

BrainTrack User Manual

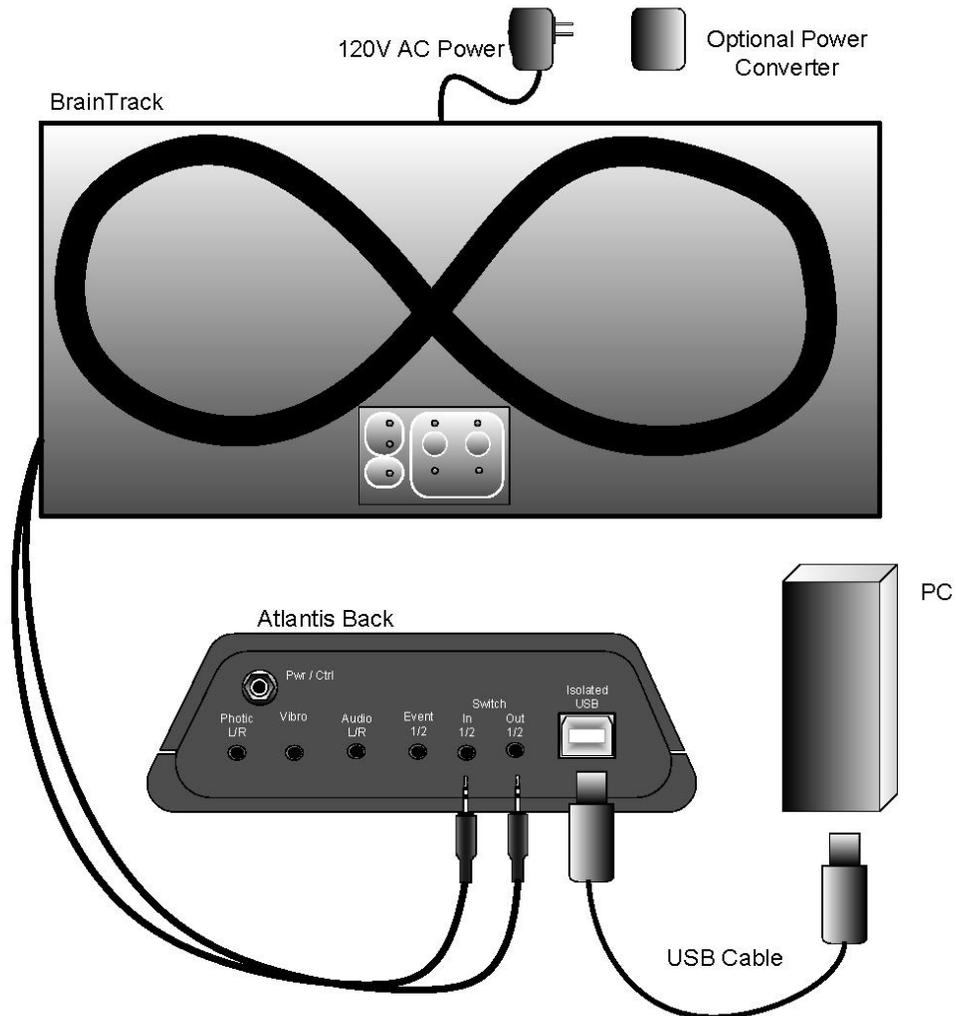
BrainTrack User Manual by BrainMaster Technologies, Inc

BrainTrack User Manual

BrainTrack Hardware Setup

Place the BrainTrack case, with the larger side down, on a sturdy table near a source of 120VAC power (use an optional power converter if necessary). Remove the cover by opening each case latch. Lift the cover straight up, at least 6", before placing the cover aside. NOTE: THE TRACK LAYOUT CAN BE DAMAGED IF THE COVER IS NOT REMOVED PROPERLY.

Locate the two Atlantis switch cables (from the left side of the case) and plug the two 2.5mm plug connectors into the Atlantis II unit in the Switch in and out jacks. Make sure the plugs are both firmly seated. Either plug can be inserted into either jack as shown below.



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Connect the Atlantis to your computer using a USB cable in the usually way. If you have not already installed the Atlantis unit and BrainMaster software, follow the procedure provided in the Atlantis User Manual.

Car Speed Adjustment

Turn the controller's POWER UP switch to the off position and the GO REMOTE switch to the off position. Turn both SET SPEED knobs fully counter-clockwise to "0". Place both OFF / REMOTE switches in the up or RUN position and plug the AC adaptor into a 120V AC source. Use a power converter, if necessary.



Locate two slot cars and place both at the starting line orientated in the direction of the track arrow.

Turn on the POWER UP switch and slowly turn the PLAYER 1 SET SPEED knob clockwise. The POWER indicator should light and the player indicator will glow as the knob is adjusted.

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Adjust the speed of car 1 (PLAYER 1 control) to a moderate speed but not so fast that the car could jump off the track. Move the PLAYER 1 switch to the center, OFF / REMOTE, position and the car will stop.

Test the car's ability to start and stop by pressing the PLAYER 1 switch intermittently to the JOG position. Adjust car 2 (PLAYER 2) as above so that it stops and starts each time the PLAYER 2 switch is pressed in the JOG position.

Place both PLAYER switches in the center OFF / REMOTE position. Once the Track is working and the speed of both cars is set, prepare the EEG session.

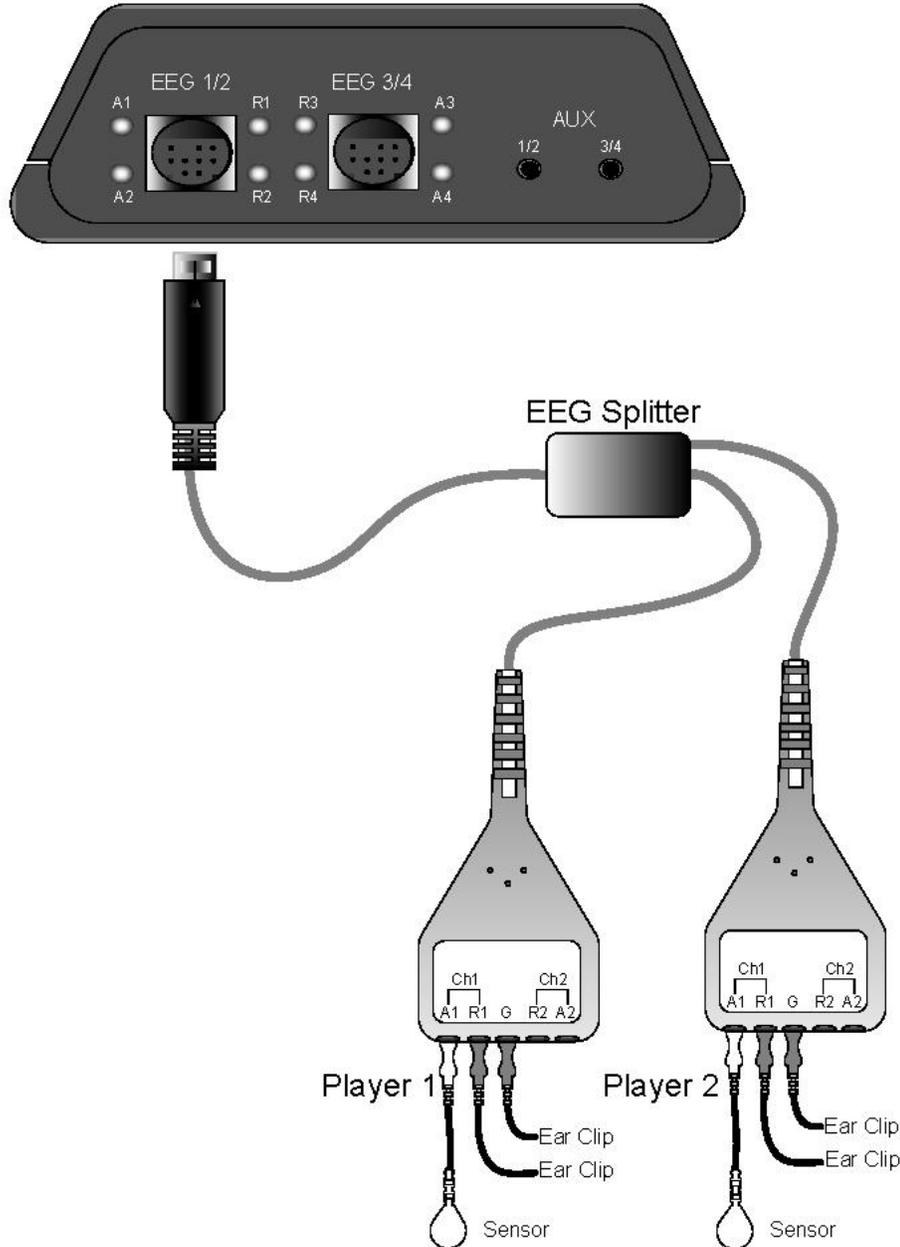
A Note About the Slot Cars

The Carrera slot cars used with this system have been modified to operate with the BrainTrack Controller. Each car comes from the car manufacture with a capacitor connected across the car's motor. This capacitor needs to be removed. The cars supplied with your system have already been modified. However, if you purchase addition or replacement cars from a supplier other than BrainMaster, the cars will need to be modified. Please see the section: **How to Modify the Carrera Cars**

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The EEG Session

BrainTrack can be used in a number of configurations. It supports the use of one or two users (Players) with one or more sensors. The following example details the use of two Players, each with one sensor (and each with reference and ground).



Connect the 9-pin DIN connector from the EEG Splitter into the Atlantis EEG 1 / 2 input. Prepare two players using the appropriate sensors. Connect each player's sensors into the Ch1 inputs of each of the two channel cable ends as shown above.

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The following example assumes a basic understanding of the BrainMaster software – for more information, please refer to the “User’s Manual for BrainMaster Atlantis I and Atlantis II Modules” (part # 531-090).

If the BrainTrack folder is not available as a Study Folder on your system, download and run the following:

[BrainTrack_2_persons_1_channel_per_person_SMR_theta_hibeta.bmz](#)

This is available at: <http://www.brainmaster.com/kb/entry/298/>

Please check the firmware version of your Atlantis. The firmware MUST be version 23 or greater. Also, make sure you have the latest version of the BrainMaster software. The latest version of the software can be downloaded at <http://www.brainm.com/software/>

For information on how to check and upgrade firmware go to

<http://www.brainm.com/help/>

Then, search “firmware” and select “Full Atlantis Programming” for a step-by-step procedure.

Run the BrainMaster software and click “Folder Selection” from the Home Screen and select “BrainTrack_2_persons_1_channel_per_person_SMR_theta...” Click OK.

Run a new session using this folder. When you have good EEG signals and have set the appropriate protocols, place the GO REMOTE switch in the ON. The cars will now each start and stop as the training protocols are met.

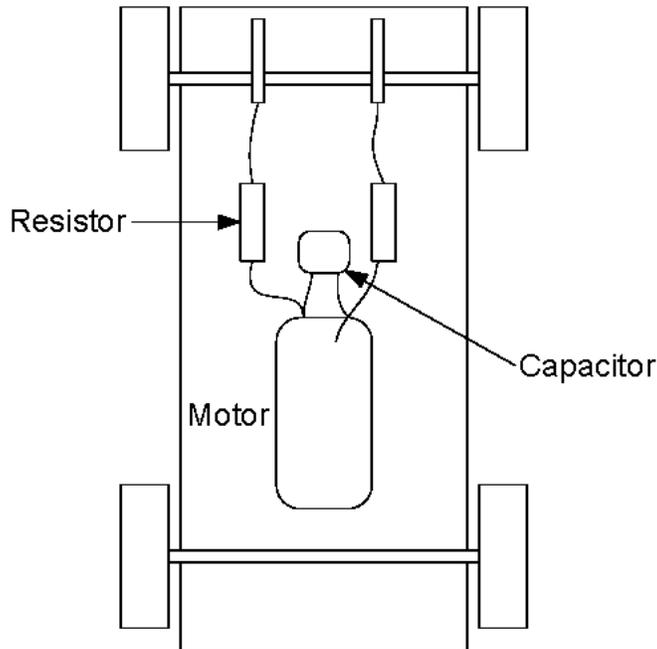
Please check BrainMaster’s Knowledgebase (the link is available at the top of the BrainMaster home page) and search “BrainTrack” for the latest information on this new product.

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How to Modify the Carrera Cars

The Cars supplied with your system have already been modified. For new cars, not purchased from BrainMaster, follow this procedure:

Turn the car over and remove the screw(s) holding the bottom frame to the body. Place the body aside and look at the inside of the frame as pictured below.



Using small wire cutters, cut the leads of the capacitor. Remove the capacitor and discard. **DO NOT CUT THE RESISTOR LEADS.** Re-install the car's body and make sure it is aligned properly and that the wheels move freely.

Maintenance

Clean the track after every session using a soft cloth and a small amount of track cleaner or isopropyl alcohol. **DO NOT** use any abrasive material or cleaning agents to clean the track. Please note that the use of this track for neurofeedback training requires that cars start and stop many times during one session. It is therefore important to clean the track after **EVERY** session. Clean the track even if it already appears clean. This will ensure that the cars perform well during the next session.

Check the car brushes after every session. Reform the brushes if they have been flattened against the underside of the car. Replace the brushes when necessary. The brushes pull-out and press-in using needle-nose pliers.

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Using the Lap Counter

The lap counter has two top push buttons used to reset the counter and change the mode of the counter. Press the right button to reset the counter – it counts up as the cars pass the sensor (on the straight lower track).

Press the left button only if you want to change the counter to a count-down mode – the letters “nu” will show on the left display, and “00” on the right display. Press the right button again, a number of times, to set a starting count-down number for both cars. Press the left button to start the count down – display will show “-- --” until the cars make the first pass across the counter sensors.

Note: In the count-up mode a decimal point is displayed after the counter exceeds a count of 99. The counter continues to count-up from zero, now with a decimal point displayed. BrainMaster recommends using the default “count-up” mode. This mode lets you see which player is training more successfully – and it’s fun for the players to watch!

Troubleshooting

Problem: Car is stopped, even when the Player LED indicates power to track.

Try cleaning the track and adjusting the car brushes. Replace brushes if worn.

Try increasing SET SPEED control for that car.

Problem: Cars run but sometimes fly off the track.

Reduce speed. Make sure new cars, not purchased from BrainMaster, have been modified – capacitor removed as shown in the section of this manual entitled, “How to Modify the Carrera Cars”.

Problem: One or both cars not responding when switch in center “REMOTE” position.

Check that PLAYER indicators are flashing. If not, check switch cables connected to the “Switch In / Out” jacks on the back of the Atlantis. Make sure they are pressed-in completely. If lights are flashing, check track and car brushes and try increasing speed control.

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Warnings and Safety Notice

Operates using 120 AC power – Requires power converter for other power sources
Only use the AC adaptor supplied with this system
The AC adaptor is not a toy – avoid shorting
Remove AC adaptor from electrical socket when not in use
Check track, cars and controls for damage. Defective parts should be replaced.
Check car brushes after each session and replace as needed
Do not open the BrainTrack Controller case
Turn off power to the track before cleaning
Keep metal away from track
For indoor use only
Never use cleaning agents or water to clean the track
Keep the track slot clean and free of debris
Not suitable for unsupervised children under 3 years because of small parts
Do not hold cars while the motor is on. This may lead overheating and motor breakdown

A Note About the BrainTrack Diorama

The BrainTrack layout (diorama) is made of malleable foam material and can be damaged easily. In addition, the layout's grass, vegetation and other details can be removed by curious children. Please supervise children to keep your BrainTrack looking its best.

Buying Spare Parts and New Cars

Spare parts and cars are in the webshop at www.carrera-toys.com

NOTE: for best performance with BrainTrack, please use the 'Mini Cooper' cars or cars with a similar, short, wheel base. Larger cars may hit the guard rail or slide off the track on curves. Contact BrainMaster for recommendations.

Warrantee Information

Please fill-out and return all warrantee cards. Note that the BrainTrack travel case is under warrantee with the "Road Ready" case manufacture. Please fill-out the Road Ready warranty card; stamp and mail.

The BrainTrack, controller, track and related parts are under warranty for 90 days. The foam-based layout is under warranty for 30 days.