2011 1:16 PM BDB2 File 89 KB	
PercentZOK using PZMO and PZME 10/27/2011 1:16 PM BDB2 File 89 KB	
Pictures	
Relax 10/27/2011 1:18 PM BDB2 File 79 KB	
Squash 10/27/2011 1:18 PM BDB2 File 79 KB	
Computer Temp with SCR and BVP 12/15/2011 12:49 BDB2 File 90 KB	
Test 11/30/2011 12:46 BDB2 File 73 KB	
DATA (D-) If Z Score PZOKUL with ROIA 12/15/2011 2:00 PM BDB2 File 87 KB	
Z Scores Using PZOK 1/13/2012 5:30 PM BDB2 File 76 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.

Induced I	Event Wigsel (Acquation Montage) Auto Threahold (Z Source) Session Wissel Event Wigsel (Acquation) Montage) and Shings for there means to energy and Shings for there were there are a solution of the solution of the session Control Shings to a New File Sente Control Shings to a New File Sente Control Shings to a New File
	Dentations Internationality Kead In Settings From a Selected File Cancel Control Control
Logged in, device type Discovery	Use Settings and Close Use These Settings

BrainAvatar Trainee Screens

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. ALSO 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 3 rd bands threshold by 0.1uV or target by 1
А	Decrease the alpha or 3 rd bands threshold by 0.1uV or target by 1
b	Increase the beta or 5 th bands threshold by 0.1uV or target by 1 percent
В	Decrease the beta or 5 th bands threshold by 0.1uV or target by 1
с	Increase coherence/phase threshold
С	Decrease coherence/phase threshold
d	Increase the delta or 1 st bands threshold by 0.1uV or target by 1 percent
D	Decrease the delta or 1 st bands threshold by 0.1uV or target by 1
g	Increase the gamma or 7 th bands threshold 0.1 uV or target by 1 percent
G	Decrease the gamma or 7 th bands threshold 0.1 uV or target by 1
h	Increase the hibeta or 6 th bands threshold 0.1 uV or target by 1 percent
Н	Decrease the hibeta or 6^{th} bands threshold 0.1 uV or target by 1 percent
1	Increase the lobeta or 4 th bands threshold 0.1 uV or target by 1 percent
L	Decrease the lobeta or 4 th bands threshold 0.1 uV or target by 1 percent
М	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 2^{nd} bands threshold by 0.1 uV or target by 1
Т	Decrease the theta or 2 nd bands threshold by 0.1 uV or target by 1
u	Increase the user or 8 th bands threshold by 0.1 uV or target by 1 percent
U	Decrease the user or 8 th band threshold by 0.1 uV or target by 1 percent
у	Copy autothresholds into current thresholds ("Autoupdate")
<shift> + "="</shift>	Increase display gain by 20%
-	Decrease display gain by 20%
<space></space>	Pause or end pause
1	Set mode so keys (d, t, etc) adjust channel 1 only for thresholds, etc.
2	Set mode so keys (d, t, etc) adjust channel 2 only for thresholds, etc.
3	Set mode so keys (d, t, etc) adjust channel 3 only for thresholds, etc.
4	Set mode so keys (d, t, etc) adjust channel 4 only for thresholds, etc.
0	Set mode so keys (d, t, etc) adjust for all thresholds
<up><pg up=""></pg></up>	Moves the display up(CSA Display Only)
<down><pg< td=""><td>Moves the display down(CSA Display Only)</td></pg<></down>	Moves the display down(CSA Display Only)
<left></left>	Moves the display to the left(CSA Display Only)
<right></right>	Moves the display down(CSA Display Only)
<insert></insert>	Switches between controlling look point and camera(CSA Display

BrainAvatar Software User Manual

Key	Function
<shift>+9</shift>	Decreases the Photic Output Amplitude by 1%
$\langle \text{Shift} \rangle + 0$	Increases the Photic Output Amplitude by 1%
<shift>+ "."</shift>	Enables Impedance (Discovery only)
<shift>+ ","</shift>	Disables Impedance (Discovery only)
<ctrl>+ e</ctrl>	Opens the BrainAvatar Setup Menu on the Event Wizard Tab
<ctrl>+ z</ctrl>	Opens the BrainAvatar Setup Menu on the Z-Score Tab

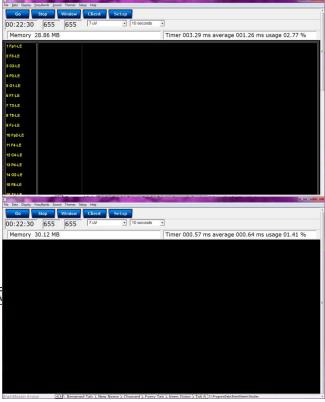
Keyboard Quick Keys (Continued)

Renaming Tabs

 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.

2. 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.

 \checkmark Acquired λ Trained λ 7-Score λ etc. \langle Tab 5 λ Tab 6 \rangle



Displays(Tabs)

- 1. There are two 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

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Main Read/Write Channels E	Bands Protocol Display Feedback Session Event Wizard Acquisition Montage Auto Threshold Z Scores Session Wizard	
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)		
Flat Maps		
Raw EEG Text Display		
Sensor Impedance Values		
Text Line		

will not properly reflect, if you have done any changes using the Panel Wizard.

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

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Ge	Acquired waveforms Training waveforms	Inene	v Client Setup	00:22:30	655	655	7 eV	10 seconds	-	i
	Phase Space									
	Frequency spectrum									
1 Fp1-L	Thermorroter									ì
1 Pp1-0	Mini (IMinor (FFT)									
2 FD-LE	Mini (Minor (Filter)									
	Coherence									
3 C3-LE	Text Stats									
_	Trends (component)									
4 P3-LE	Trends (events)									
8 O1-U	Wide Trends (events)									
801-0	Z-Scores									
6 57-18	2-Bars Plot									
	Z-Score Meps (Damped)									
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0 TS-LD	CSA (FFT)									
9 FZ-LE	CSA(FFT) Head Map									
	EDG Text									
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	Debug									
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12 P4-LE										
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15 F0-LE										
16 T4-LE										
17 TO-LE										
17 10-02										
10 CZ-LE										
19 P2-LE										
BrainAvatar		Tab 1	(Tab 2) Tab 3) Tab 4) Tal	5 \ Tab 6 \ Review	λ Overlay /	0.0	Integrated and Desired Austral	Studies		CreatingTrainingTolder

Display Types & Functionality

Acquired Waveforms

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).

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4 P3-LE	18785114441833388813446444888813446448838354444435555688554457544475564457564555588889956458838956848883956844
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19 C2-LE	38830235049305025949495025350555502546950255054649259884442598844505988445054445504444550444456644445666444466
19 P2-LE	%\$\$\$75%\$6%%\$\$\$75%\$75%\$75%\$75%\$75%\$75%\$75%\$75%\$76\$75%\$75%\$75%\$75%\$75%\$75%\$75%\$75%\$75%\$75%
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BrainAvatar	Tah 1 (Tah 2), Tah 1), Tah 4), Tah 5), Tah 6), Review / Conference / Conf

Right-Click Mouse Function (Panel

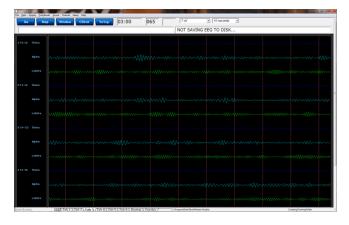
Option): Yes. Allows you to add filtered waveforms, choose to not view particular waveforms, show uV levels, DC Offsets & Impedances, as well as turning on & off a Zero Line.

		Dialog	×
Select Channel Fp1 F3 F3 F3 F3 F3 F3 F3 F3 F3 F7 F2 F4 F2 F4 F02 F8 F7 F8 F7 F8 F7 F8 F7 F8 F7 F8 F8 F8 F8 F8 F8 F8 F7 F7 F7 F7 F8	マ T6 マ Cz マ Pz マ A2	Select Bands	Options
ОК	🗌 Use tab defaults	Cancel	

Training Waveforms

Use: Displays the Trained Waveforms.

Requirements: Displays only sites selected in the Montage Section of Settings. **Left-Click Mouse Function:** Yes. 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 Only), and DC Offsets.

Panel Options	
 ✓ Use tab defaults ✓ C3-A1 ✓ C4-LE ✓ P3-LE ✓ P4-LE 	☐ Raw EEC ☐ Delta ☐ Theta ☐ Alpha ☑ Lobeta ☑ Beta ☐ Hibeta ☐ Gamma ☐ User
 Set Loreta folder Create electrode sxy Scroll Show Value Show Freq 	z file Show RMS Show DC
ОК	Cancel

Frequency Spectrum

Display: 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.

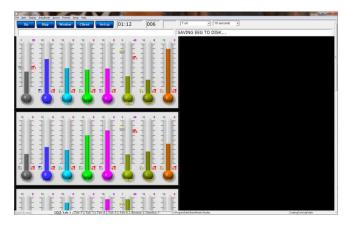
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1 15 20 45 10 10 10 20 45 40 40 Frank user (10, 10, 10, 10, 10, 10, 10, 10, 10, 10,			CountryTranshyliddar

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

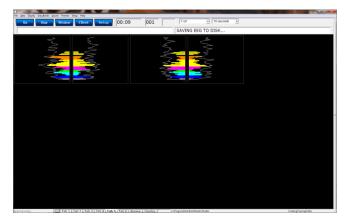
Option): Yes. Allows you to choose which bands or Events you would like displayed, as well as choosing the Large Style Thermometer.

Select Channel	Select Bands	Select Events	Options
☑ C3-LE	🗖 Raw EEG	Z-Scores	Large Thermo
☑ C4-LE	🗖 Delta1	🔽 LZT Percent Reward	
▼ P3-LE	🗹 Delta	🔽 Upper Threshold	
₩ P4-LE	🗹 Theta	🔽 Lower Threshold	
	🗹 Alpha	Event 5	
	🗖 Beta	🔽 ROI Training	
	🗖 Sum	Event 7	
	E Beta2	🔽 Loreta Percent Reward	
	🗖 Gamma		
	🗖 Alpha1		
	🗖 Alpha2		Filters
OK	✓ Use tab defaults	Cancel	

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.

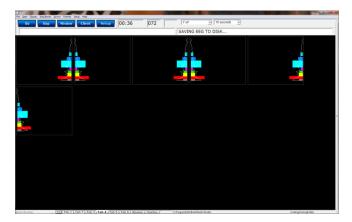


Right-Click Mouse Function (Panel Option): No.

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): No.

Text Stats

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.

Go Stop	Window C	lient Set	up	00:51	000		7.	v		10 500	conds	•						
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ALLEA	RULE VALUE D			B % TIME														

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	Select Events	Options
🗖 Raw EEG	🗹 Theta	C Acquired
🔽 Delta	🗹 Beta	🗖 Large Font
🔽 Theta	🗹 HiBeta	No Labels
🗹 Alpha	🗖 Event 4	✓ Peak-Peak
🔽 Lobeta	🔽 Event 5	Demographics
🔽 Beta	🔽 Percent Reward	Impedance
🔽 Hibeta	🗹 Event 7	Training Channels
🗖 Gamma	🗹 Event 8	
🗖 User	🗹 Event 9	Show Events 👻
	🗹 Event 10	
	🔽 Event 11	Filter precision
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	🗹 Event 15	
	🗹 Event 16	
ОК Г Ц	ise tab defaults Cancel	

Trend Graph (Components)

Use: Displays a graph for each component

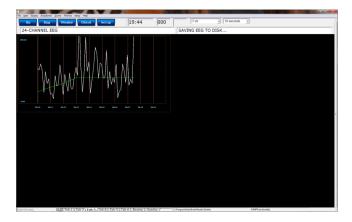
for each trained site. **Requirements:** Displays only sites selected in the Montage Section of Settings. **Left-Click Mouse Function:** No.

Number Numer Numer Numer

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.



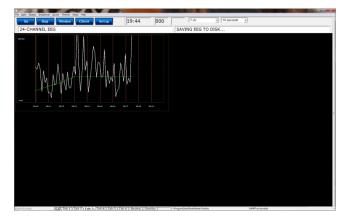
Right-Click Mouse Function (Panel

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	X
Select Events	Options
🗆 Theta	Auto Range
🗖 Alpha	Scroll
🔽 Hibeta	Vide Lines
🗌 Event 4	Grid
🗆 Event 5	
Percent Reward	
🔽 Event 7	
🔽 Event 8	
🔽 Event 9	
🔽 Event 10	
🔽 Event 11	
🔽 Event 12	
🔽 Event 13	
🔽 Event 14	
🔽 Event 15	
🔽 Event 16	
OK Use tab o	defaults Cancel

Wide Trend (Events) (Same as Trends)

Use: Displays a longer 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	X
Select Events	Options
🗖 Theta	Auto Range
🗖 Alpha	Scroll
🔽 Hibeta	Vide Lines
🗌 Event 4	Grid
Event 5	
Percent Reward	
🔽 Event 7	
🔽 Event 8	
🔽 Event 9	
🔽 Event 10	
🔽 Event 11	
🔽 Event 12	
🔽 Event 13	
Event 14	
Event 15	
🔽 Event 16	
OK 🗌 Use tab	defaults Cancel

Z-Scores

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

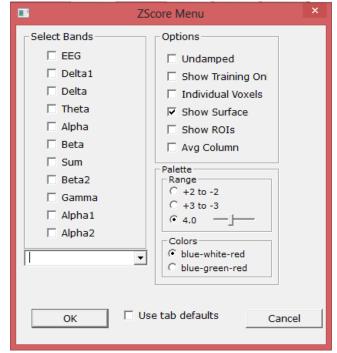
Requirements: Displays only for sites, components, and values chosen in the Z-Score Section of Settings.

Left-Click Mouse Function: No.

Go	Stop	1	Wine	dow	Cli	ient	s	etup		0	0:2	2:30	65	5	655		7.0	21	10 seconds	•			
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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 (If you are doing both Surface as well as sLORETA), adjust the palette for the data coming in, as well as choose to display only the Z-Scores being LZT Trained.



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.

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	00 7 JV • 10 seconds •
Please relax for baseline reading	0-Second Baseline No: 1
5.8 Absolute Power : Damped (EO). Age: 62	
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S.# Fieldlive Power: Damped (E0), Age: 12	
44 -	
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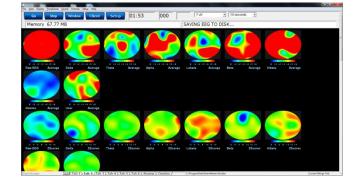
Right-Click Mouse Function (Panel Option): No.

Z-Maps

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

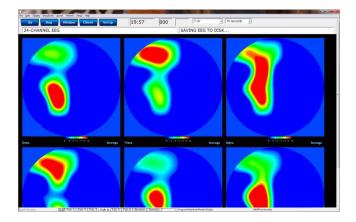
Option): Yes. Allows you to choose what Bands are displayed, the palette range of the maps as well as choose between averaged maps, instantaneous maps, damped maps, and/or all of the different connectivity maps.

FlatMap Menu	Options	Palette	
Raw EEG Delta Delta Alpha Lobeta Beta Hibeta Gamma User	Average EEG Amplitude ZScore Asymmetry ZScore Coherence ZScore Phase ZScore Damping Laplace Big Maps	Palette Low: -3.0 Palette High: 3.0	
	Jse tab defaults	ncel	

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.

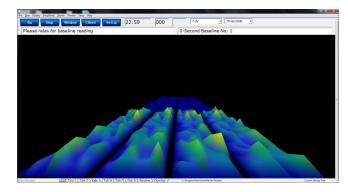
FlatMap Menu			×
Select Bands	Options	Palette	
🗖 Raw EEG	🔽 Average EEG	Palette Low:	-3.0
🗹 Delta	🗖 Amplitude ZScore		1-5.0
🗹 Theta	🗖 Asymmetry ZScore	Palette High:	3.0
🗹 Alpha	Coherence ZScore		
🗹 Lobeta	Phase ZScore		
🗹 Beta	🔽 Damping		
🗹 Hibeta	🗖 Laplace		
🗖 Gamma	🗖 Big Maps		
🗖 User			
ОК	✓ Use tab defaultsCa	incel	
		L	

CSA (Filtered)

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 leftclicking 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	Select Bands	Options
マ 01-A1 マ 02-A2	 □ Raw EEG □ Delta □ Theta □ Alpha □ Lobeta □ Beta □ Hibeta □ Gamma 	☐ Lines ☐ Use splines ☐ Show vectors
ОК К	User	Cancel

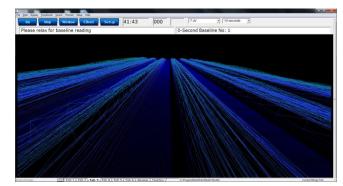
CSA (FFT)

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 leftclicking 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.



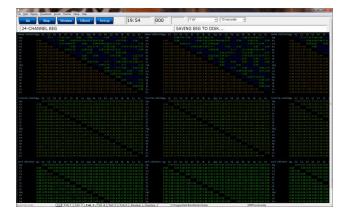
Right-Click Mouse Function (Panel

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	Select Bands	Options
₩ 01-A1 ₩ 02-A2	 Raw EEG Delta Theta Alpha Lobeta Beta Hibeta 	 Lines Use splines Show vectors
ОК	☐ Gamma ☐ User ✓ Use tab defaults	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	Options				
🗖 Raw EEG	☑ Phase Coherence				
🔽 Delta	☑ Phase Classic				
🗹 Theta	🗹 Training Coherend				
🗹 Alpha	✓ Pure Coherence				
🔽 Lobeta	C Asymmetry				
🔽 Beta					
🔽 Hibeta					
🗖 Gamma					
🗖 User					
OK 🛛 🔽 Use tab defaults Car					
<u></u>					

Similarity

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.

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	45									
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1			2 50							

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	x
 ✓ Use tab defaults Raw EEC ✓ Delta ✓ Theta ✓ Alpha ✓ Lobeta ✓ Beta ✓ Hibeta ✓ Gamma ✓ User 	 ✓ Phase Sin ✓ Phase Cla ✓ Training C ✓ Pure Cohe
ОК	Cancel

EEG Text

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.

America America <t< th=""><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th>BrainA</th><th>vator</th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th>- 0</th></t<>														BrainA	vator												- 0
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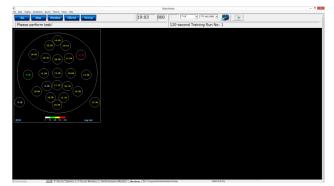
Right-Click Mouse Function (Panel Option): No.

*Discovery Impedance is an Optional Purchase

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.

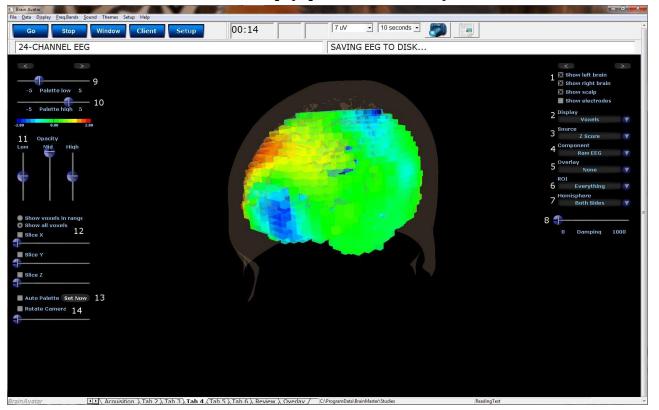


Right-Click Mouse Function (Panel

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.

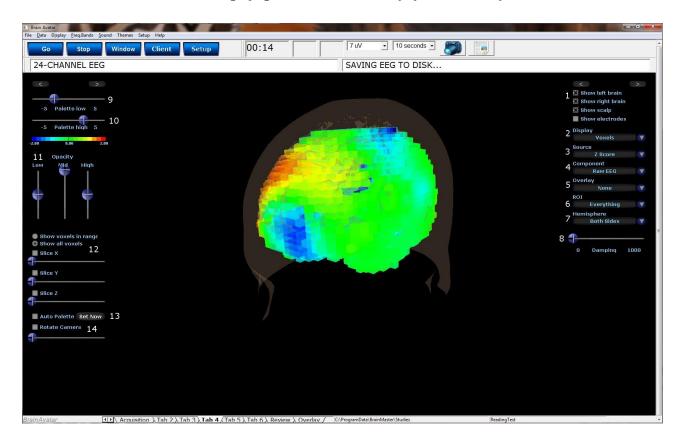
	FlatMap Menu	
Select Bands EEG Delta1 Delta Theta Alpha Beta2 Gamma Alpha1 Alpha2 OK	Options Palette Impedance Palette Low: Impedance numbing Palette High: Impedance laplace Palette High: Impedance Palette Low: Impedance laplace Palette High: Impedance Palette High: Impedance Palette High: Impedance Impedance Impedance Impedance <td></td>	

Advanced Displays



Head Map (Optional Purchase)

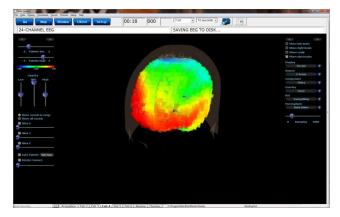
- 1. **Model Display Section –** Section where you can choose various items to be displayed for the model.
- 2. **Display Drop-Down Menu –** Drop-Down Menu, where you can choose the type of display for the data. You can choose between Scalp fields, Voxels, Dipoles, and Connections.
- 3. **Source Drop-Down 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 an Overlay to be displayed. You can choose between a Rectangular or 10/20 Grid. This will only be displayed for Scalp fields or Connections.
- 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. This will only be displayed for Voxels or Dipoles.
- 7. Hemisphere Drop-Down Menu Drop-Down Menu, where you can choose to look at the Left Hemisphere, Right Hemisphere, or both.



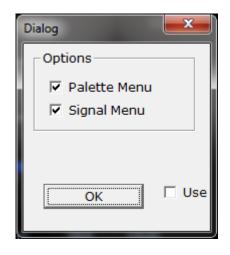
- 8. Damping Slider Slide bar that sets the rate of change for the display.
- 9. Palette Low Slider Slide bar that sets the low palette for displaying.
- 10. Palette High Slider Slide bar that sets the high palette for displaying.
- 11. Opacity Section Slider bars that sets the opacity for the different ranges of data.
- 12. Slice Section Section, that you can chose an area for viewing base on X, Y or Z coordinates on the head.
- 13. 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.
- 14. **Rotation Section –** Section that you can set the rotation and speed of rotation for the Head Map.

Requirements: Displays only sites selected in the Acquisition Screen.

Left-Click Mouse Function: Yes. By leftclicking 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.



Everything **Frontal Lobe** Limbic Lobe **Occipital Lobe** Parietal Lobe Sub-lobar **Temporal Lobe Angular Gyrus Anterior Cingulate Cingulate Gyrus** Cuneus Extra-Nuclear **Fusiform Gyrus Inferior Frontal Gyrus Inferior Occipital Gyrus Inferior Parietal Lobule 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**

ROI Table

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 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

Panel Wizard

Panel Wizard Control Menu Display

		Show C	utlines		Tab	3			Tab 2			
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				· <u> </u>			13		14 Can			

- 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.
- Width Box Box in which you can adjust the width for the particular Display Type on this Tab.
 Height Box Box in which you can adjust the width for the particular Display Type on this
- 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.
- 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

Tab.

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:
 - b. Show Outlines This switches between seeing the display and seeing lines for the displays. When you see

Go Sto	odi jount Themes Seap Help Window Client Setup	00:22:30	655	655	7 uV	10 seconds	•
Fp1-LE							

the outlines, you can click on the different boxes. This allows you to resize or move a display using your mouse

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

This will now launch the Panel Wizard. You will tell that this was successful, as the Panel Wizard Menu will now be open. From here, you can make the adjustments that you would like to adjust.

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vatar	41 Tah 1 \ Tah 2 \ Tah 3 \ Tah 4 \ Tah 5 \ Tah 6 \ Review \ Overlay / Overlay / Overlay /	gCarMolaAStrandUntiThidIm

Panel Wizard Resolution Help

1920 X 1080 Resolution Screen Settings

Panel Wizard									
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	ayout Options								
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2	Raw EEG	0	0	1403	388		Delete	Menu	
3	Mind Mirror	0	393	500	375		Delete	Menu	
4	MindMirror FFT	500	393	500	375		Delete	Menu	
5	CSA	1000	393	600	500		Delete	Menu	
1									-
Add a pa	inel:	•		Apply		(ок	Cancel	

REF 531-322 v1.3 10/23/2013

BrainAvatar Software User Manual 1680 X 1050 Resolution Screen Settings

Pan	el Wiza	rd									X	
	Auto			tlines	Т	ab	Tr	aining)	Tab 1		
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	2		Raw EEG	0	0	1134	388		Delete	Menu	_	
	3		Mind Mirror	0	393	300	250		Delete	Menu		
	4		MindMirror FFT	300	393	300	250		Delete	Menu		
	5		CSA	600	393	600	500		Delete	Menu		
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	Add a	a pai	nel:	•		Apply			ок	Cancel		

1366 X 768 Resolution Screen Settings

Panel Wiza	ard								X
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2	Train EEG	0	0	1015	352		Delete	Menu	
3	Mind Mirror	-1	357	300	250	Е	Delete	Menu	
4	MindMirror FFT	306	358	300	250		Delete	Menu	
5	CSA	615	358	400	249		Delete	Menu	
Add	a panel:	•		Apply			ЭК	▼ Cancel	

EEG Data Files

Simple EEG Data File Playback (Session Type Method)

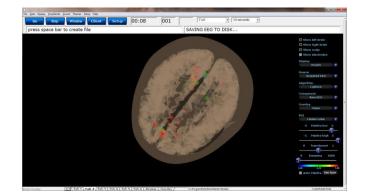
PLEASE NOTE: This process can only be done if you have purchased a BrainMaster Clinical License.

 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.

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

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Recently Changed	•	Name	Date modified	Туре	Size
Public	_	CreateFolderTest1 09.000.01 EO	10/14/2011 6:24 PM	EDF File	60 KB
E Desktop		e0200001	10/3/2011 6:08 PM	EDF File	166 KB
bownloads		e0300001	10/3/2011 6:13 PM	EDF File	1,816 KB
Dropbox Recent Places	=	📕 e0400001	10/3/2011 6:15 PM	EDF File	142 KB
Recent Places		📕 e0500001	10/3/2011 6:16 PM	EDF File	405 KB
词 Libraries		e0600001	10/3/2011 6:18 PM	EDF File	499 KB
Documents		📕 e0700001	10/13/2011 6:06 PM	EDF File	416 KB
Music		📕 e0800001	10/13/2011 6:26 PM	EDF File	4,246 KB
Pictures		e0800102	10/13/2011 6:29 PM	EDF File	596 KB
Videos					
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🏭 WINVISTA (C:)					
DATA (D:)	*				

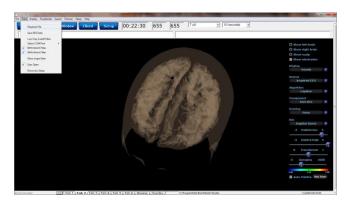
The EDF will now begin to playback. The EDF will operate exactly as live EEG. All displays will react as if live EEG information is coming in.



BrainAvatar Software User Manual Simple EEG Data File Playback (Playback File Method)

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

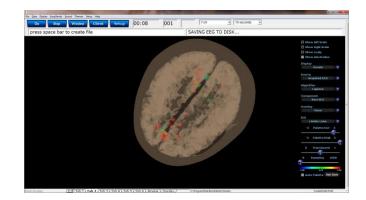
1. From the Training Screen, click the Data Tab, and choose the option Playback File.



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

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Recently Changed ^	Name	Date modified	Туре	Size	
Public	CreateFolderTest1 09.000.01 EO	10/14/2011 6:24 PM	EDF File	60 KB	
E Desktop	e0200001	10/3/2011 6:08 PM	EDF File	166 KB	
Downloads	e0300001	10/3/2011 6:13 PM	EDF File	1,816 KB	
Dropbox	📕 e0400001	10/3/2011 6:15 PM	EDF File	142 KB	
Secent Places	📕 e0500001	10/3/2011 6:16 PM	EDF File	405 KB	
📜 Libraries	📕 e0600001	10/3/2011 6:18 PM	EDF File	499 KB	
Documents	e0700001	10/13/2011 6:06 PM	EDF File	416 KB	
Music	e0800001	10/13/2011 6:26 PM	EDF File	4,246 KB	
Pictures	e0800102	10/13/2011 6:29 PM	EDF File	596 KB	
Videos					
🜉 Computer					
🏭 WINVISTA (C:)					
DATA (D:)					
File name			▼ ED	Files (*.edf)	•

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 Software User Manual Opening an EEG Data File (With-in BrainAvatar Software)

1. From the BrainAvatar Setup Screen, click the Settings Tab, then the Session Tab, set the Session Type to Playback, click Use Settings and Close, and then click GO.



2. Use the Open Screen to Navigate to the EDF, BDF, or DAT file that you would like to open. **PLEASE NOTE:** In order to review a DAT File, you will have to specifically choose that file type in the Drop-down menu in the bottom-right hand corner.

Open 🔆 🕥 – 🗼 « Progra	mData	BrainMaster Studies CreateFolderT	estl	- ∳	Search CreateFolderTest1	× Q
Organize 👻 New fo	lder)II 🕶 🗍	0
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Je Public	_	CreateFolderTest1 09.000.01 EO	10/14/2011 6:24 PM	EDF File	60 KB	
Desktop		e0200001	10/3/2011 6:08 PM	EDF File	166 KB	
bownloads		e0300001	10/3/2011 6:13 PM	EDF File	1,816 KB	
Dropbox Recent Places	Ξ	e0400001	10/3/2011 6:15 PM	EDF File	142 KB	
Magent Places		📕 e0500001	10/3/2011 6:16 PM	EDF File	405 KB	
词 Libraries		e0600001	10/3/2011 6:18 PM	EDF File	499 KB	
Documents		e0700001	10/13/2011 6:06 PM	EDF File	416 KB	
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Pictures		e0800102	10/13/2011 6:29 PM	EDF File	596 KB	
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🏭 WINVISTA (C:)						
DATA (D:)	-					
File	<u>n</u> ame			•	EDF Files (*.edf) Open	▼ el

You can now review the EDF, BDF, or DAT File in the BrainAvatar Software.

	Stop		Client Se	tup [00:18	000	7 JV	10 seconds			
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BrainAvatar Software User Manual Opening an EEG Data File (Windows Explorer)

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

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Favorites	Name	Date modified	Туря	Size		
Recently Changed	Beck-Up	8/17/2012 1:43 PM	File folder			
Public	ACh PZOK DPhase Hbeta Invertube Santi	9/13/2012 3:55 PM	SDB2 File	129 KB		
E Desktop	Alert-Panel Design	8/25/2012 2:05 PM	BDB2 File	87 KB		
a Downloads	Alert-Tab Design	8/25/2012 2:06 PM	EDE2 File	79 KB		
Secent Places	Amplitude with Coherence	9/13/2012 2:15 PM	8082 File	89 KB		
😝 Dropbax	Deep-Panel Design	8/25/2012 2:07 PM	BDB2 File	EL KB		
	Deep-Tab Design	8/25/2012 2:08 PM	SDB2 File	72.KB		
Libraries	Focus-Panel Design	8/25/2012 2:09 PM	8D82 File	87 KB		
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Music	g2ax_expert_resource_win32_x86_en_U5_430.dll	8/16/2012 5:36 PM	Application extens	3,232 KB		
Rictures	No Limit QEEG Assessment-Discovery	8/25/2012 2:11 PM	BDB2 File	75 KB		
Videos	Peak-Panel Design	8/17/2012 9:53 AM	EDE2 File	84 KB		
	Peak-Tab Design	8/17/2012 9:49 AM	8D82 File	77 KB		
Computer	PercentZOK using PZMO and PZME	10/27/2011 1:15 PM	EDE2 File	89.KB		
KINVISTA (C:)	Relax-Panel Design	8/13/2012 6:29 PM	BDB2 File	85 KB		
DATA (D:)	Relax-Tab Design	8/17/2012 9:56 AM	BDB2 File	79 KB		
	Santi Phase InnerTubeHiBeta	9/4/2012 4:37 PM	EDE2 File	114 KB		
Network	slofeta Zap	8/31/2012 2:15 PM	8D82 File	103 KB		
	Squash-Panel Design	8/17/2012 5:35 PM	8D82 File	85 KB		
	Squash-Tab Design	8/17/2012 5:35 PM	EDE2 File	79 KB		
	Z Scores Using PZOK-Panel Design	8/17/2012 5:34 PM	BDB2 File	90 KB		
	Z Scores Using PZOK-Tab Design	8/17/2012 5:34 PM	SDB2 File	90 KB		
	Z Scores Using PZOKUL with 2 Channel Amplitude Training	9/5/2012 5:21 PM	8082 File	91.KB		
	Z Scores Using PZOKUL-Panel Design	8/25/2012 11:55 AM	BDB2 File	94 KB		
	Z Scores Using PZOKUL-Tab Design	8/25/2012 11:56 AM	EDE2 File	90 KB		
	ZScore PZOKUL with Head-Atlantis Design	8/17/2012 5:32 PM	BDB2 File	96 KB		
	ZScore PZOKUL with ROLA Training-Discovery Design	8/17/2012 5/32 PM	SDB2 File	106 KB		

The EDF, BDF, or DAT file will now be opened inside the BrainAvatar Software. You can now review this file.

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Review Playback

Playback Control Menu

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3-Which filters to use: C Current filters (from BS Standard BrainMaster		

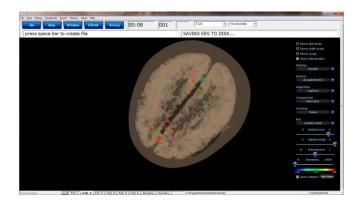
- 1. What To Playback Section Section where you can choose what information that you would like to playback
 - a. The Whole File Choose this to playback the entire EDF, BDF, or DAT File
 - **b.** The Selected Range Choose this to playback only the selection area chosen through the mouse
- 2. Within that 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
- 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
 - **b.** Standard BrainMaster Filters This will utilize the Standard BrainMaster Filters regardless of the filter settings from the Bands section
- 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.

BrainAvatar Software User Manual 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.

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

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Playing back a section of an EDF File

- 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.

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- 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.

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.

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EDF Annotation

Annotation Control Menu

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Selected range is from 0.988 sec 2 Mark As Good	6 List Markers	
3 Mark As Bad		
4 Mark As: Goo	d 🔹	
5Annotate With Text: Mrk 1	l .	

- 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 (COMING SOON).

Annotating an EDF

 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.

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.

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Deleting an Annotation

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

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

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ZBuilder

ZBuilder Control Menu

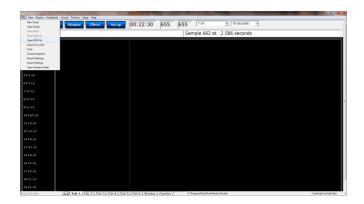
] Annotate Playback Loreta ZBuild	Dialog er	
1 What to analyze: C The whole file Image: From To To 1768 2 What to include in the file: Image: Similarities Voxels 3 Options Start Excel when done	 Within that selection, analyze: All of the data Only the sections marked good All except sections marked bad Current filters Default filters Default filtename in the current study EO/EC filename in the control folder EO/EC filename in the control folder 	
	7 Run ZBuilder 8 Cancel	

- 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
- 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.
- 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

	 Within that selection, analyze: 6 Which filters to use: C All of the data Only the sections marked good All except sections marked bad Soutput file: Default filename in the current study EO/EC filename in the control folder EO/EC filename in the control folder
3 Options	C EO/EC filename in the control folder

- 5. **Output file: Section** Section where you can set the Output file name/Destination.
 - a. **Default filename in current study** Creates a file named ZBuilderDefault in the current Study Folder that you opened the EDF, BDF, or DAT file for Review in
 - EO/EC filename in the current study Creates a file named ZBuilderEO or ZBuilderEC based on the settings of the folder, and saves it in the Study Folder you opened the EDF, BDF, or DAT file for Review in
 - c. **Default file name in the control folder** Creates a file named ZBuilderDefault in the directory c:\ProgramData\BrainMaster\Control
 - d. EO/EC filename in the control folder Creates a file named ZBuilderEO or ZBuilderEC based on the settings of the folder, and saves it in the directory C:\ProgramData\BrainMaster\Control
- 6. 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
 - **b. Default Filters –** This will utilize the Standard BrainMaster Filters regardless of the filter settings from the Bands section
- 7. Run ZBuilder Button Click to create A ZBuilder File based on the information selected.
- 8. **Cancel Button –** Click to cancel the ZBuilder File.

1. From the Training Screen, click the File Tab, and choose the Open EEG File Option.



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

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Downloads	e0200001	10/3/2011 6:08 PM	EDF File	166 KB	
Dropbox	e0300001	10/3/2011 6:13 PM	EDF File	1,816 KB	
Recent Places	e0400001	10/3/2011 6:15 PM	EDF File	142 KB	
Mecent Places	📕 e0500001	10/3/2011 6:16 PM	EDF File	405 KB	
🗎 Libraries	e0600001	10/3/2011 6:18 PM	EDF File	499 KB	
	📕 e0700001	10/13/2011 6:06 PM	EDF File	416 KB	
Documents	📕 e0800001	10/13/2011 6:26 PM	EDF File	4,246 KB	
J Music	e0800102	10/13/2011 6:29 PM	EDF File	596 KB	
📄 Pictures 🚼 Videos					
🖳 Computer					
🏭 WINVISTA (C:)					
DATA (D:)					
File nam				F Files (*.edf)	-

3. Under the Review Tab, you will 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. Please use this menu to set the ZBuilder Settings as needed.



BrainAvatar Software User Manual

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 you do not specify, then it will be saved in the clients study folder).

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			Scalal S	Section		
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	FHIGH		0.00000	3.00000	7.00000	12.00000
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	STD.01		11.42276	4.56910	1.63775	0.99105
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	STD_L.01		0.00000	1.19984	0.86418	0.78694
	MIN.01		-46.85357	-46.85357	-46.85357	-46.85357
	MAX.01		54.55416	54.55416	54.55416	54.55416
	MEANF.01		0.00000	12.85227	8.24287	6.17695
	STDF.01		0.00000	2.07047	1.39849	0.81056

Scalars Section

- 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.
 - 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.

			Similaritie	S Section				
Phase Similarity 1	Fp1 2	F3	C3	P3	01	F7	T3	T5
Fp1 2		4 0.46035	0.23311	0.03481	-0.33261	0.10340	0.05512	-0.13671
F3	3 0.00000		0.87429	0.60325	0.00782	0.08185	0.51513	0.25152
C3	0.70498	0.50163		0.76373	0.16492	0.17759	0.67066	0.42339
P3	0.00000	0.74915	0.66677		0.56900	0.30317	0.88348	0.64968
01	0.66683	0.00000	0.41436	0.72779		0.02316	0.51122	0.67870
F7	0.74799	0.63060	0.59228	0.69449	0.59379		0.38161	0.08789
Т3	0.59713	0.73720	0.84172	0.92050	0.60629	0.32204		0.65959
T5	0.66285	0.75772	0.80363	0.84278	0.81994	0.59601	0.78166	

Similarities Section

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.

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Channel	2 Value 3	Delta/Theta	Delta/Alpha	Delta/Lobeta	Delta/Beta
Fp1 1	MEAN.01	2.28165	5.20684	8.35511	4.80018
	STD.01	2.34787	12.20536	11.80864	5.47460
F3	MEAN.02	1.19650	2.41285	3.86024	2.93660
	STD.02	0.86173	2.33818	3.44892	2.60290
C3	MEAN.03	1.33900	2.21551	3.22746	3.88383
	STD.03	1.24570	2.70855	3.41384	6.72582
P3	MEAN.04	1.36972	2.24977	2.85571	3.62265
	STD.04	1.11536	5.66406	2.44812	4.87770

Band Ratios

- 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. **MEAN.X** This is the average of Amplitude for the band ratio, where "X" is that particular Channel number.
 - b. **STD**.**X** This is 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				
Voxel Number	2	EEG.AVG	EEG.STD	Delta.AVG	Delta.STD	Theta.AVG	Theta.STD	Alpha.AV(
1	1	32.19161	24.732	15.71809	10.386	7.03349	5.136	6.45974
	2	34.25182	26.195	16.56392	10.976	7.18148	5.363	6.77274
	3	36.01935	27.619	17.27035	11.481	7.37354	5.588	7.00822
	4	30.93336	24.083	15.14296	10.092	6.95646	4.961	6.24910
	5	32.85333	25.386	15.94326	10.641	7.11016	5.189	6.55045
	6	34.79994	26.9	16.73636	11.201	7.28824	5.43	6.81519
	7	29.95130	23.612	14.70004	9.867	6.88392	4.827	6.06740
	8	31.84457	24.917	15.49922	10.425	7.04311	5.058	6.36266
	9	35.44218	27.782	16.97732	11.466	7.43549	5,54	6.83006
	10	31.03236	24.545	15.12808	10.256	6.96612	4.955	6.20255
	11	32.87922	25.959	15.92881	10.825	7.15364	5.211	6.45788
	12	29.53634	23.984	12.63781	9	6.81303	4.822	5.41235
	13	31.30028	25.84	13.03219	9.416	6.91584	4.951	5.57321

- 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 Which Filters to use section.
 - b. **BAND.STD** This the standard deviation of the amplitude for the particular band, where "BAND" is the band as defined by the Which Filters to use section.

Adding to a ZBuilder File

 Under the Review Tab, you will 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. Please make sure that you select "Append to current file". PLEASE NOTE: Do not change any settings if you are adding to a file. Doing this, will give you incorrect information.

You have added to the ZBuilder File you have chosen. 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 you do not specify, then it will be saved in the clients study folder).

File Data			mes Setup Help								
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						Sa	mple 1087 at	4.246 seconds			
Fp1-LE F3-LE C3-LE P3-LE 01-LE F7-LE	EEG EEG EEG EEG EEG					Courses Pro-	and mond				
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- 1. First, you will need to make sure that you have your ZBuilder enabled. You will need to do this in two areas:
 - A. **Global Settings –** Click the Global Settings Tab, then click the ZScores Tab. Here, make sure you have a check mark in the "Use BrainMaster DLL" Option.

Global Zácores Performance *Z-Scores Pr Use ANZ Zácore GLL * Use Brannaster GLL * Use Cutom DLL (Branne Below) ZbuldorTrest.met	
P Use ANI ZSCOR DL □ Use ANI ZSCOR DL P Use Cuttom DL (Berame below)	
₩ Use Custom DLL (filename below)	
2Bulder?et.ml	

B. Z Scores – Click the Settings Tab, then click the Z Scores Tab. Here, you will need to make sure the "Use BrainMaster ZScores" option is selected.

 BrainAvatar Setup 				-
Main Login Folder Settings EDF Browser Review	Global Settings			٦
Main Read/Write Channels Bands Protocol Disp	lay Feedback Session	Event Wizard	Acquisition Montage Auto Threshold Z Scores Session Wizard	
C Not using Zisons C Not using Zisons C Use ANT Zisons C Use Coston Zisons C Use Coston Zisons	Acquired A2 A2 A2 A2 Add-> Add-> Add A1 <remove Remove A1</remove 	L2T 701 702 75 74 75 74 75 76 77 78 78 77 78 75 75 75 75 75 75 75 75 75 75	Trained Values Trained Values D is frame D is frame	
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	Total Selected:	Total Z-Scores:		
		19		
Training Method				
Logged in, device type Discovery			Use Settings and Close Use These Settings Exit	1

2. After you have enabled for your ZBuilder files, and have selected a training designed for Z-Score, you will now be able to utilize your ZBuilder File.

Go Stop Wi	ndow Client Setup
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LORETA

LORETA Control Menu

•	Dialog	×
Annotate Playback Loreta	ZBuilder Analyze	
1What to export C The whole file The selected range: From 222 To 1754	2 Within that selection, export: C All of the data C Only the sections marked good C All except sections marked bad	
3 Which filters to use: Current filters (from B Standard BrainMaster 5 Export EEG to Loreta		
	7 Cancel	

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/kevinst/NewLORETA/Software/Software.htm.

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

	Dialog	
nnotate Playback Loreta	ZBuilder Analyze	
1What to export C The whole file G The selected range: From 222 To 1754	Within that selection, export: Only the sections marked good All except sections marked bad	
3 Which filters to use: C Current filters (from B Standard BrainMaster		
5 Export EEG to Loreta	6 Export to Loreta Cross Spectra	
	7 Cancel	

- 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 folder the file is being reviewed in.
 - 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 files for the sLORETA Software based on the settings specified.
- 6. Export to Loreta Cross Spectrum Click to create a CRS based on the settings specified.
- 7. Cancel Button Click to cancel creating a LORETA File.

BrainAvatar Software User Manual

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.

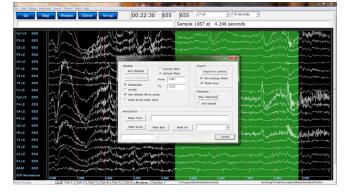
1. From the Training Screen, click the File Tab, and choose the Open EEG File Option.



2. Use the Open screen to Navigate to the EDF file that you would like to open.

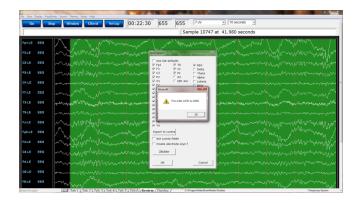
Open	-			-	— × —
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Organize 🔻 New fol	der) • • • • • • • • • • • • • • • • • • •
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Je Public	_	CreateFolderTest1 09.000.01 EO	10/14/2011 6:24 PM	EDF File	60 KB
Desktop		■ e0200001	10/3/2011 6:08 PM	EDF File	166 KB
Downloads		📕 e0300001	10/3/2011 6:13 PM	EDF File	1,816 KB
Recent Places	Ξ	📕 e0400001	10/3/2011 6:15 PM	EDF File	142 KB
Marketeric Places		■ e0500001	10/3/2011 6:16 PM	EDF File	405 KB
😂 Libraries		e0600001	10/3/2011 6:18 PM	EDF File	499 KB
Documents		e0700001	10/13/2011 6:06 PM	EDF File	416 KB
Music		e0800001	10/13/2011 6:26 PM	EDF File	4,246 KB
Pictures		e0800102	10/13/2011 6:29 PM	EDF File	596 KB
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File	<u>n</u> ame	s		-	EDF Files (*.edf)
					Open 😽 Cancel

 Under the Review Tab, Right-click on the screen to bring up the screens Panel Option menu and remove the A2 position from the Raw Waveforms. You will highlight the EEG that you would like to use by holding the Left-Mouse button down, and moving the mouse. Letting go of the mouse will bring up the Panel Options Menu. On the Panel Options, and Left click on the Export to Loreta Button.



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You have now converted this portion of data, into a LORETA export. A screen will pop up to confirm that this has been completed. This will save the information as a text document located in a folder named for your folder in the directory c:\sLoreta-AvatarImport.



Annotate

> 1 What C . 6 From To 5 What

> > Scalars

Voxels

Surface ZScores

Voxel ZScores

ROI ZScores

Similarities

Raw data

Analyze

	Analyze control Men	· •-
	Dialog	
tate Playback Loreta ZBuilder	Analyze	
What to analyze: C The whole file The selected range: From 289 To 1826 What to include in the file:	2 Within that selection, analyze:	3 Tuning Reference algorithm 4 Patient C Eyes closed © Eyes open Age 29

7 Report type

C Quick report

C Excel Live

C Excel / CSV

8Run Analysis

9 Cancel

C MS Word

6 Which filters to use: -

C Current filters

BrainDx filters

Prime filters with

C Default (BrainMaster)

Analyze Control Menu

- 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. Tuning Section Section where you can choose the analyzation process to either be done by the software (checked), or by the graphics processing (not checked)
- 4. 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
- 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

What to analyze: C The whole file Image: Image:	2 Within that selection, analyze:	3 Tuning ☐ Reference algorithm 4 Patient C Eyes closed @ Eyes open Age 29	
Summary Scalars Voxels Surface ZScores Voxel ZScores ROI ZScores Similarities Raw data	C Current filters C Default (BrainMaster) BrainDx filters	eport type C Quick report C Excel Live C MS Word C Excel / XML C Excel / CSV	

- 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.** Raw data Click this to create a page of Raw Data information (Coming soon)
- 6. 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
 - b. Default Filters This will utilize the Standard BrainMaster Filters regardless of the filter settings from the Bands section
 - **c.** BrainDX Filters This will utilize the BrainDX Filters regardless of the filter settings from the Bands section. This must be the setting if you check either the Surface ZScores, Voxel ZScores, or ROI ZScores
- 7. 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 "Report xml" in the current Study directory currently being used
 - **d.** Excel / CSV Click to create a .CSV report named "Report.csv" in the current Study directory currently being used
- 8. Run ZBuilder Button Click to create an analyze file based on the information selected.
- 9. Cancel Button Click to cancel the analyze file.

Sample Analyze File & Layout

ch and	2 14 1	COMPARENTS OF	Dellard Ocotin	1010 000	These	A1
Channel	2 Value	3 EEG	Delta1	Delta	Theta	Alpha
1	FLOW	0.00000	0.50000	1.70000	3.70000	7.70000
	FHIGH	0.00000	1.50000	3.70000	7.70000	12.70000
Fp1	MEAN.01	8.16938	7.02185	3.24533	2.70335	1.82934
	AVGRMS.01	10.97456	8.06233	4.29059	3.55925	2.19154
	AVGPKPK.01	31.04075	22.80370	12.13562	10.06708	6.19862
	MIN.01	-37.35285	-37.35285	-37.35285	-37.35285	-37.35285
	MAX.01	45.85350	45.85350	45.85350	45.85350	45.85350
	MEANF.01	0.00000	18.21230	15.75587	17.31653	12.57555
	STDF.01	0.00000	3.66616	2.51145	2.71291	0.86302
	MEANMF.01	0.00000	0.53559	1.64252	4.71948	9.11593
	STDMF.01	0.00000	0.03449	0.09740	0.10429	0.15057

Scalars Section

- 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.
 - 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 the Which Filters to use Section), and their collected information.

			Similaritie	S Section				
Phase Similarity 1	Fp1 2	F3	C3	P3	01	F7	T3	T5
Fp1 2	191 (VADA	4 0.46035	0.23311	0.03481	-0.33261	0.10340	0.05512	-0.13671
F3	3 0.00000		0.87429	0.60325	0.00782	0.08185	0.51513	0.25152
C3	0.70498	0.50163		0.76373	0.16492	0.17759	0.67066	0.42339
P3	0.00000	0.74915	0.66677		0.56900	0.30317	0.88348	0.64968
01	0.66683	0.00000	0.41436	0.72779		0.02316	0.51122	0.67870
F7	0.74799	0.63060	0.59228	0.69449	0.59379		0.38161	0.08789
Т3	0.59713	0.73720	0.84172	0.92050	0.60629	0.32204		0.65959
T5	0.66285	0.75772	0.80363	0.84278	0.81994	0.59601	0.78166	

Similarities Section

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.

				Voxels				
Voxel Number	2	EEG.AVG	EEG.STD	Delta.AVG	Delta.STD	Theta.AVG	Theta.STD	Alpha.AV(
1	1	32.19161	24.732	15.71809	10.386	7.03349	5.136	6.45974
	2	34.25182	26.195	16.56392	10.976	7.18148	5.363	6.77274
	3	36.01935	27.619	17.27035	11.481	7.37354	5.588	7.00822
	4	30.93336	24.083	15.14296	10.092	6.95646	4.961	6.24910
	5	32.85333	25.386	15.94326	10.641	7.11016	5.189	6.55045
	6	34.79994	26.9	16.73636	11.201	7.28824	5.43	6.81519
	7	29.95130	23.612	14.70004	9.867	6.88392	4.827	6.06740
	8	31.84457	24.917	15.49922	10.425	7.04311	5.058	6.36266
	9	35.44218	27.782	16.97732	11.466	7.43549	5,54	6.83006
	10	31.03236	24.545	15.12808	10.256	6.96612	4.955	6.20255
	11	32.87922	25.959	15.92881	10.825	7.15364	5.211	6.45788
	12	29.53634	23.984	12.63781	9	6.81303	4.822	5.41235
	13	31.30028	25.84	13.03219	9.416	6.91584	4.951	5.57321

- 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.
 - b. **BAND.STD** This the standard deviation of the amplitude for the particular band, where "BAND" is the band as defined by the Which Filters to use section.

		Z-Scores1		
Band 1	2 Delta1.ZAP	Delta.ZAP	Theta.ZAP	Alpha.ZAP
Fp1 L	1.80422	1.34225	1.42048	-1.40471
Fp2	1.58733	1.33733	1.31044	-1.44040
F3	0.72910	-0.32707	-0.46893	-2.12599
F4	0.96491	-0.81589	-0.79573	-2.19100
C3	1.00390	-0.54396	-0.88581	-2.51830
C4	0.94430	-0.87920	-1.50255	-2.81761
P3	0.67131	-0.82617	-1.33156	-2.39779
P4	1.09941	-1.00145	-1.40258	-2.48996
01	1.27783	-0.62726	-0.74198	-2.12675
02	0.98667	-0.43563	-0.83424	-2.21271
F7	1.46703	1.36645	0.90401	-1.64827
F8	0.76756	0.00145	-0.22413	-1.93339
Т3	1.22465	-0.09107	-0.23471	-1.93257
T4	1.12786	-0.72296	-1.49882	-2.38142
T5	1.19059	-0.93317	-1.06723	-1.89825

- 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

Z-Scores2										
Delta1 1	Fp1.ZAA	Fp2.ZAA	F3.ZAA	F4.ZAA	C3.ZAA	C4.ZAA	P3.ZAA			
Fp1	2	1.21090	2.40969	2.00812	1.66046	1.72841	1.79801			
Fp2	7237		1.77507	1.53547	1.17029	1.27099	1.42721			
F3				-0.49685	-0.55481	-0.33853	0.11598			
F4					-0.10318	0.11650	0.48333			
C3						0.29321	0.76442			
C4							0.45600			
P3										
P4										
01										
02										
F7										
F8										
ТЗ										
T4										

- 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 2	EEG.ZAP	Delta1.ZAP	Delta.ZAP	Theta.ZAP	Alpha.ZAP				
1 1	0	0.967	0.666	0.373	-0.214				
2	0	0.993	0.658	0.415	-0.149				
3	0	1.018	0.657	0.449	-0.08				
4	. 0	0.935	0.641	0.351	-0.249				
5	0	0.957	0.635	0.391	-0.192				
6	0	0.979	0.633	0.425	-0.13				
7	0	0.903	0.604	0.335	-0.277				
8	0	0.924	0.603	0.375	-0.226				
9	0	0.964	0.605	0.435	-0.121				
10	0	0.887	0.562	0.36	-0.255				
11	0	0.903	0.569	0.391	-0.204				
12	0	0.766	0.497	0.491	-0.227				
13	0	0.779	0.52	0.531	-0.185				
14	. 0	0.79	0.545	0.566	-0.151				
15	0	0.765	0.447	0.405	-0.243				
16	0	0.771	0.501	0.481	-0.186				
17	0	0.759	0.44	0.383	-0.197				
18	0	0.767	0.499	0.462	-0.14				
19	0	0.779	0.544	0.52	-0.089				
20	0	0.794	0.572	0.558	-0.03				

Voxels Z-Scores

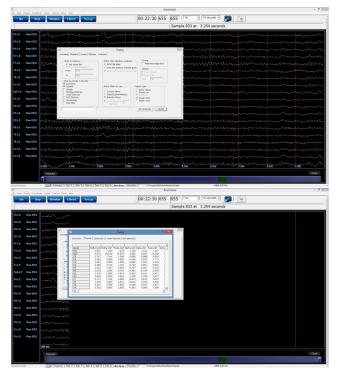
- 1. **Voxel Number** This section contains the labeling for all of the Voxels
- 2. **Frequency Section** This section will show all bands, and their Standard Deviation for that particular voxel

ROI Name 2	Delta1.L	Delta.L	Theta.L	Alpha.L
Frontal Lobe 1	0.964	0.497	0.555	0.126
Limbic Lobe	0.651	0.342	0.297	-0.181
Occipital Lobe	0.355	0.235	0.411	-0.102
Parietal Lobe	0.721	0.63	0.447	0.035
Sub Lobar	0.754	0.356	0.132	-0.187
Temporal Lobe	0.734	0.433	0.147	-0.132
All	-0.106	-0.157	-0.019	-0.366
Angular Gyrus	0.495	0.544	0.394	0.013
Anterior Cingulate	1.053	0.457	0.546	-0.147
Cingulate Gyrus	0.913	0.486	0.553	0.073
Cuneus	0.509	0.38	0.644	-0.027
Extra Nuclear	0.99	0.603	0.478	-0.076
Fusiform Gyrus	0.314	0.123	-0.092	-0.294
Inferior Frontal Gyrus	0.968	0.51	0.488	0.027
Inferior Occipital Gyrus	0.257	0.165	0.258	-0.113
Inferior Parietal Lobule	0.621	0.625	0.228	-0.021
Inferior Temporal Gyrus	0.761	0.485	0.149	-0.187

- 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

 After your EDF file, has been opened, and all of the data has been selected that you would like to be contained in the file, double click on the EDF File and set on the Analyze Tab, to your settings as you would like. When completed, click the Run Analysis Button.

You have now created a analyze 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 you chose for a file to be created. If you chose Quick Report, a screen will pop open displaying all of your specified information.

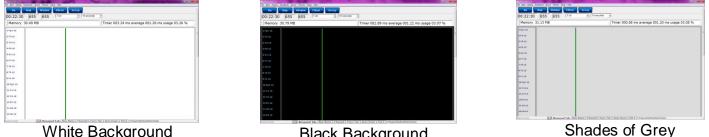


Software Themes (Coming soon)

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



Black Background

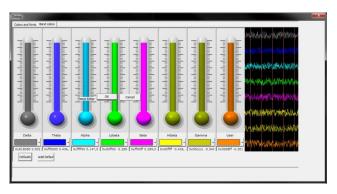
Along with pre-designed themes, you can design your own theme.

- 1. From the Training screen, click the Themes Tab, and choose Edit Current Theme option.
- Go Stop V Setup 00:22:30 655 655 o 1042 at 4.070 s
- 2. The following screen will pop up. From this screen, you will be able to edit the Background, Foreground, Border Color, Text Color, EEG Lines Color, and Grid Lines. Once you have this to your liking, you can click the Band Colors tab to edit the individual Band Colors.

Colors and fonts Band colors			
Background	- marchaelle marchael		
Foreground			
Border color	·		
Text color	- and all and a statement		
EEG lines	- man and a company and an	14.20	
Grid lines	. markersman		
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3. The following screen will allow you to edit the coloring of each individual Band Color. Once you have this set to your liking, click the OK button.



4. After you have created a Custom Theme, and would like to use it for future use, click the Themes Tab and choose the Save Theme to Disk option. After you have done this, it will now be saved to this particular file, and will also be saved to the My Custom Theme option.

Go Stop Winds	w Client Setup	00:22:30 65	655 655		10 seconds 💽	
				Sample 657 at	2.566 seconds	
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BMZ Files

Creating A BMZ from a Studies File

- 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 Session Librarian Button. PLEASE NOTE: The Session Librarian will function for the current folder chosen in the software only.
- 2. When the following screen pops up, click OK to continue.

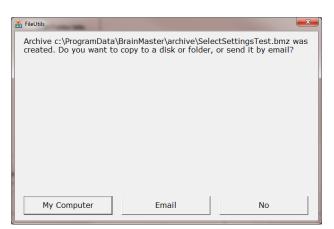
ninAvatar Setup n Login Folder Settings EDF Browser Review Global Settings		The second s	
ect Folder Create Folder Folder Notes Session Librarian Edit Folder	r Info.		
Select Folder: (you may double-click to select)			
[] [CreateFolderTest1] [Desktop]	Create New Folder		
[FeinerTest] [FeiderSetup] [TamGeinerToTestHowLong CanMakeAStrandUnti[ThisErrorHappens]	Folder Notes		
[MMPFunctionality] [SelectSettingsTeut] [Temporary Session] [ZScore P2OKUL With R01]	Session Librarian		
ESTOR PEOKOE WIN HOL	Edit Folder Info.		
	ОК		
File Name [Traince ID]: SelectSettingsTest			
Trainee Name: SelectSettingsTest Comment:	Sessions Used: 8		
Comment Standard Test Study	Max Sessions:		
	0		
Session Genie			
Administer Session Genie Push to Serv	er and Delete Folder		
gged in, device type Discovery		Use Settings and Close	Use These Settings

🚠 FileUtils	
This procedure will write an archive file for study: SelectSettingsTest	
You may then copy the archive to a disk or folder, or email it to a recipient.	
Ok	Cancel

3. Another screen will pop up to show progress. Nothing is needed to be done. Simply wait for the extraction to complete to continue.

🛃 FileUtils	×
Copying 74646 bytes from Selec	tSettingsTest.bmz to
Copy finished	
	A
	·
ОК	Cancel

- 4. When the following screen appears, it will give you 3 options: Floppy, Email, NO.
 - A. My Computer 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 don on.
 - B. Email In order for this to work properly, two things are needed. First, proper Email 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:	support@brainm.com

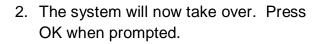
C. **NO** – This is the option that most people will use. This will still create the BMZ, but it will not E-Mail it, or save it to a Floppy, it will simply create the BMZ File at C:\brainm.20\archive.

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.

🔊 🖉 📕 🖡 Computer 🛙	WINVISTA (C:) > Program	nData 🕨	BrainMaster +	archive		* 69	Search archive		-	_
Organize • Include in lib	rary • Share with •	Burn	New folder					80.0		
🔆 Favorites	Name	^		Date modified	Туре	Size				
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Public	SelectSettingsTest			1/25/2012 2:31 PM	BMZ File	73 KB				
E Desktop										
🔰 Downloads										
Secent Places										
💝 Dropbox										
词 Libraries										
Documents										
J Music										
Pictures										
Videos	=									
🖳 Computer										
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Import Received/Downloaded BMZ Files (Coming Soon)

 There are 3 ways BMZ Files can be received: E-Mail, Removable media, or downloading from the internet. Doubleclick on the BMZ file, and choose Open or Run, depending on your version of Windows.



 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.

Opening	Mail Attachment
?	You should only open attachments from a trustworthy source.
	Attachment: Test.bmz from .bmz Picture Example - Message (HTML)
	Would you like to open the file or save it to your computer?
	Open Save Cancel
	Always ask before opening this type of file

	archive	
Extracting File c:brainm.20\studies\Test\sum00001.bsm From c:brainm.20\archive\Test.bmz	:c:\brainm.20\archive\T was expanded to study	
Cancel		ОК
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	the second s	
Main Login Folder Settings EDF Browser Review Global Settings		
Select Folder Create Folder Folder Notes Session Librarian Edit Folder Info.		1

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Main Login Folder Settings EDF Browser Review Global Settings				
Select Folder Create Folder Folder Notes Session Librarian Edit Folder	Info.			
Select Folder: (you may double-click to select)				
SelectSettingsTest.bmz [] [CreateFolderTest1]	Create New Folder			
[Creater older esti] [Desktop] [FeinerTest] FolderSetual	Folder Notes			
[lamGoingToTestHowLongICanMakeAStrandUntilThisErrorHappens] [MMPFunctionality] [SelectSetingsTest]	Session Librarian			
[Temporary Session] [ZScore PZOKUL With ROI]	Edit Folder Info.			
	ок			
File Name (Traince ID): SelectSettingsTest				
Trainee Name: SelectSettingsTest	Sessions Used: 0			
Comment: Standard Test Study	Max Sessions:			
	0			
-Session Genie Administer Session Genie Push to Serv	er and Delete Folder			
Logged in, device type Discovery		Use Settings and Close	Use These Settings	Exit
and the second state of th			the major bernings	Eur

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

 On the BrainMaster Setup Screen, click the Folder Selections Button or Folder Tab, and select the file that you would like to be converted to a Settings File.

EreinAveter Set	ιp		The state of the s			
Main Login	Folder	Settings EDF Browse	r Review Global	Settings		
Welcome to				LOGIN OK: SN: 60000 EXP DATE: 1/29/2012 CLINICAL LICENSE		
Trainee ID:				Login		
Trainee Name:	SelectSet	ttingsTest		Folder Selections		
Comment:	Standard	Test Study		Run The Next Session		
Next Sessio	Number:	Total Sessions A	vailable: atable	View or Change Settings		
Training scr	ien is	Not Running	click here to	EDF Browser		
Exit		Product Manuals	refresh this screen	Review Session Results		
Logged in, dev	ice type D	iscovery			Use Settings and Close	Use These Settings Exit

 Click the Settings Tab, then click the Read/Write Sub-Tab. This can also be done, by click the View or Change Settings button, the the Read/Write Settings File Button.

Read/Write Cha	nnels Bands Protocol Display Feedback Session Event Wizard Acquisition Montage Auto Threshold Z Scores Session Wizard	
ad/Write Settings F	Current Trainee/Study: Name unknown	
Data Channels	NCHANS: 4 SRATE: 256 LOWFREQCUTOFF: OFF FILTER: 3 ARTIFACT: 255 V/ COM: 15- SUMCHARG:OFF - SAVEEEG:EDF - 5-P-20KC3-LE C-LE F2-LE LE LE COMPARISON - SAVEEEG:EDF -	
Frequency Bands	Raw EEG:0.0000-0.0000 Delta:1.0000-3.0000 Theta:4.0000-7.0000 Alphra (0.000-1.2.0000 Lobeta:12.0000-13.0000 Beta:15.0000-2.0000 Hotea:2.0000-30.0000	
Training Protocol	GO: (none) STOP: (none) AUTO:DFF:50/20/10	
Display Options	Cisplay:	
Feedback Control	Sound: Event Sounds -	
Session Control	0 SESSIONS -NO BASELINES10 RUNS OF LENGTH: 2.0 MINNO PAUSE BETWEEN RUNS-SESSION TYPE: Simulation	
Auto Threshold	PRINT SETTINGS Event Wizard USE THESE SETTINGS	

 In the Read or Write Settings File Menu, you will click the Save Current Settings to a New File Button.

an Connet Sattings to a New Yie Software Connet Sattings to a New Yie Sattingsfreet and In Sattings From a Salesteef File Cancel Oric
in ed

4. The following screen will appear. Please name the file as you would like it to be named. When completed, click the Save button.

Organize 🔻 New f	older				8= •	0
📃 Desktop	^	Name	Date modified	Туре	Size	
Downloads		5 Minute Timed Assessment-EO,EC,Tas	k 10/27/2011 1:05 PM	BDB2 File	75 KB	
S Recent Places		Alert	10/27/2011 1:07 PM	BDB2 File	79 KB	
💔 Dropbox	_	🖻 Deep	10/27/2011 1:07 PM	BDB2 File	72 KB	
The Alberton		Focus	10/27/2011 1:08 PM	BDB2 File	79 KB	
Libraries Documents		No Limit QEEG Assessment	10/27/2011 1:15 PM	BDB2 File	63 KB	
Music		🖻 Peak	10/27/2011 1:16 PM	BDB2 File	77 KB	
Pictures	Ξ	PercentZOK using PZMO and PZME	10/27/2011 1:16 PM	BDB2 File	89 KB	
Videos		🖻 Relax	10/27/2011 1:18 PM	BDB2 File	79 KB	
Videos		🖻 Squash	10/27/2011 1:18 PM	BDB2 File	79 KB	
💷 Computer		Temp with SCR and BVP	12/15/2011 12:49	BDB2 File	90 KB	
WINVISTA (C:)		😐 Test	11/30/2011 12:46		73 KB	
DATA (D:)		Z Score PZOKUL with ROIA	12/15/2011 2:00 PM		87 KB	
MALWAL CLASS	Ψ.	Z Scores Using PZOK	1/13/2012 5:30 PM	BDB2 File	76 KB	
File name:						
Save as type: Se	tun F	iler				

You have now saved these settings as a new settings. You will tell that this is complete, as it will now be located in the Read/Write Menu.

Provention of PCD and PCB bids Networks and PCD bids Dense Network PCD b	Built-In Settings Files. (@suble-tick to read in settings and proceed) [F Minuta Tries Assessment-EO,8C,Task.bdb2 (Alect.bdb2 (Posts.bdb2 (Posts.bdb2 (Posts.bdb2 (Posts.bdb2 (Posts.bdb2) (Posts.bdb2 (Posts.bdb2) (Posts.bdb2 (Posts.bdb2) (Posts.bdb2 (Posts.bdb2) (Posts.bd2) (Use the screet to menage your Settings File libery, You can charge storing within any trainer/stady loader, without using this screet. Serve Current Settings to a file File
	Percent2004 using 22/PIO and P2PIE.bbl2 Balau.bbl2 SelectSemrgsTextbolb2 Textbol2 Textbol2 2 Sores P2004.usih A0(A.bbl2 2 Sores P2004.usih A0(A.bbl2 2 Sores P2004.usih A2(A.bbl2 2 Sores P2004.usih A2(A.bbl2) 2 Sores P2004.usih A2(A.bbl2)	Setting Decorption: Advances/prime Decorption Setting/Inst

BrainAvatar Software User Manual Archiving Old Studies Folders (Coming Soon)

 From the Setup Screen, click the Folder Selection Button or Folder Tab. This will bring you to the Select Folder Screen. On this screen, and click the Push to Server and Delete Folder Button. PLEASE NOTE: The Session Librarian will function for the current folder chosen in the software only.

BrainAvatar Setup			
Main Login Folder Settings EDF Browser Review Global Settings			
Select Folder Create Folder Folder Notes Session Librarian Edit Folder	er Info.		
Select Folder: (you may double click to select)			
[-] [CreateFolderTest1] [Desition]	Create New Folder		
PelierTest FelderSetup JanGeingToTestHowLongICanMakeAStrandUnti[ThisErrorHappens]	Folder Notes		
[MMPFunctionality] [SelectSettingsTest] [Termperary Session]	Session Librarian		
ZScare PŹOKUL With ROIJ	Edit Folder Info.		
	ОК		
File Name (Trainee ID): SelectSettingsTest			
Generati Trainee Name: SelectSettingsTest Comment:	Sessions Used: 0		
Standard Test Study	Max Sessions:		
	0		
Session Genie Administer Session Genie Pisch to Serv	ver and Delete Folder		
Logged in, device type Discovery		Use Settings and Close	Use These Settings

2. The system will take over. Once the archiving process is completed, it will ask if you are sure that you want to Click on 'Continue/Confirm or 'Cance move the folder to the Study c:\ProgramData\Brai Master\Studies Delete Folder Continue/Confirm Cancel recycling bin. Click Yes ou sure you want to move this folder to the Recycle Bin 3 to continue. SelectSettingsTest Date created: 1/24/2012 10:31 AM ed 32768 bytes c:\ProgramData\BrainMaster\archive\SelectSettingsTest.bmz :\\SelectSettingsTest.bmz

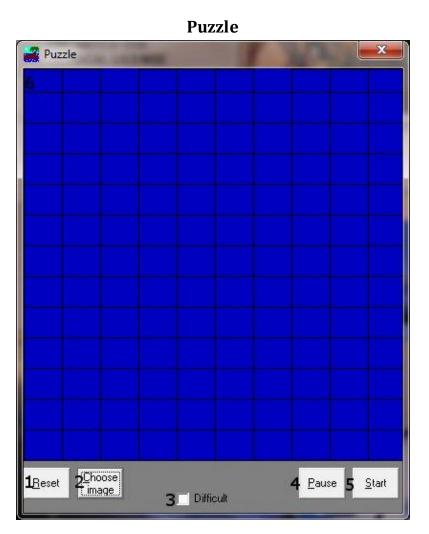
Yes No

The folder has now been deleted from the Studies Directory. A BMZ of this file has been created, and is saved at C:\ProgramData\BrainMaster\archive.

Login Folder Settings EDF Browser Review Global Settings		
lect Folder Create Folder Folder Notes Session Librarian Edit Folde	er Info.	
Select Folder: (you may double-click to select)		
[.] [CreateFolderTest1] [Desktop]	Create New Folder	
Feiner1et FeiderSchup amGingToTetHowLong CasMakeAStrandUntiThisErrorHappens MMFFunctionality Temperary Session Zisoner P2OKUL With FIO]	Folder Notes	
	Session Librarian	
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ile Name (Traince ID): SelectSettingsTest		
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Administer Session Genie Push to Serv	ver and Delete Folder	

BMr Extras

BMr Contributed Games



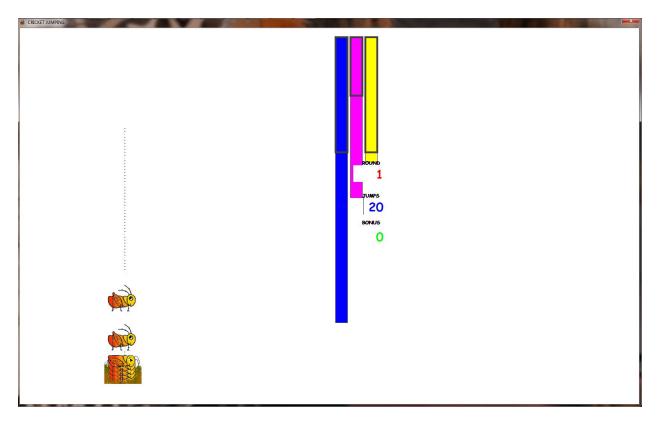
- **1. Reset Button** Click to make the blue squares visible. This can also be performed by clicking Alt + R.
- 2. Choose Image Button Click to place a new image behind the blue squares. This can also be done by clicking Alt + C.
- **3.** Difficulty Check Box Check to change the difficulty. If the difficulty 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 BrainMaster software.

Space Race



- 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 + "=".

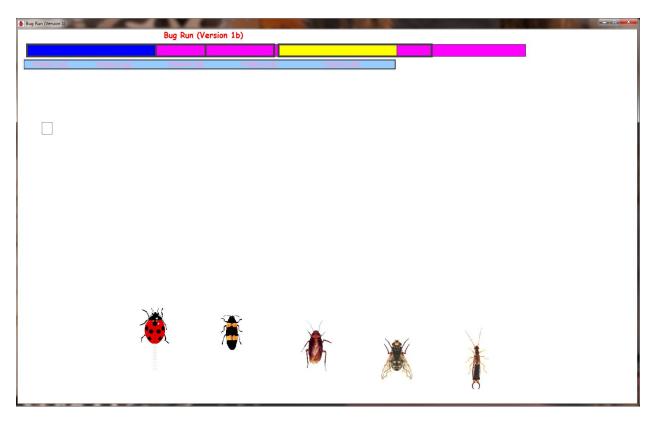
Cricket



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

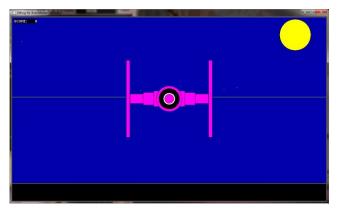


This screen provides a "bug race". As the trainee meets the training criteria, the bugs will advance at random, running a race. If the trainee has excessive amounts of "stop" component, some of the bugs will slip down a bit, and fall behind. The goal of the game is to have the race progress.

After a while, one of the bugs will win, and be declared the winner.

BMr Popups Displays

Display: 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 papel showing Channel 1

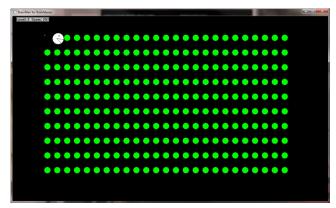


space ships, with the left panel showing Channel 1, and the right panel showing channel 2.

Display: BrainMan

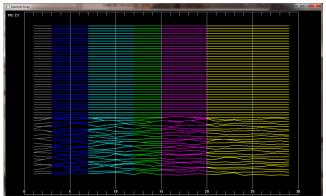
Display Type: Game

Requirements: Basic amplitude training **Brief Description:** BrainMan will advance 1 point for each target "hit". Since what constitutes a "hit" is determined by the setup of the Thermometer system, the exact criteria for causing BrainMan to move can be set up in any desired fashion. Whenever an inhibited component is over its threshold (e.g. theta), BrainMan will turn blue, signaling the trainee.



Display: 2D Spectral

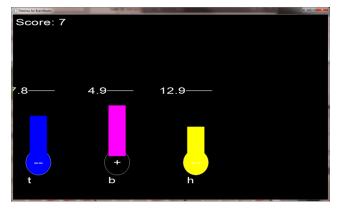
Display Type: Display **Requirements:** Basic amplitude training **Brief Description:** This provides a cascade of past FFT spectra, covering the previous 1 minute of activity. Each frequency band is colored according to the frequency ranges selected. This coloring is the same as used on the FFT and 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.



Display: Numbers 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.

💷 Numbers	- D ×
CHAI MICF VOLT	
USER: 5.0	1.0
GAMMA: 2.3	2.1
HIBETA: 8.3	0.6
BETA: 6.4	0.8
LOBETA: 4.9	1.0
ALPHA: 5.6	0.9
THETA: 4.9	1.0
DELTA: 3.8	1.3
Hide Ratios	

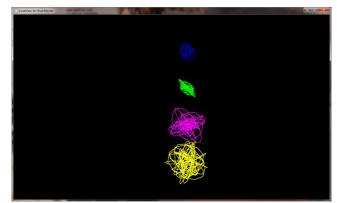
Display: Thermos **Display Type:** Display **Requirements:** Basic amplitude training **Brief Description:** This window shows each of the major EEG component intensities as a bar graph with real-time response. "GO" components show a "+" in the bottom of the thermometer. "STOP" components show a "-" in the bottom of the thermometer. Un-trained components will not be shown in this screen.



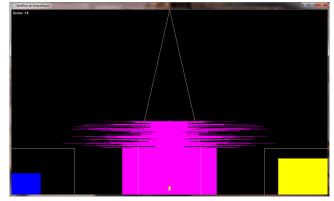
Display: Waves **Display Type:** Display **Requirements:** Basic amplitude training **Brief Description:** This window shows the raw and filtered EEF waves in a resizable window. The display scal can be changed using the "+" and "-" keys, as usual. When two channels are used, both channels appear.



Display: 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.



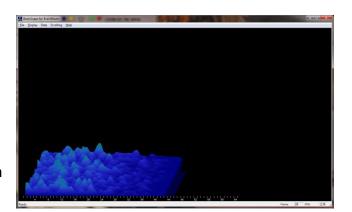
Display: BoxFlow **Display Type:** Game **Requirements:** Basic amplitude training **Brief Description:** This is similar to that used in other common displays. The center box gets wider and narrower, so you can see the past history of the enhance band. You want it wide, to meet the threshold. The outer 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.



Display: MiniBMirr **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.



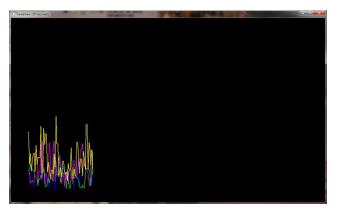
Display: BrainScape **Display Type:** Display **Requirements:** Basic amplitude training **Brief Description:** BrainScape is designed to provide a 3-dimensional time/frequency representation of EEG signals, using a combination of frequency analysis, spline interpolation, and color-coded representation 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.

Display: TrendView

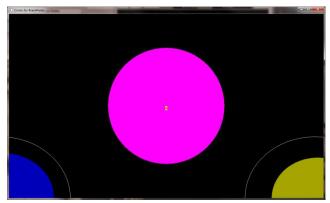
Display Type: Display **Requirements:** Basic amplitude training **Brief Description:** This shows the current and past activity of a component, in a plot of value vs. time, over a period of 30 seconds. After the plot reaches 30 seconds, it clears and redraws. The plot window displays only those components that are currently selected. When two channels are used, both appear on the display.



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.

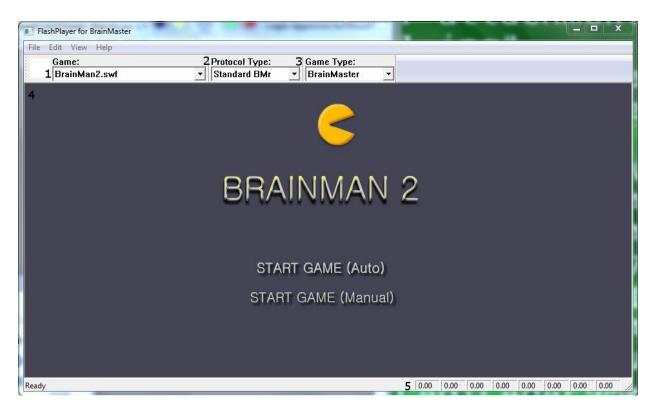


Display: Circles **Display Type:** Game **Requirements:** Basic amplitude training **Brief Description:** The Circles Window is similar to the BoxFlow, in that the center feature shows the main "uptrained" component, while the outer features show the high and the low "inhibits". When two channels are 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

- 1. Game Drop-Down Box Drop-down box where you can choose the game that you would like the Flash Player to use.
- 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

 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.

2. After you start the Session, click the "Window" Button.

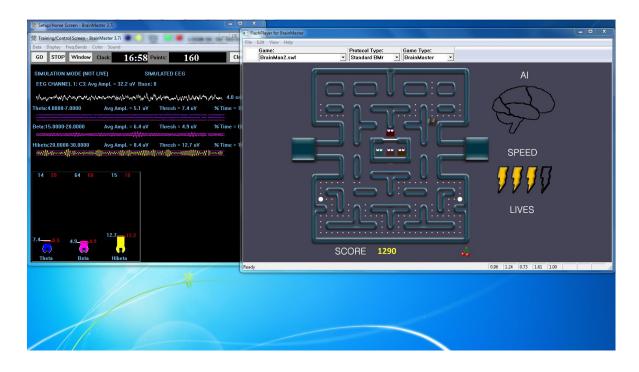
3. In the Window Launcher Menu, click the "Flash Player" Button, located in the BMr Macromedia Section.



햧 Training/Control Screen - Brain		2 N	
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Beta:15.0000-20.0000	Avg Ampl. = 3.3 u'	√ Thresh = 3.0 uV	% Time = 9
A. MARINA MARA	www.www.	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	
Hibeta:20.0000-30.0000			
	adda		
3 20 9 60			
	11.8—13.1		
5.9_7.2 3.0_5.5	-		
Theta Beta	Hibeta		-

Wir	idow Launcher		
I I	Popups		BMr Multimedia BMr Macromedia
	X-Wing	BoxFlow	MultiMedia Player Flash Player
	BrainMan	Mini BMirr	DVD Player
	2D Spectral	BrainScape	
	Numbers	TrendView	AVI Extensions Browse
	Thermos	LongTrend	استعدال استعمال
	Waves	Circles	Contributed Games George Martin's Puzzle Space
	LissaView	ReturnMap	Jim Zdunek's Cricket BugRun
			Cancel

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.



Flash Player Games

Color Quest



- 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.

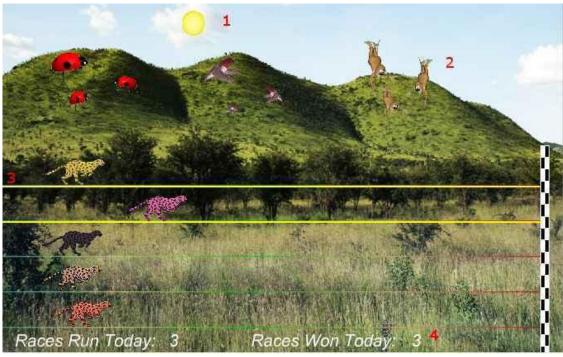
Similar Games – None

BrainCats 2



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

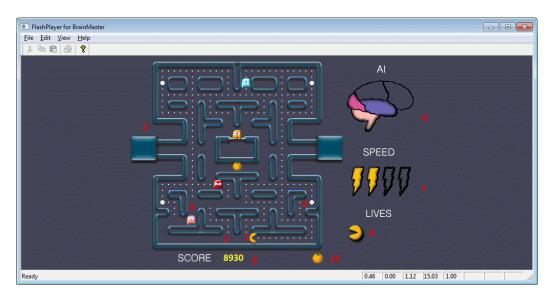
- 1. Sun/Moon Graphics This graphic will move through the sky as you win more races. Eventually, when the sun passes the mountains on the west side of the screen, day turns into night, and the process begins again with the moon.
- 2. Trophies Graphics As you gain points, trophies begin to appear. When 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



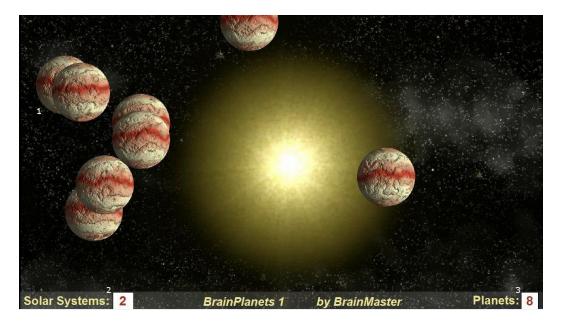
- 1. Automatic Gameplay Selection Click to choose the Automatic Gameplay mode. This is more akin to the original BrainMan for BrainMaster. BrainMan will move automatically across the board. His movements are a direct response to the user's feedback. In addition, the user's feedback over the last six 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.



Training Screen

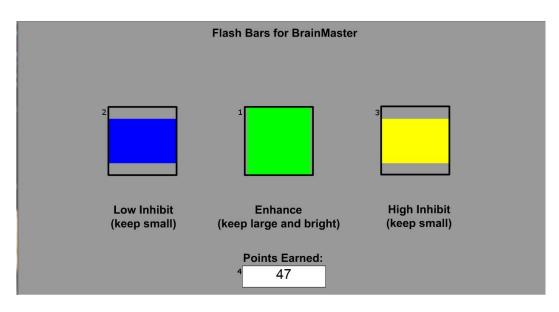
- 1. BrainMan This is BrainMan. He moves according to the feedback of the user. If the user does not meet specified feedback requirements, BrainMan will not move.
- 2. Pills When all the pills on a stage have been eaten, BrainMna will move on to the next stage.
- 3. Ghosts These familiar foes begin to 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. Al Level The Al 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

BrainPlanets



- 1. BrianPlanets The BrainPlanets are created when the trainee meets the training criteria continuously for a certain period of time(approx.. ½ second). The Planets are moving quickly when the criteria are met, and slow down otherwise. The number of cells reflects the success in keeping in state over a period of time. If the trainee falls out of state(or has inhibits) for a period of time(approx. 1 second), one planet will disappear. 10 Planets create a Solar System, and all planets disappear and the client begins to build a Solar System again.
- 2. Solar System Counter This box counts the amount of Solar Systems that have been created.
- 3. Planet Counter This box counts the amount of Planets that have been created.

Similar Games – BrainPlanet1lite, BrainPlanets2, BrainPlanets2lite, BrainCell



- 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.
- Points Earned Box Box that displays the current amount of points that the client has earned during their training.

Similar Games – None.

BMrMultiMedia(BMrMMP) Player Control Menu Display

🚜 Multimedia Control for BrainMaster		
1 Animation		
c:WFviewer\Canyon.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		
None Modulate Sound		
File c:\WFplayer\CoolFunky.mid		
CD Play track 1 through track 1		
3 Resolution 4 Window Mode 5 CPU Usage Control		
© 800x600 © 800x600 © Full Screen 30 → 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, WMV

Acceptable Audio Files: MP3, WAV

Using BMrMMP

 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.

2. After you start the Session, click the "Window" Button.

3. In the Window Launcher Menu, click the "MultiMedia Player" Button, located in the BMr Multimedia Section.



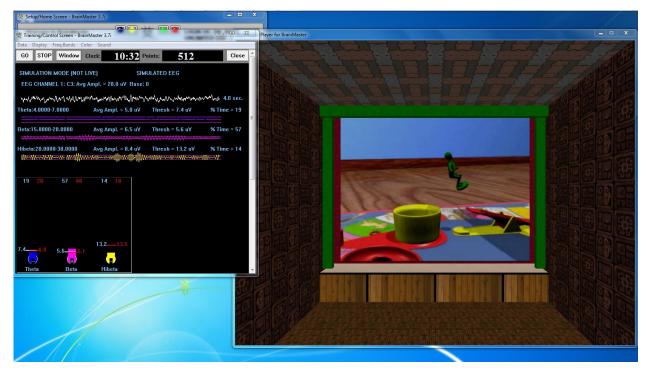
交 Training/Control Screen - Brain <u>D</u> ata Display <u>F</u> req.Bands <u>C</u> o		2 2 8 mm	
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3 20 9 60			
5.9 <u>7.2</u> 3.0 <u>5.5</u> Theta Beta	11.8 <u>-</u> 13.1 Libeta		

Win	Popups		BMr Multimedia BMr Macromedia
	X-Wing	BoxFlow	MultiMedia Player Flash Player
	BrainMan	Mini BMirr	DVD Player
	2D Spectral	BrainScape	-Audio/Video Interfaces Additional Software
	Numbers	TrendView	AVI Extensions Browse
	Thermos	LongTrend	
	Waves	Circles	Contributed Games George Martin's Puzzle Space
	Lissa¥iew	ReturnMap	Jim Zdunek's Cricket BugRun
			Cancel

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.

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C. WI VIEWE	i (Housed ap impg at	water sound.mpg	
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○ CD Play track	1 📥 through	n track 7	
Resolution 640x480 800x600 1024x768	Window Mode Windowed Full Screen	CPU Usage Control	efresh per sec
	Play	Close	

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.



1	Chapter	2	3 4 dulate Video	5 6 Volume	Min Brightness
	: 00:00:0	Mo	dulate Audio use/Unpause	9	10

- 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.
- 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

 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.

2. After you start the Session, click the "Window" Button.

3. In the Window Launcher Menu, click the "DVD Player" Button, located in the BMr Multimedia Section.



🔅 Training/Control Screen - BrainMaster 3.7i	
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Theta Beta Hibeta	

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lг	Popups		BMr Multimedia BMr Macromedia
	X-Wing	BoxFlow	MultiMedia Player Flash Player
	BrainMan	Mini BMirr	DVD Player
	2D Spectral	BrainScape	Audio/Video Interfaces Additional Software
	Numbers	TrendView	AVI Extensions Browse
	Thermos	LongTrend	ليستعمل المستعمل
	Waves	Circles	Contributed Games George Martin's Puzzle Space
	LissaView	ReturnMap	Jim Zdunek's Cricket BugRun
			Cancel OK

4. Click the "Play" Button or the "Restore Playback" Button to continue.

S BmrDVD	
Ittle: 1 Chapter: 3 Modulate Video Duration: 01:52:17 Modulate Modulate Audio Time: 00:11:04 Pause/Unpause	Min Volume Brightness

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.

荧 Setup/Home Screen - BrainMaster 3.7i	🚱 BmrDVD Video Window	= • ×
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7.4.7.2 5.6.5.6 Theta Beta Hibeta	Trend Nore Program.	3
	Prar/Hister 2.5 Software	

EEGAudio Control Menu Display



- 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

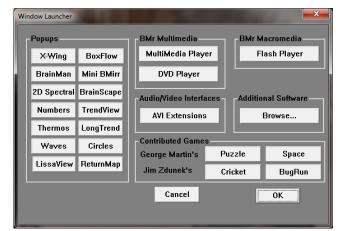
 Setup the training that you would like to use, or choose an existing folder that you would like to us, and click the "Run The Next Session" Button.

2. After you start the Session, click the "Window" Button.



	trol Screen - BrainN		1 Start	· ·			
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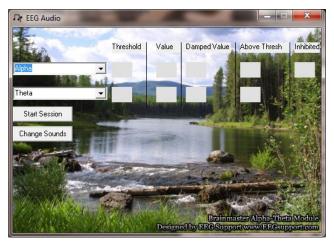
3. In the Window Launcher Menu, click the "AVI Extensions" Button, located in the Audio/Video Interfaces Section.



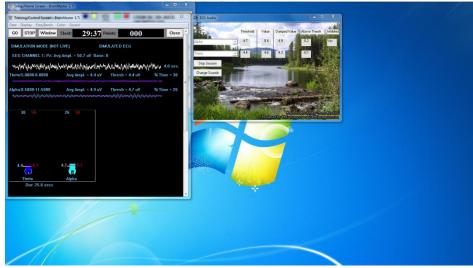
4. The following menu will open. Double-Click "EEGAudio.exe" to open the EEGAudio program.

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	etwork							

5. Setup the sounds and bands as you would like them. When the set-up is complete, click the Start Session Button.



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.



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 the BrainDX 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

	rtup				-
lain Login	Folder S	Settings EDF Browser Review Glob	bal Settings		
Welcome t		iter BrainAvatar v Folder:	LOGIN OK: SN: 60000 EXP DATE: 2/17/2012 CLINICAL LICENSE		
	: Temporar		Login		
Trainee Name:			Folder Selections		
Comment:	Standard	Test Study	Run The Next Session		
Next Sessio	on Number:	Total Sessions Available: repeatable	View or Change Settings		
Training sci	reen is	Not Running	EDF Browser		
Exit		Product Manuals refresh this			
		screen	Nerien Session Nestrics		
		screen			

2. From the Select Trainee/Study Folder Menu, click the Create New Folder Button

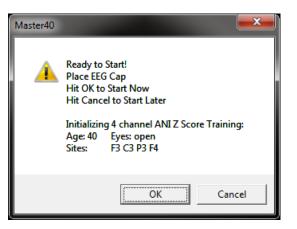
Select Folder: (you may double-click to select [] [CreateFolderTest1]		Create New Folder		
[Desktop] [Fail test] [FeinerTest] [FolderSetup]		Folder Notes		
[FREDDYBÁĎER] [Jamgeingtecrashthis] [JamGeingToTestHewLenglCanMakeAStrandU [JhqkihtKs]	IntilThisErrorHappens]	Session Librarian		
[MMPFunctionality] [SelectSettingsTest] [Temporary Session] TrastinaFileDirectinal		Edit Folder Info.		
[theresa 8-kanal beta smr alpha] [ZScore PZOKUL With ROI]		ОК		
File Name (Trainee ID): Temporary Session				
Trainee Name:		Sessions Used:		
Comment: Standard Test Study		u Max Sessions: A		
Session Genie				
Administer Session Genie	Duch to Sar	ver and Delete Folder		

 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 OK on the Session Control Menu, USE THESE SETTINGS on the Setup Options Menu, and click the Run The Next Session Button

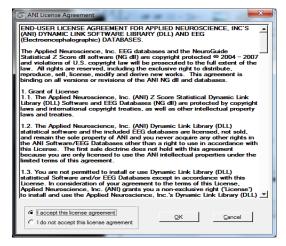
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E Desktop		Peak	10/27/2011 1:16 PM	BDB2 File	77 KB	
Downloads		PercentZOK using PZMO and PZME	10/27/2011 1:16 PM	BDB2 File	89 KB	
Recent Places		🖆 Relax	10/27/2011 1:18 PM	BDB2 File	79 KB	
💔 Dropbox		SelectSettingsTest	1/25/2012 2:44 PM	BDB2 File	101 KB	
-	=	Squash	10/27/2011 1:18 PM	BDB2 File	79 KB	
Cibraries		Temp with SCR and BVP	12/15/2011 12:49	BDB2 File	90 KB	
Documents		🗵 Test	11/30/2011 12:46	BDB2 File	73 KB	
J Music		Z Score PZOKUL with ROIA	12/15/2011 2:00 PM	BDB2 File	87 KB	
Pictures		Z Scores Using PZOK	1/13/2012 5:30 PM	BDB2 File	76 KB	
Videos		Z Scores Using PZOKUL	1/13/2012 5:31 PM	BDB2 File	83 KB	
Computer		ZScore PZOKUL with PZMO MS2	10/27/2011 1:19 PM	BDB2 File	81 KB	
WINVISTA (C:)		ZScore PZOKUL with ROIA BMr	1/26/2012 8:51 AM	BDB2 File	101 KB	
DATA (D:)		ZScore PZOKUL with ROIA BMr-KyleBon		BDB2 File	103 KB	
DATA (D:)	-	ZScore PZOKUL with ROIA Ulrika	2/7/2012 4:38 PM	BDB2 File	101 KB	
File r	ame	ZScore PZOKUL with ROIA BMr		 Setup File 	r (* bdb2)	•

(Length of 0 means 'no baselines') Number of Sessions: 0 sessions (80 maximum) (0 allows repeated use of Test Session 1) Session Type:	(0 means run indefinitely) Number of Runs (Trials) 10 Runs (Must have at least one Run)	
Session Type:		
C Assessment C Playback C Training C Synthesize C Simulation	Pause Between Runs? Session Wizard	
└ Use Session Wizard to cont (use with MINI-Q)	trol session	

4. Click GO on the Training/Control Screen, and confirm the following screen



5. When the following screen appears, click I accept the license agreement option, and click OK to continue

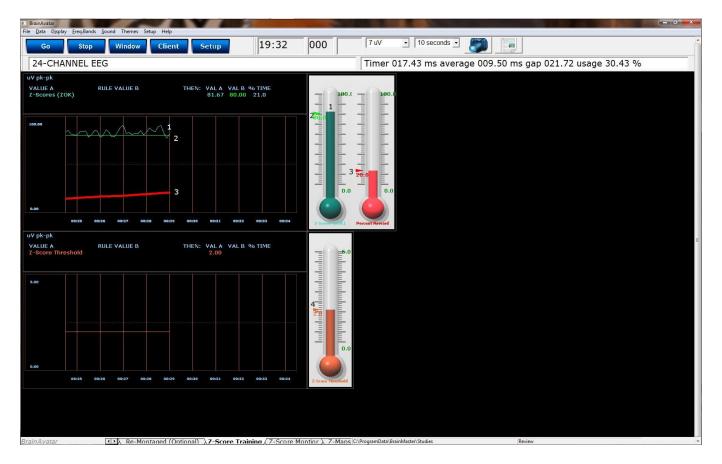


6. When the following screen appears, click the Create Key A File Button. This will create a text document

5 4 Channel ANI Biofeedback Security Key
Security Key A
5UH4 8YLU ZAW9 7FGW M2TS RHPW
5UH48YLUZAW97FGWM2TSRHPW
Security Key B
Create Key A File
QK Cancel

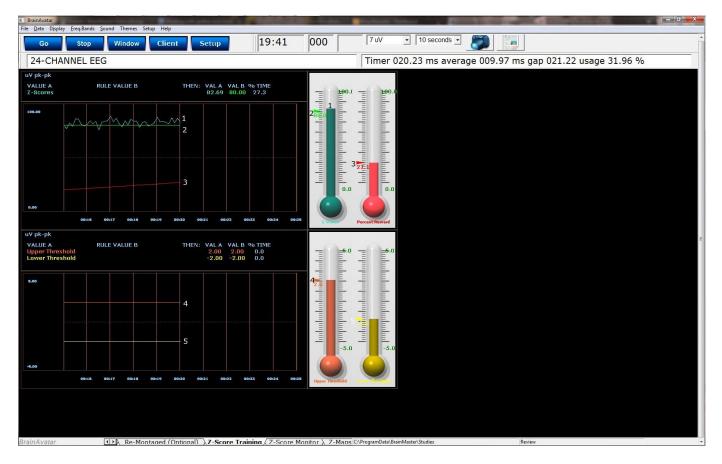
7. Save the document to the folder that was created named BrainMasterInstalls. E-Mail the document to <u>qeeg@appliedneuroscience.com</u>. Once the Key-B is created, it will be E-Mailed to you. In order to put the Key-B into the system, you will need to run another session with the folder created to receive our Key-A

BrainAvatar Software User Manual *Z-Score Using PercentZOK in BrainMaster BrainAvatar*



- 1. Z-ScorePZOK (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 is controlled by the "C" key.
- 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 (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.
- 5. Text Stats This gives you a text representation of what is occurring in the graph.

BrainAvatar Software User Manual *Z-Score Using PercentZOKUL in BrainMaster BrainAvatar*



- 1. Z-ScoresPZOKUL (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 is controlled by the "C" key.
- 3. Percent of Reward (Red Line & Red Thermometer) This line shows the percent time that the Z-Scores are greater than the Z-Score threshold.
- 4. Z-Score Range Upper Range (Orange Line & Orange Thermometer) This line defines the upper range of Z-Scores that you are trying to train down. This is controlled by the "U" key, or by dragging the orange marker on the Thermometer.
- 5. Z-Score Range Lower Range (Yellow Line & Yellow Thermometer) This line defines the lower range of Z-Scores that you are trying to train up. This is controlled by the "L" key, or by dragging the yellow marker on the Thermometer.
- 6. Text Stats This gives you a text representation of what is occurring in the different graphs.

Changing Surface Sites

1. From the Setup Menu, click Settings Tab, then click the Z-Scores Tab. Here, you can control:

BrainAvatar Setup	THE R. P. LEWIS CO., Name			×
Nam Logn Folder Setting Die Brack Person Alam Read/With Channels Bands Person Dies/set Feed Alam Read/With Channels Bands Person Person Person Class Set Class Set Person Person <td< td=""><td>ack Session Sevent Witard Acquisition Mo LT Acquire Control (Market Acquire Control (Market) Acquire Control (Ma</td><td>·</td><td>Cores Session Witard Atlants HW</td><td></td></td<>	ack Session Sevent Witard Acquisition Mo LT Acquire Control (Market Acquire Control (Market) Acquire Control (Ma	·	Cores Session Witard Atlants HW	
Logged in, device type Atlantis		Use Settings and Close	Use These Settings	Exit

- 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, or even Voxel Z-Score Method (BrainDX 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.

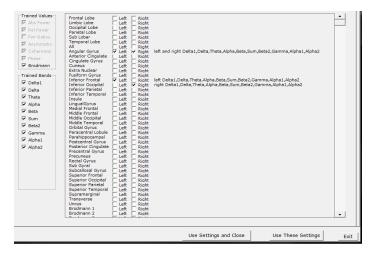
2. If you would like to change other settings (Age/eye condition), this can be done in the Edit Folder Info Tab. From the Setup Menu, click the Folder Tab, and click the Edit Folder Info Tab. Here, you will be able to change these things. When completed, confirm the changes.

ct Folder Create Folder Folder Notes Session Librarian Edit Folder	Info.	
Editing Demographics for Trainee/Study:		
folder name		
Name:		
Review		
Comment:		
Z-Score PZOKUL with sLORETA ROIA Training (ANI)		
Birthdate 07-Oct-1982 • Age: 29	Gender: M or F	
Recording Conditions		
	JD Number	
	10 Number	
Sensor e.g. 'gold disk el		

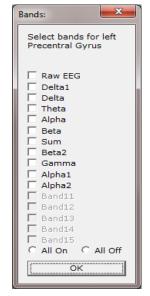
You have now changed the sites, band, and values that are being LZT Trained. You will be able to tell this has happened, on the Training/Control Screen, the Z-Score Text Displays will match the selections that you chose.

BrainAvatar Software User Manual Changing ROI Sites in BrainAvatar 4.0 Software

 In the Z-Score Option section, if you choose Voxel EEG, this will open up a new menu, and new option in the Trained Values:



- a. **ROI Selection Section –** Here, you can choose which Region of Interest you would like to be LZT Trained. Click on the box of the ROI that you would like to train. If you would like to select a large group of ROI's, Click on the first ROI that you would like to use, hold the Shift Key down, and then click on the last ROI that you would like to use.
- b. Trained Values Section You will notice that a new selection can be chosen. If the Brodmann check box is checked, then this will allow you to choose the Regions of Interest to the Right. PLEASE NOTE: If you do not check the Brodmann Box, you will not be able to choose any Region of Interests to be LZT Trained. Currently, this is the only Trained Value for the Region of Interests.
- 2. You will not use the Trained Bands Section in order to change the which bands will be LZT Trained, instead you will right click on the check box of the ROI whose bands you would like to change. This will bring up a menu, in which you can choose which bands that you would like to LZT train for this particular Region of Interest.



When all settings are as you would like them, confirm the changes.

3. 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.

	and the second se	 and the second se
h Login Folder	Settings EDF Browser Review Global Settings	
lect Folder Create F	older Folder Notes Session Librarian Edit Folder Info.	
Edition Demograph	hics for Trainee/Study:	
folder name	internet study:	
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Z-Score PZOKUL	with sLORETA ROIA Training (ANI)	
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© Eyes Open Sensor e Investigator /	← Eyes Closed ← Task Task D Number	
© Eyes Open Sensor e Investigator /	Fyres Closed Task Task ID Number Inctrode e.g. "gold disk electrode" or "its electro-cap", EEG tech	
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© Eyes Open Sensor e Investigator /	Fyres Closed Task Task ID Number Inctrode e.g. "gold disk electrode" or "its electro-cap", EEG tech	

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 EDF Browser Review Global Settings	
Main Login Podel Sectings Main Read/Write Channels Bands Protocol Display Feedback Session Event Wizard Acq 1 Event Number: Image: Comparison Comparison	Juisition Montage Auto Threshold Z Scores Session Wizard 5 This Event Is: 6 Visibility: C Visibile Hidden 6 Visibile C Visible C Hidden
2Event Condition: Constant: Damping IF: Use Equation: Delta Amplitude Check Equation x=PercentZOKUL(UTHR, GTHR); 	7 Event Name Z-Scores 2 8 Sustained Reward Criterion Omilliseconds 7
RULE: IS GREATER THAN: Constant: Damping Use Equation: Delta Constant: Damping Check Equation: Delta Constant: Damping Check Equation: Constant: Damping Check Equation: Constant: Damping Check Equation: Constant: Damping Check Equation: Constant: Damping Stevent Result: Constant: Constant: THEN: Play MIDI Sound V V Cobey Inhibits ("stops") Control MMP Player 4Event Trend Graph Scale Factor: 100	10 MIDI Sound Properties: Starting 61 A (1760.0) ▼ 1 to 88 Instrument 114 Steel Drums ▼ 128 choices Playing Sustained ▼ Percus. or Modulation: Ampl. and Pitch ▼ Ampl. or Starting Level: 70 ▼ 0 to 128 Loudness Change Rate 3 ▼ 0 to 20 Note Change 1 ▼ 0 to 20 Musical Scale Major (Ionian) ▼ 15 choices Musical A ▼ C to B Flat Play Note on Tab On all tabs ▼ 1 to 8 Notes
Event Summary: Summary for Event 1: IF: EQN: x=PercentZOKU(UTHR, GTHR); IS GREATER THAN EQN: x=CT; THEN: Play MID Sound MODE: 2 NOTE: 61 INSTR: 114 Steel Drums STYLE: Sustained MODULATION: Ampl. and Pitch LOUDNESS: Level: 70 LOUDNESS CHANGE RATE: 3 PITCH CHANGE RATE: 1 KEY: A MODE: Major (Ionian) CHORD: 1 Note	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
Logged in, device type Discovery	Use Settings and Close Use These Settings

- 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 Button Click to enable all 16 Events.
- 12. Disable All Events Button Click to Disable all 16 Events.
- 13. Data Dictionary Button Click to launch the Data Dictionary.
- 14. Clear All Events Button Click to clear the data from all 16 Events.
- 15. Show All Events Button Click to show the Event Summary information for all 16 Events.
- 16. Copy Event Button Click to copy the chosen Event.
- 17. Paste Event Button Click to paste an Event that has been selected from the Copy Event Button.
- 18. Import Button Click to import the Event Wizard File from a previously created folder...
- 19. Use Now Button Click to apply all changes.
- 20. OK Button Click to Exit the Event Wizard.

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	R, 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	A, 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)
andard functions computed in real time using BrainM TrnAmplitude(X, Y) or TrnA(X, Y)	Aaster built-in filter for up to 24 Channel Training Channel X amplitude for the Y band
Trn Threshold(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
andard functions for Acquired EEG	
and functions for required EEO	Returns the instantaneous acquired signal in microvolts. T

Acquired(x)	Returns the instantaneous acquired signal in microvolts. 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).
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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

No	Note: use first channel to designate the pair (X=channels X/X+1)				
	СТ	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, ТРСОН, АРСОН, LPCOH, ВРСОН, НРСОН, 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			

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

Values from other events:

Events can read real-time data from other events. The events are processed in numerical order, so that the events are evaluated and act in order, e.g. Event 1 before Event 2, etc. Note that all events are checked for to see if any inhibits are generated, before events take action. All data passed between events are treated as double precision, floating-point numbers.

E1A, E2A, E3A, E4A, E5A, E6A, E7A, E8A, E9A, E10A, E11A, E12A, E13A, E14A, E15A, E16A	values of "antecedent" variables in Events 1-16. These are the selected component values, or the values of the "x=" equation in the "IF" portion of the event design. Note: These are also the values of "In1", "In2", "In3", through "In16", in the Macromedia Flash Player for BrainMaster
E1B, E2B, E3B, E4B, E5B, E6B, E7B, E8B, E9B, E10B, E11B, E12B, E13B, E14B, E15B, E16B	values of "condition" variables in Events 1-16. These are the selected component values, or the values of the "x=" equation after the "RULE" portion of the event design. Note: These are also the values of "In16", "In17", "In18", through "In32", in the Macromedia Flash Player for BrainMaster
E1F, E2F, E3F, E4F, E5F, E6F, E7F, E8F, E9F, E10F, E11F, E12F, E13F, E14F, E15F, E16F	values of flags for Events 1-16. These are 0 if the event's condition is not met, and 1.0 if the event's condition is met. These are also the values of "Flg1", "Flg2", through "Flg16" in the Macromedia Flash Player for BrainMaster
E1P, E2P, E3P, E4P, E5P, E6P, E7P, E8P, E9P, E10P, E11P, E12P, E13P, E14P, E15P, E16P	percent time meeting the condition for Events 1-16. These allow any events to "see" how often other events are "true" and use these values in rules. 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.

pecial Built-in Functions (note that "arg" can be any n c.	number or variable name, including other Event Values, flags, 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 $X \ge Y$, 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 $X \ge Y$, 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
uilt-in Constants:	
Schumann, SCH	Schumann Frequency = 7.81
PHI, GOLDEN, GM	Golden Mean = 1.618
PI	PI = 3.14159

+-*/	ents 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
3	comma, used to separate equations in a single event without ending the equation
ority of Operators:	
0	highest
^	next
-x (unary minus)	next (e.g. y=-x^2, the ^ occurs before -)
*/^	next
+-	lowest
	Compares two different items. If they are both true, the even
and	Compares two different items. If they are both true, the even
and	returns a value of 1. If both are not true, the event returns a value of 0. Compares two different items. If either is true, the event
and or	returns a value of 1. If both are not true, the event returns a value of 0. 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
	returns a value of 1. If both are not true, the event returns a value of 0. 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
or	returns a value of 1. If both are not true, the event returns value of 0. 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
or <	returns a value of 1. If both are not true, the event returns value of 0. 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 0 Compares to see if one item is greater than another ite If the statement is true, the event returns a value of 0
or < >	returns a value of 1. If both are not true, the event returns value of 0.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 0Compares to see if one item is less than another item. If th statement is true, the event returns a value of 1. If the statement is not true, the event returns a value of 0Compares to see if one item is greater than another ite If the statement is true, the event returns a value of 0Compares to see if one item is greater than another ite If the statement is not true, the event returns a value of 1. the statement is not true, the event returns a value of 0Compares to see if one item is less than or equal to another item. If the statement is true, the event returns value of 1. If the statement is not true, the event returns a value of 0

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
ln(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
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

Z-Scores Variables (To be used with ANI (optional purchase) 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

channel X Power Ratios for 10 ratios
Amplitude Asymmetry between channel X and Y for 8 components
Coherence between channel X and Y for 8 components
Phase between channel X and Y for 8 components
hase), BrainDX (optional purchase), or BrainMaster
Retuns the Absolute Power Standard Deviation of the X Channel and Y Band
Returns the Relative Power Standard Deviation of the X Channel and Y Band
Returns the Power Ratio Standard Deviation of the X Channel and Y Band
Percentage of Z scores that are within "range" of normal. Returns value between 0 and 100
Percentage of Z scores that are below upper limit, and above lower limit. Returns value between 0 and 100
Percentage of ABSOLUTE POWER Z scores that are within "range" of normal. Returns value between 0 and 100
Percentage of ABSOLUTE POWER Z scores that are below upper limit, and above lower limit. Returns value between 0 and 100
Percentage of RELATIVE POWER Z scores that are within "range" of normal. Returns value between 0 and 100
Percentage of RELATIVE POWER Z scores that are below upper limit, and above lower limit. Returns value between 0 and 100
Percentage of POWER RATIO Z scores that are within "range" of normal. Returns value between 0 and 100
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			
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-			
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. The bands are 1 - Delta1, 2 - Delta, 3 - Theta, 4 - Alpha, 5 - Beta, 6 - Sum, 7 - Beta2, 8 - Gamma, 9 - Alpha1, 10 - Alpha2			
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. The bands are 1 - Delta1, 2 - Delta, 3 - Theta, 4 - Alpha, 5 - Beta, 6 - Sum, 7 - Beta2, 8 - Gamma, 9 - Alpha1, 10 - Alpha2			
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. The bands are 1 - Delta1, 2 - Delta, 3 - Theta, 4 - Alpha, 5 - Beta, 6 - Sum, 7 - Beta2, 8 - Gamma, 9 - Alpha1, 10 - Alpha2			
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			

Designing an Event

1. On The Even Wizard Screen, choose the Event Number that you would like to work with (For this Example,

we will work with Event 1).

Event Number: • 1 C 2 C 3 C 4 C 5 C 6 C 7 C 8 C 9 C 10 C 11 C 12C 13C 14C 15C 16

> - Event Result -THEN: Play WAV Sound

2. Next, set the Event Condition (For this example, we are going to reward the Channel 1 Th its threshold). Event Wizard (See Attached used, the Che clicked, or it will not save this.

Event Condition with		
Event Condition:	Constant:	Damping Factor:
Check Equation x=THETA;		•
RULE: IS GREATER THAN:	Constant:	Damping Factor:
Check Equation x=TTHR; Note: You must press "Check Equation" to check and save any changes m	ade to equat	ions

Event Condition with

•

🔲 Obey Inhibits ("stops")

Event Condition:	▼ Theta	 Amplitude 	•	Constant:	Damping Factor:
Check Equation	=THETA;				
RULE: IS GREATER	THAN:	•		Constant	Damaina Factor
				Constant.	Damping Factor:
Channel 1:	▼ Theta	▼ Threshold	•	1.0	
,	Theta TTHR;	▼ Threshold	•		

- 3. Next, set the Event Result (For This example, if the Event Condition is met, a .wav will play. This will also Control BMrMMP).
- 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 Gr	aph			
Scale Factor:	20	Offset:	0	

Control MMP Player

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eta band, when it is greater than	и. <u>р</u>
There are many ways that the	Cheo
can define what is being trained	RULE:
d pictures). If an equation is	Γ
eck Equation Button must be	Chec

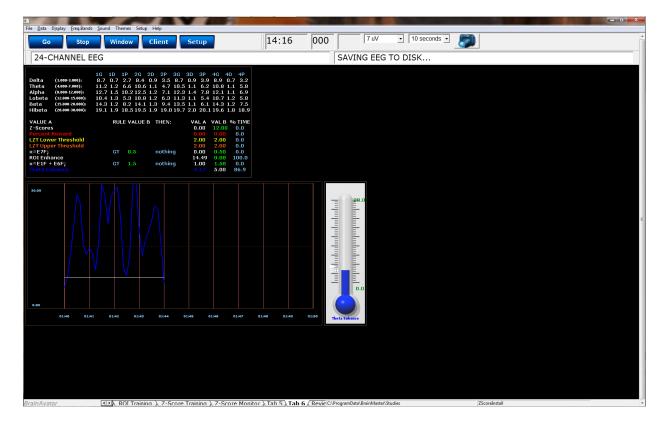
- 5. Next, you will need to make sure, that the Event is enabled. You will also need to choose whether you would like it visible or not. If the Event is not enabled, it will not work. But, if the Event is Hidden, it will still operate. Also, if you would like the event to have a personalized name, do so now.
- 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).
- 7. Click the Use Now Button, and then click OK.

This Event Is: C Enabled ⓒ Disabled	Visibility:	C Hidden
Event Name Theta Enhance		

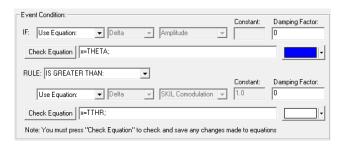
Sustained Reward Criter Condition must be met 500 millisecond	Time between rewards is:
MIDI Sound Properties:	
Starting	37 A (440.0) 🔽 1 to 88
Instrument	41 Viola 🔹 128 choices
Playing	Sustained Percus. or
Modulation:	Ampl. and Pitch Ampl. or
Starting	Level: 80 🔹 0 to 128
Loudness Change Rate	3 🗸 0 to 20
Note Change	3 🗸 0 to 20
Musical Scale	Chromatic 🔹 15 choices
Musical	A C to B Flat
Play Note or	1 Note 🗨 1 to 8 Notes
Play Note on Tab	Main tab 6 🔹 1 to 16 or

Event Number:	This Event Is: Visibility: @ Enabled C Disabled @ Visibility:
Event Condition: Constant: Demping IP: Use toustion: V 0.0 0	Event Name Thete Enhance
Die Bqueton: Orice Amperius Orice	Sustained Researd Criterion Refractory Period Condition must be met 500 milliseconds 500 milliseconds
Conserve 1: These Threadwall Server A serve and a serv	HIDE Standing 17.4 14.0 1
American (1997) - Grand (1997) - Freit B (E. CARREND) : EMALD Encoder Sciences (2006) - Freiter Trait Channel (1998) - Freiter Sciences (2007) - Fr	Enale AT Events Disable AT Events Data Citizinary Cites AI Events Disable AT Events Show AI Events Cap Events Import Use New OK

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.



BrainAvatar Software User Manual *Making a Threshold to be dragged by the Thermometer*



 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.

Event Condition: IF: Use Equation:	Constant:	Damping 0
Check Equation x=Theta;	,	·
RULE: IS GREATER THAN:	Constant:	Damping
Channel 1: Theta Threshold Check Equation x=0;]	

2. Click the Use Now Button, and then click OK Button.

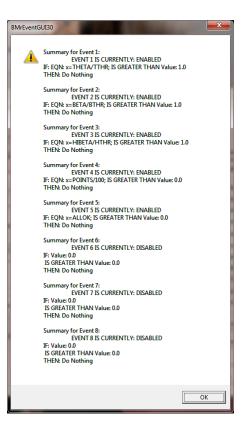
Loop, Flader, Setting, EUP Insurer, Rooke, Oxball Setting, Loop and Marking, Lo	This Event Is: Visibility:
Scale Factor: 100 Offset: 0	Play Note on Tab Main tab 6 1 to 16 or
Event Summary I: Devel 1: Summary IV per 1: Summary IV per 1: Summary IV per 1: The IV	Enable AF Events Deab DetaDetaT Events Deab AF Events Deab AF Events Print AF Events Coay Event Teget Teget Teget Occ

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.

File Data Display Ereq.Bands Sound Themes Setup Help						
Go Stop Window Client Setup	19:13	000	7 uV	10 seconds	20	
24-CHANNEL EEG			SAVING EEG T	O DISK		
Durita (cama samo). Thata (cama samo). Addras (cama samo). Addras (cama samo). Badra (cama samo). Higka (cama samo). Higka (cama samo).						
VALUE A r-Scores REF VALUE 8 1000 mm PREN: 1000 mm VAL A 1000 mm VAL B 1000 mm <th< th=""><th></th><th></th><th></th><th></th><th></th><th></th></th<>						
(1) Self-Starsen) 7 Series Transen) 7 Series Montem	Teb 5) Teb 6	Dente Cit	Second State	fier.	Zicordontal	

BrainAvatar Software User Manual Basic BrainMaster Setting Protocol through the Event Wizard

Alert



Event 1 – THETA/TTHR is Greater than 1. This shows the ratio of the low "stop" inhibit to its threshold.

Event 2 – BETA/BTHR is Greater than 1. This shows the ratio of the "go" component to its threshold.

Event 3 – HIBETA/HTHR is Greater than 1. 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.

<section-header><section-header><section-header><section-header>

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 U Threshold and G Threshold 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.

Advanced Event Wizard Controls

Enabling Multiple Events to control Flash Player (2 Event Example)

BrainAvatar Setup	Revited and to bear	BrainAvatar Setup	Sauthor FRG TO DECK
Main Login Folder Settings EDF Browser Review Global Settings		Main Login Folder Settings EDF Browser Review Global Settings	
Main Read/Write Channels Bands Protocol Display Feedback Session Event Wizard Ac	quisition Montage Auto Threshold Z Scores Session Wizard	Main Read/Write Channels Bands Protocol Display Feedback Session Event Wizard A	quisition Montage Auto Threshold Z Scores Session Wizard
Name Read/Write Character Display Freedback Sector Network Event Read/Write 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 -	This Event Is: Visibility:	Main Bask/Write Channels Bands Protocol Display Feedback Session During the session <td>This Event Is: Visibility:</td>	This Event Is: Visibility:
	Import Use Now OK		Import Use Now OK
Logged in, device type Discovery	Use Settings and Close Use These Settings	Logged in, device type Discovery	Use Settings and Close Use These Settings Exit

 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 2 have been met).

BrainAvatar Setup	AVTNO FEG TO DESK
Main Login Folder Settings EDF Browser Review Global Settings	
Main Read/Write Channels Bands Protocol Display Feedback Session Event Wizard Acque Event Number:	This Event Is: Visibility:
C 1 C 2 C 3 C 4 C 5 C 6 C 8 C 8 C 9 C 10 C 11 C 12 C 13 C 14 C 15 C 16	Enabled C Disabled C Visible Hidden
Event Condition: Constant: Demoing IF: Use Equation: Constant:	Event Name
Check Equation x=ELF + E6F;	Condition must be met 0 milliseconds 0 milliseconds
Constant: Detail Use thread value: Dotta Threshold 1.3 0 Check framelie: Image: Section of the	KDD Sound Properties: 37 A (440.0) 1 to 68 Instrument 41 Vola 128 choices Playing Studiend Playing Mobilation: Amplitude Amplitude
Feret Reult There (De hulding	Starting Level: 80 Image: 80 <th< td=""></th<>
Event Trend Graph Scale Pactor: 100 Offset: 0	Play Note or 1 Note Play Note on Tab On all tabs 1 to 8 Notes
Exet Summary. Event 7: EVENT 7: IS CURRENTLY: ENABLED Symposy for Sent 7: Symposy for	Brable All Events Data Distorary Clear All Events Show All Events Print All Events Clear All Events Copy Event Paste Event
	Import Use Now OK
Logged in, device type Discovery	Use Settings and Close Use These Settings Exit

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.

Login Folder Settings EDF Browser Review Global Settings	
in Read/Write Channels Bands Protocol Display Feedback Session Event Wizard Ac	quisition Montage Auto Threshold Z Scores Session Wizard
Event Number:	This Event Is: Visibility:
C 1 C 2 C 3 C 4 € C 6 C 7 C 8 C 9 C 10 C 11 C 12 C 13 C 14 C 15 C 16	@ Enabled C Disabled C Visible @ Hidden
Event Condition:	Event Name
IF: Use Equation: Delta Amplitude Constant: Demping 0	
	Sustained Reward Criterion Refractory Period
Check Equation X=E7F;	Condition must be met Time between rewards is:
RULE: IS GREATER THAN:	0 miliseconds 0 miliseconds
Constant: Demping	MIDI Sound Properties:
Use Entered Value: Dolta Threshold O O O O O O O O O O O O O	Starting 37 A (440.0) • 1 to 88
Check Equation x=0:	Instrument 41 Viola • 128 choices
Note: You must press "Check Equation" to check and save any changes made to	Playing Sustained Percus. or
	Modulation: Amplitude Ampl. or
Event Result: THEN: Do Nothing	Starting Level: 80 • 0 to 120
THEN: Do Nothing	Loudness Change Rate 3 0 to 20
× ×	Note Change 3 • 0 to 20
Control MNP Player	Musical Scale Chromatic Is choices
Event Trend Graph Scale Fector: 100 Offset: -5	Play Note or 1 Note Play Note on Tab On all tabs Play Note on Tab
	Play note on tag
Event Summary: Summery for Event 5: EVENT 5 IS CURRENTLY: ENABLED	Enable All Events Disable All Events Data Dictionary
IF: EQN: x=E7F; IS GREATER THAN Value: 0.5 THEN: Do Nothing	Clear All Events Show All Events Print All Events
	Copy Event Paste Event
	Import Use Now OK

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 Software User Manual Enabling Amplitude and Events to control Flash Player

BranAvstar Setup		and the second se	Resinfuster Setup	
Main Login Folder Settings EDF Browser Review Global Settings			Main Login Folder Settings EDF Browser Review Global Settings	
Main Read/Write Channels Bands Protocol Display Feedback Session Event	Wizard Acquisition Montage Auto Threshold Z Scores Session Wizard		Main Read/Write Channels Bands Protocol Display Feedback Session Event Wi	zard Acquisition Montage Auto Threshold Z Scores Session Wizard
Perforces Stitute of Balance Line Archite (Starge Balance Line) Onta (Starge B Japono Balance Line) Theta (Starge B Japono Balance Line) Call Starge B Japono Balance Line)			The set in the control of the set of the se	13 T 13 Tube Sund 13: The Su
Logged in, device type Discovery	Use Settings and Close Use These Settin	igs Exit	Logged in, device type Discovery	Use Settings and Close Use These Settings Exit

1. Create an Event to indicate that all amplitude components have met their criteria.

Event Number: C 1 C 2 C 3 C 4 C 5 C 6 C 7 C 8 R 9 C 10 C 11 C 12 C 13 C	14 ∩ 15 ∩ 16 ∩ trabled	F Disabled (F Visibility		
Event Condition: Constant: I IP: Use Equation:	Sustained Rewa		ry Period	
RULE: IS GREATER THAN:	Demping NED1 Sound Pro	liseconds 0	milliseconds	
Use Entered Value: Use En	O Starti Instru Playin Hodul	p Sustained	1 to 88 128 choices Percus. or Ampl. or	
Deet Reul: THBE: Do Robing		e Rate 3 hange 3 I Scale Chromatic	0 to 128 0 to 20 0 to 20 15 choices C to 5 Flat	
Event Trend Graph Scale Pactor: 100 Offsat: 0	Play Note o Play Note o		 1 to 8 Notes 1 to 16 or 	
Event Summary: Summary for Event 91 Br. EQN: xx0; SGREATER THAN Value: 0.0 THEN: Do Nothing	TLYI DISABLED Enable All Eve Clear All Eve		Data Dictionary Print All Events Paste Event	

 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 2 have been met).

Neet Number: 11 1 2 1 3 1 4 1 5 1 6 1 7 1 8 1 9 1 10 1 11 1 12 1 13 1 4 1 5 1 6	This Event Is: F trabiled C Disabled C Visible F Hidden
Sector Confider. Constant Damping (In Sector 1) (Ed. 1) (Ed. 1) (Ed. 1) (Sector 1) (Ed. 1) (Ed. 1) (Ed. 1)	Back States All Ansatz / Marketory Ferded Back States All Ansatz / Marketory Ferded Back States The Backetory Handle State Back States Back States Back States Back States
Centrel MMP Player	Note Change 3 0 to 20 Musical Scale Chromatic ¥ 13 doloes Musical A C to 8 Flat
Vert Trend Graph Scale Factor: 100 Offsat: 0	Plupcal Play Note or 1 Note V 1 to 8 Notes Play Note on Tab Cn all tabs V 1 to 16 or
Here Summy to Level 7: Summy to Level 7: P (TRU: w127 + EP) IS GREATER THAN Value: 1.5 PVEN to Author 9: PVEN to Author 9:	Enable Al Events Disable Al Events Data Distionary Clear All Events Show All Events Print Al Events Copy Event Pasts Event Import Use New OK

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.

Event Number:	This Event Is: Visibility:
0 1 0 2 0 3 0 4 0 8 0 6 0 7 0 8 0 9 0 10 0 11 0 12 0 13 0 14 0 15 0 16	C trabled C Disabled C Visible @ Hidden
Text Condition P(Use Leastion = Condition P(Use Leastion P(Description Display Provide P

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 Software User Manual Enabling Events to control Third-Party Games

1. First, the BrainMaster Software has to be set into Emulation Mode. This is accomplished in the Display Options Menu under the DLL Memory Mapping Mode.

	EDF Browser Review Global Settings ands Protocol Display Feedback Session Event Wizard Acquisition Montage Auto Threshold Z Scores Session Wizard
ram resect write channels et	tuos huotocor jonhua heegoeck zezeou Ensur missua vodinirgou wourdde voro i uxezuoria zi zoosez zezeou missua
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 Brein	
CSA	
Z-Score Text Display	
Z-Bars Pict	
Z-Score Naps (Damped)	
Flat Mapa	
Raw EEG Text Display	
Sensor Impedance Values	
Text Line	
Oll Nemory Neoping Mode	
Use Emulation Node to use external CIS, etc) via. Event Wizard Events 9	games (Somatic Vision, @ Standard C Emulation -16

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. 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 greater than its condition (For this example, we want the training reaction from Event 1. So, because of this

Event Wizard Designer	-
Event Number - 1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10 - 11 の 超- 13 - 14 - 15 -	16 C Enabled C Disabled Visible C Hidden
Ever Conditor. Despiration Des	Suttered Revel Clarkon Suttered Revel Clarkon Or milliscond MDI Scott nut to rent for Starting Nete: [27 4 (440.0) •] 10 60 Instrument HV loi Starting Nete: [27 4 (440.0) •] 10 60 Instrument HV loi Starting Nete: [27 4 (440.0) •] 10 60 Instrument HV loi Starting Nete: [27 4 (440.0) •] 10 60 Instrument HV loi Starting Nete: [27 4 (440.0) •] 10 60 Instrument HV loi Starting Nete: [27 4 (440.0) •] 10 60 Instrument HV loi Starting Nete: [27 4 (440.0) •] 10 60 Instrument House Scale Net Starting Nete: [27 4 (440.0) •] 10 60 Instrument House Scale Jourdees Scale Jourdees Nete: [27 4 (20 -) 0 10 20 House Scale Model(Med) Ormanic Toring Nete Jourdees Nete: [27 4 (20 -) 0 10 20 House Scale Model(Med) Ormanic House Scale Jourdees Nete: [27 4 (20 -) 0 10 20 House Scale Model(Med) Ormanic House Scale House Scale Jourdees Nete: [27 4 (20 -) 0 10 20 House Scale H
Evert Trend Graph Soelle Facet 1000 Officet 0 Evert Summary And Street Terr Hank EON :== 18: EVENT 12/S CURRENTLY: ENABLED EVENT 52/S STREET THAN EON :== 18: EVENT 12/S CURRENTLY: ENABLED	
THER: Do Nothing	Diear All Events Show All Events Print All Events Help Copy Event Paste Event Cancel Use Now OK

the Event Condition is "IF Equation: x=E1A, is GREATER THAN Equation x=E1B"). You can do this for up to all 8 Events.

	Third-Party "Filtered
Event Number	band
9	Delta
10	Theta
11	Alpha
12	Lobeta
13	Beta
14	Hibeta
15	Gamma
16	User

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.



Session Wizard

Session Wizard Control Screen

BrainAvatar Setup	
Main Login Folder Settings EDF Browser Review Global Settings	
Main Login Frode Sectings Exercises Main Read/Write Channels Bands Protocol Display Feedback Session Event 1 Available Template Files: Discovery 2-minutes EO and EC.mqt Discovery 5-minutes EO and EC and TASK 1.mqt []	2 Use Template View Template
Template Description: 4 Template Comment: 5	3 File
Logged in, device type Discovery	Use Settings and Close Use These Settings

- 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 (Classic)

 Choose a Study file that you would like to use. From the Main Menu, click the Settings Tab.

Trainee ID: asd	and a second	
	Login	
Trainee asd Name:	Folder Selections	
Comment: Standard Test Study	Run The Next Session	
lext Session Number: Total Sessions Available:	View or Change Settings	
raining screen is Not Running	EDF Browser	
Exit Product Manuals refresh this screen	Review Session Results	

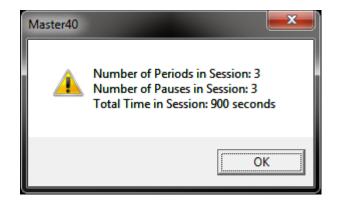
2. From the Setup Options Menu, click the Read/Write Sub-Tab.

eain Read/Write Chan	nels Bands Protocol Display Feedback Session Event Wizard Acquisition Montage Auto Threshold Z Scores Session Wizard	
Read/Write Settings File	Current Trainee/Study: ⁰ Name unknown	
Data Channels	NOVANIS S SRATE: 256 LOW/REQCUTOFF: OFF FILTER: 3 ARTIFACT: 255 vV COM: 17 - SUNCANIS:OFF - SAVEEGC:EDF - 	
Frequency Bands	Raw Ed: 0.0000-0.0000 Delta: 1.0000-3.000 Theta:4.0000-7.0000 Aphra:6.0000-12.0000 Lobeta:12.0000-35.0000 Beta:15.0000-20.0000 Hebeta:0.0000-30.0000	
Training Protocol	60: (none) STOP: (none) AUTO:OFF:50/20/10	
Display Options	Display:	
Feedback Control	Sound: Event Sounds -	
Session Control	0 SESSIONS -NO BASELINES 10 RURS OF LENGTH: 2.0 MINNO PAUSE RETWEEN RUNS-SESSION TYPE: Simulation	
Auto Threshold	PRINT SETTINGS Event Wizard USE THESE SETTINGS	

3. From the Read or Write Settings File Menu, double-click the settings protocol that you would like to use, and load this protocol, by double-clicking. Confirm all changes and run your session

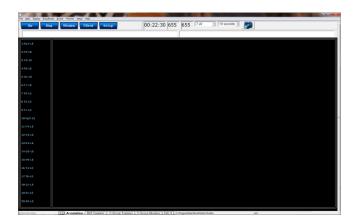
Built Schart (Fall (Solder-Gild In and In antibility and process)) Filtering Test (Solder-Gild In Antibility (Solder-Gild In Ant	And the servers to manage under deal may be defined if the observer to the manage under deal ways the management of	

The System will now run 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.



Loading a Protocol that has a Pre-Loaded Session Wizard File (Training Screen)

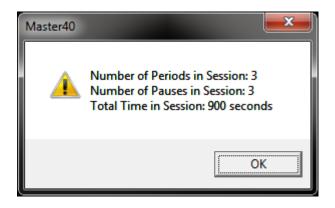
1. From the Training Screen, click the File Tab and then click Import Settings.



 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 use, and click open to continue.

Organize New folder Recently Change	Name			III • 🔟	
Public Desktop Downloads Dropbox	4 chan therms.bdb2	Date modified 7/12/2011 1:12 PM 7/12/2011 1:13 PM	Type BDB2 File BDB2 File	Size 65 KB 65 KB	
 Recent Places Libraries Documents Music Pictures Videos 					
Computer					

The System will now run 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.



BrainAvatar Software User Manual Loading a Session Wizard File to a Pre-Existing Protocol

1. Choose a file that you would like to use. From the Main Menu, click the Settings Tab.

elcome to B rrent Traine		BrainAvatar older:		LOGIN OK: SN: 60000 EXP DATE: 2/17/2012 CLINICAL LICENSE		
ainee ID: at	sd			Login		
ainee as	sd			Folder Selections		
mment: SI	tandard Te	st Study		Run The Next Session		
xt Session N	lumber:	Total Sessions Av		View or Change Settings		
ining screer	n is	Not Running		EDF Browser		
Exit	F	Product Manuals	click here to refresh this screen	Review Session Results		

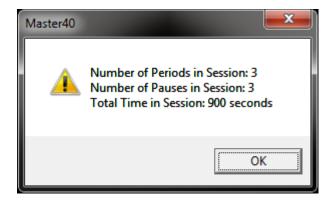
2. From the Setup Menu, click the Session Wizard Tab.

BreinAveter Setup						-
	ettings EDF Browser Re					
Main Read/Write Cha	nnels Bands Protocol	Display Feedback Se	ssion Event Wizard Acquisitio	Montage Auto Threshold Z Score	Session Wizard	
Read/Write Settings Fi	Current Trainee/Study Name unknown	-				
Data Channels	NCHANS: S SRATE: 2 ARTIFACT: 255 uV CO P-P:ONFp1-LE F3-LE C	M: 17 - SUMCHANS:O				
Frequency Bands	Raw EEG:0.0000-0.000 Alpha:8.0000-12.0000 Beta:15.0000-20.0000	Lobeta: 12.0000-15.00	00			
Training Protocol	50: (none) STOP: (none) AUTO:0	FF:50/20/10				
Display Options	Display:					
Feedback Control	Sound: Event Sounds					
Session Control	0 SESSIONS -NO BASE PAUSE BETWEEN RUNS					
Auto Threshold	PRINT SETTINGS	Event Wizard	USE THESE BETTINGS			
ogged in, device type Dir	icovery			One Settings and Close	One These Settings	(TEX

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. Confirm all changes and run your session.

BrainAvatar Setup	-
ain Login Folder Settings EDF Browser Review Global Settings	n Event Weard Acqueiton Montage Auto Threshold Z Scores Session Weard Use Trendote
Template Description:	View Template File
2-minutes EO EC and TASK 1 Template Comment:	
Use with Discovery 24E	
gged in, device type Discovery	Use Settings and Close Use These Settings

The System will now run 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.



Data Dictionary for the Session Wizard

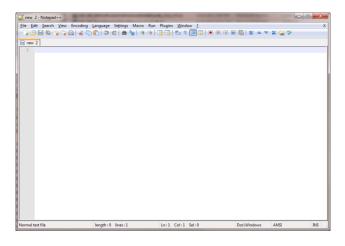
NAME	Defines the name of the Session Wizard Template. The name placed here, will be in view on the Session Wizard Control Screen.
VERSION	Defines what version of the Session Wizard Template. This is not displayed anywhere only in the actual Session Wizard Template
СОМ	Defines the comment of the Session 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 for the first 15 seconds and 0 for the last 15 seconds). This value will only be kept of the period declared.
INTENSITY	Variable that can be used for the Session Wizard Template. This value will only be kept for the period declared.

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 F	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.
	Enable or Disable Photic Output. 1 Enables Photic

Designing a Session Wizard Template

PLEASE NOTE: A Session Wizard Template can be designed in any Notepad-based program. It is recommended to use Notepad++. For more information on Notepad++, please visit <u>http://notepad-plus-plus.org/</u>.

1. Open your Notepad-based program.



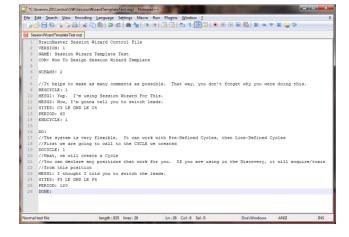
 Create your Header information. The Header information will contain the Line "BrainMaster Session Wizard Control File". It will also contain the Version, Name, Comment, and Number of channels.

7 *ne	w 2 - Notep	ad++											
					Settings Macro)
	🕒 🔚 🕒	Pa 📭 🖗	🖹 🖌 🖏	B 2 0	: 📾 🍖 🔍	a 🛛 🖬 🖓 🕯	i 🛙	E 🕢 6	•		Z A 1	v 🔳 🍓 💖	
e ne													
1				and free	trol File								
2	VERSION		ession w.	izard con	CIOI FILE								
	NAME: S		Wigard 1	Cemplete '	Test								
					ard Template								
5													
6	NCHANS:	2											
	al text file			Incash - 144	lines : 6	In 6	C-1-10 (Deally	Mindows	44107	INS

3. Next, create any cycles that will be used. If you are not using the CYCLE feature, this is not needed.

new 2 1 Brain 2 VERSI 3 NAME: 4 COM: 5 6 NCHAN 7 8 //It 9 BEGCY 10 MESGI 11 SITES 12 PERIC	: Session Wiz How To Desig MS: 2 helps to mak ACLE: 1 L: Yup, I'm S: C3 LE GND	on Wizard (ard Templat n Session W e as many (using Sessi	Control te Test Wizard	I File Template	ssible.										
1 Brain 2 VERSI 3 NAME: 4 COM: 5 6 NCHAN 7 8 //It 9 BEGCT 10 MESG1 11 SITES 12 PERIO	ION: 1 : Session Wiz How To Desig MS: 2 helps to mak CCLE: 1 1: Yup. I'm S: C3 LE GND DD: 60	ard Templat n Session 1 e as many o using Sessi	te Test Wizard comment	Template	ssible.	That w	ау, уо	u don'i	: forge	t why	You	were	doing	this.	
2 VERSI 3 NAME: 4 COM: 5 6 NCHAN 7 8 //It 9 BEGCY 10 MESGI 11 SITES 12 PERIO	ION: 1 : Session Wiz How To Desig MS: 2 helps to mak CCLE: 1 1: Yup. I'm S: C3 LE GND DD: 60	ard Templat n Session 1 e as many o using Sessi	te Test Wizard comment	Template	ssible.	That w	ay, yo	u don'i	: forge	t why	You	were	doing	this.	
9 BEGCY 10 MESG1 11 SITES 12 PERIO	CLE: 1 1: Yup. I'm 5: C3 LE GND DD: 60	using Sessi				That w	ау, уо	u don'i	: forge	t why	you	were	doing	this.	

 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.



 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\Control\swd 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.

📔 Save As				×
Save in:	鷆 swd	•	G 🌶 🖻 🛄 -	
Recent Places		minutes EO and EC.mqt minutes EO and EC and TASK 1	Date modified 9/8/2011 11:03 PM 6/24/2011 1:38 PM	Type MQT File MQT File
Network	•	III		+
	File <u>n</u> ame: Save as <u>t</u> ype:	SessionWizardTemplateTest.mqt Normal text file (*.bxt)		<u>S</u> ave Cancel

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.

BrainAvatar Setup	
Main Login Folder Settings EDF Browser Review Global Settings	
Main Login Folder Settings EDF Browser Review Global Settings Main Read/Write Channels Bands Protocol Display Feedback Session Event Wizard Acquisition M Available Template Files: Discovery 2-minutes EO and EC.mqt Discovery 5-minutes EO and EC and TASK 1.mqt Session/WizardTemplateTest.mqt Use Template [] View Template View Template View Template	Iontage Auto Threshold Z Scores Session Wizard
Template Description: 2-minutes EO EC and TASK 1 Template Comment: Use with Discovery 24E	
Logged in, device type Discovery	Use Settings and Close Use These Settings



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