

mindball®

Game



Safety Instructions for Mindball Game

Read all safety and operating instructions before operating Mindball Game

Retain the safety and operating instructions for future reference.

Heed all warnings

Install in accordance with the instructions below.

Follow all operating and use instructions.

WARNING Electric shock or injury

Mindball Game should be used with a grounded outlet power cord and plug.

Make sure all connections to Mindball Game are made carefully and inserted into the correct locations only.

Unplug from outlet when not in use and before servicing.

Do not use this apparatus near water.

Do not expose this apparatus to rain or moisture.

No objects filled with liquids shall be placed on the apparatus.

The apparatus shall not be exposed to dripping or splashing.

Clean apparatus only with dry cloth.

Turn off before unplugging.

Do not unplug by pulling on cord.

To unplug, grasp the plug, not the cord.

Hold plugs straight when inserting them into a socket.

Do not put any object into openings.

Do not use with damaged cord or plug.

Do not handle plugs or appliances with wet hands.

Do not pull or carry by cord, use cord as a handle, close a door on cord, or pull cord around sharp edges or corners.

Protect the power cord from being walked on or pinched.

Do not run appliances over cord.

Keep cord away from heated surfaces.

Refer all servicing to qualified service personnel.

Mindball Game hardware precautions

Do not install Mindball Game near any heat sources such as radiators, heat registers, stoves, or other apparatus that produce heat.

Do not disassemble or try to repair the Mindball Game or components. Doing so voids the warranty.

Do not store the Mindball Game in a humid place, on the floor or in any location where it may collect dirt, dust, lint, etc.

Do not drop, hit or otherwise abuse the Mindball Game or components.

Do not expose the Mindball Game or any of the Mindball Game components to extreme heat or cold.

Do not rapidly turn the power switch on and off

Install Mindball Game

Unpack:

One Mindball Game table

Four table legs of metal

Power cable

Two headbands

Two balls (one spare)

Assemble:

Gently place the Mindball Game table on another (small) table that enables you to reach the table leg holders on the Mindball Game table.

Screw on the four table legs.

Place Mindball Game at its dedicated place¹. Make sure that the sockets on the side of the box (under the tabletop) are at the same side as where you will put the monitor.

Connect your monitor to Mindball Game.

Connect the power cable to the table and to the power outlet. Mindball Game works with power from 110V to 240V. Make sure that the connection is grounded.

Connect the two headbands at each end of the box under the table. Make sure that the connectors are inserted firmly and fastened by screwing the outer ring.

Remove the tape holding the glass

Functional Description Mindball Game

Mindball Game is a two-person's game controlled by the players' brain waves. The player being most focused and relaxed wins the game by pushing a ball into the other player's goal.

In Mindball Game the players are sitting opposite to each other at a table - or the like produced by the Purchaser - wearing headbands with sensors. A ball is moving on the table back and forth until it rolls into one of the player's goal.

The brainwaves are detected by sensors attached to the headbands. The sensors (electrodes) are connected to a biosensor system. The biosensor system registers the electrical activity in the brain – so called EGG and presents the result in terms of graphics on a screen, if a screen is attached, and the movement of a physical ball on the table.

NB! *If a game is started* – the system uses whatever electrical signals that comes in via the headband sockets. If there are no headband attached to a headband socket or if there are no head in a headband, the signals coming in to the system will be addressed as if it was electrical signals from the brain, and the outcome is completely random.

Mindball is an electronic device and cannot be placed outdoors.

Mindball Game Core is the very same product as Mindball Game but without the tabletop and legs i.e., the core unit contained in a metal box. Mindball Game Core includes two metal rails for attaching the core unit to the Purchasers own build of a "tabletop and legs".

¹ Mindball Game registers the brain waves, which are very weak, seen from an electrical point of view. Mindball Game may therefore be sensitive for EMC/EMI from other exhibits or electrical installations. Please bear that in mind when deciding a suitable place for the exhibit.

Do not place Mindball Game on a surface where the table itself can be nudged while the table legs are stuck to the surface.

Start Mindball Game

Start Mindball Game by turning the power switch on (placed on the box under the tabletop). The red lamp inside the switch is lit.

Put on the headbands and push the start button (the metallic button on the tabletop) and your first game has started! The goal is to push the ball away from you into the opponent's goal.

Too long games

Should you prefer to stop a game before it is finished, press and hold the start button for three seconds.

By default, any game will timeout after 10 minutes, showing a message on the screen and moving the ball to the nearest goal. To change this setting, see Configure Mindball Game below.

Mindball Game Graphics

A monitor connected to Mindball Game before turning on the power switch automatically presents graphs showing the user's brain wave activity during a session. The software of Mindball Game premieres a focused and relaxed mindset.

Your Mindball Game is set to show Standard Graphics or Classic Graphics depending on your choice when ordering the product. You can change the type of shown graphics, see Configure Mindball Game below.

Standard Graphics

The part of the screen next to your seat shows your own state of mind. The other side of the screen shows your opponent's state of mind.

The net shows if you are relaxed or not. A green calm net is the best.

The shape of the ball shows if you are focused or not. Your side of the ball should be completely round. If the ball is moving towards your opponent, you are more focused than your opponent and vice versa.

The graph shows the result of your ability to focus and relax in another way. A high line above the midline is the best.

Classic Graphics

The graph on each side shows each player's ability to focus. A high line above the midline is the best. Above both players' graph the energy level is shown. A green short vertical bar is the best. If the energy level is high, the bar turns red. If your energy level is too high, it will not be possible to achieve a high focus line. In the middle a combined graph is shown with the focus of both players.

Maintenance of Mindball Headbands

To keep the headbands fresh, working and hygienic, there are a few tips to consider

For cleaning the headbands, use a detergent, water and a cloth. You can not use alcohol.

Soak the cloth and rub the headbands to clean them. Rinse the cloth with clean water and wipe the headbands clean.

The headbands have wires inside; be careful and do not bend them too much so that wires will disconnect from the sensors.

When cleaning the headbands, do not wet the connector at the end of the cable.

Trouble shooting of Mindball Game

Symptom: The ball is removed from the playing area and cannot find its place when placed back.

Reason: The ball is made of steel and is kept in place by a magnet under the tabletop. Action: Roll the ball slowly along the playing area and it will find the magnet again.

Symptom: One side is winning all the time.

Reason 1: The headband is not correctly connected.

Action 1: Make sure that the headbands are firmly connected to the table.

Reason 2: A headband is broken

Action 2: Replace the suspected headband. A technician can make a measurement with an ohmmeter between the sensors and the pins in the contact. The resistance should be less than 2 Ω .

Reason 3: Other electrical installations or cables are disturbing Mindball Game. Action 3: Move Mindball Game or the suspected other installation.

Symptom: Mindball Game behaves illogical e.g., the curves tend to follow each other in the mid screen, the two curves on one side are presented as one.

Reason: Mindball Game is not grounded.

Action: Make sure that Mindball Game is grounded.

Symptom: One of the curves is presented as a straight line (on the chosen presentation media).

Reason: The headband is not firmly connected.

Action: Make sure that the headbands are firmly connected to the table.

Symptom: Mindball Game does not work at all.

Reason: An automatic fuse is released.

Action: Press the button marked "Fuse 1".

Symptom: The table feels unstable.

Reason: The table legs are not screwed on properly.

Action: Screw on the table legs.

Symptom: The connected computer screen is black.

Reason: The VGA contact does not get contact with the PC.

Action: Make sure there is nothing wrong with your connected computer screen. Gently pull out the VGA contact – do NOT wiggle the contact up and down; pull it straight out and possibly wiggle it gently sideways.

Insert the VGA contact again. If the screen is still black you have broken pins of the VGA contact connecting the screen to the PC and the unit needs to be repaired.

Configure Mindball Game

Introduction

To configure Mindball Game there is a built in configure program in the Mindball Software. In the configure program it is possible to change parameters for graphics and game settings.

To configure Mindball Game you need to connect a monitor (the PC in Mindball Game has a VGA-connection, but of course you can use a converter to your monitor), a USB mouse and a USB keyboard. The connections are found at the back long side of the electronic box.

1. Power off Mindball Game.
2. Connect monitor, mouse and keyboard.
3. Power up Mindball Game.
4. Click Esc
5. Right-click on the background and select "Mindball Menu" => "Configure Mindball".

Mindball Game Configurator

The configurator contains in 5 setting windows, they are called "Logging", "Graphics", "Gameplay", "Hardware" and "Calibration".

Logging – Is locked and will never have to be changed.

Graphics – Configures graphics, language and colors.

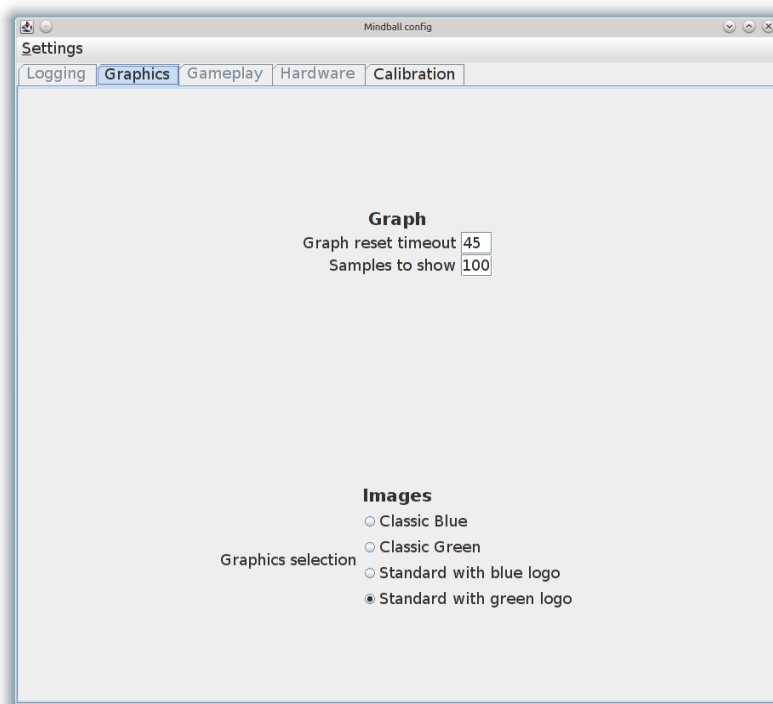
Gameplay - Is locked and will never have to be changed.

Hardware - Is locked and will never have to be changed.

Calibration - Changes the balls alignment and speed.

Graphics

This window changes the graphical appearance in Mindball Game.



Graph

Graph reset timeout: Seconds until the graphs are cleared and the graphics returns to the default idle mode after a game is finished. *Samples to show:* How many samples to show in the graph window at one time.

Images

Graphics selection: Select which graphical style you want.

For the standard graphics the color selection only changes the logo at the top of the screen.

For the classic graphics the color selection changes both the logo and the background color.

Calibration

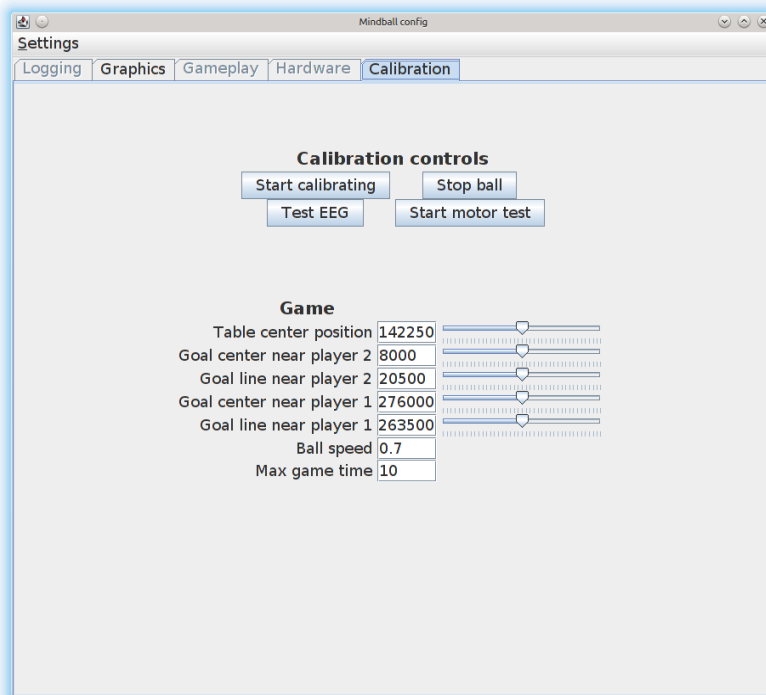
This window changes the balls alignment and speed.

To calibrate the ball positions, first click the button “*Start calibrating*”.

The ball will now move to the bottom of the table to calibrate, then stop.

Now move each slider to position the ball correctly for each position. As you move a slider, the ball will go to and stop at the position indicated by the slider.

If the ball is not exact in the markers on the table top playing area adjust the sliders.



Calibration controls

Start calibrating: Click this button once to begin the calibration procedure.

Stop ball: Click this button to stop the ball moving.

Test EEG: Click this button to perform a quick test of the EEG card. This test only verifies that the EEG card is functioning, not whether any attached headbands are working correctly.

Start motor test: Click this button to perform a motor test, click again to stop.

Game

Table center position: This is the tables' middle point.

Goal center near player 2: This is the circle center point for player 2.

Goal line near player 2: This is the circles tangent for player 2. When the ball crosses this the tangent (abstract line) player 1 wins.

Goal center near player 1: This is the circle center point for player 1.

Goal line near player 1: This is the circles tangent for player 1. When the ball crosses this the tangent (abstract line) player 2 wins.

Ball speed: Controls the ball movement speed during games.

Max game time: Games will timeout after these many minutes. Set to 0 to disable timeout.

Save, Close and start Mindball Game

After configuring Mindball Game to your preferred settings,

1. chose "Settings" and "Save all changes"

On saving, the new settings will be used the next time Mindball Game starts.

2. Close the the configuration program.
3. Start Mindball Game with the new settings by right clicking on the background and selecting "Mindball Menu" => "Start Mindball".

Disclaimer

Mindball Game gathers and analyses brain wave signals to provide visual feedback. Mindball Game is not a medical device and is not intended for use in clinical medical applications. The Mindball Company makes no warranties, express or implied, including but not limited to, any implied warranty of merchantability or fitness for a particular purpose. The User is responsible for determining whether this product is fit for a particular purpose. The Mindball Company makes no claims as to potential medical or therapeutic benefits. The system requires no intrusion into the person of the user.

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