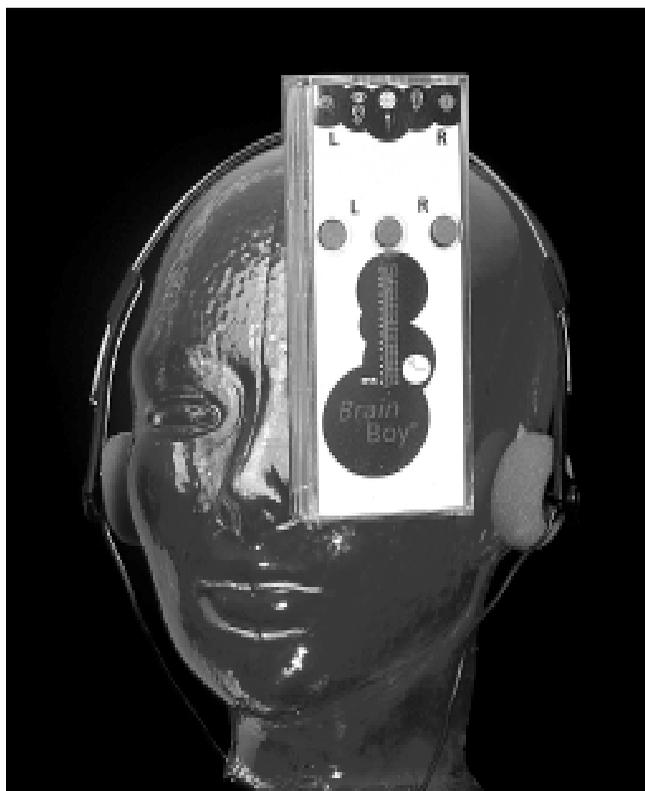
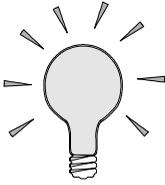


**Brain-Boy®**  
Directions for use



*Medi*  **TECH**  
Electronic GmbH



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## Background

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### **Introduction: What did I buy?**

This **Brain-Boy**<sup>®</sup> was developed for testing and training the so-called order threshold at home.

#### ***What is the order threshold and how can it be trained?***

Order threshold is the name scientists give to the human ability of distinguishing two sensory cues which appear rather shortly after another. The briefest interval at which an individual can actually perceive such two signals as two and can also determine which of them was first and which was second, represents his or her order threshold.

The signals are perceived through the sensory organs ears and eyes and are guided through a great number of nerves until they reach the human brain. There they are analysed and assimilated and „understood“. At this stage of perception the order threshold plays an important role: the shorter the tact is – we are talking about a period of 30-100 milliseconds – the finer the sensory signals can be separated and adapted into „understandable“ information.

Scientific studies in the United States and Germany in the early eighties came to the following result: The order threshold of people who do not have any speech disorders can reach values up to 30 or 40 milliseconds. Children with dyslexia or other automation deficits usually show order threshold values of about 150 or 200 milliseconds or even more.

A very slow order threshold influences the ability of dealing with language and speech.

Especially short sounds and phonemes cannot be perceived at all or cannot be distinguished precisely. Therefore, a decent order threshold has a significant impact on the ability to understand speech on the phonematic level.

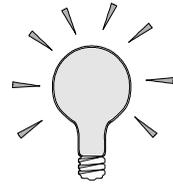
The **Brain-Boy**<sup>®</sup> works in a rather simple way: it provides sensory signals which can be seen and heard easily. The method is based on the German patent 43 18 336. It states that two sensory signals should be provided as light flashes and/or short clicks with just a brief time span between them. The starting point is 50, 100 or 200 ms – depending on the type of appliance. The user „answers“ to the clicks and light flashes by pressing one of two buttons. The **Brain-Boy**<sup>®</sup> evaluates the answer and responds in a specified pattern.

With this method you can determine the order threshold. The order threshold is influenced by an individual's momentary state of mind. By training with the **Brain-Boy**<sup>®</sup> on a regular basis and in a concentrated, way you can improve your auditive and visual order threshold – this is scientifically proven.

The **Brain-Boy**<sup>®</sup> exists in three different versions:

1. *Slow-Version*:                    Scale     20-300 ms
2. *Standard-Version*:            Scale     10-150 ms
3. *Manager-Version*:            Scale     5-75 ms

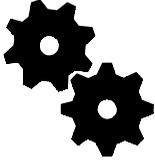
Each **Brain-Boy**<sup>®</sup> can be altered into another version. If you are interested in such a procedure, please contact us.



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Background

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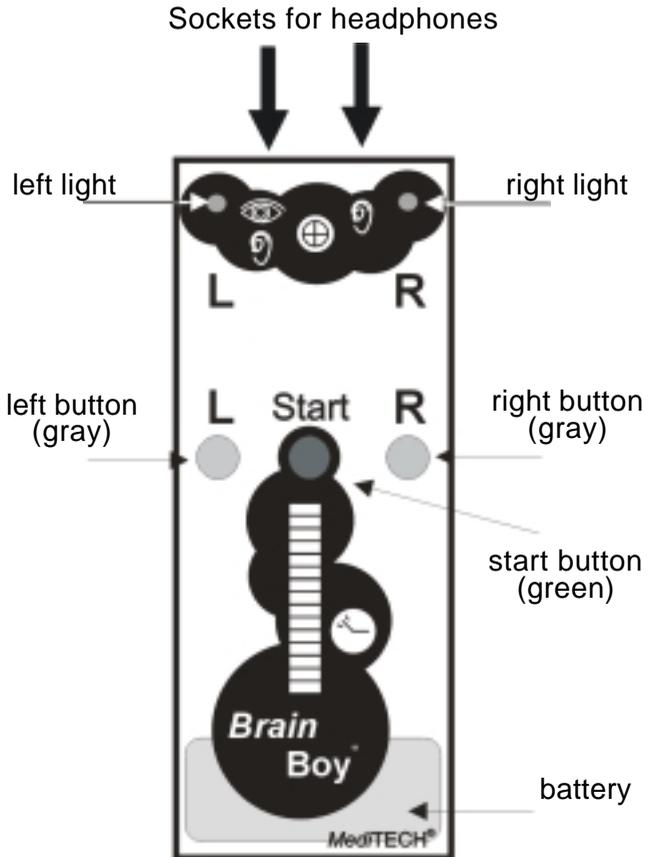
## Operation

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### Appliance: What is what?

The **Brain-Boy®** comes with earphones and a battery which is already fitted. Therefore you can start training immediately.

#### *Operation area*



picture 1: front of **Brain-Boy®**

## Training: What do I have to do?

### *In general*

When training with the **Brain-Boy®**, you can choose between three alternatives. You can use...

**alternative 1:** auditive order threshold

**alternative 2:** visual order threshold

**alternative 3:** auditive and visual order threshold **combined**

The alternatives differ just a slightly. No matter which method you choose you always get two short sensory signals, which are provides one after another.

☞ **Attention!** Keep the **Brain-Boy®** away from wetness. Protect it against nudges.

### ***Alternative 1: Hearing only (auditive)***

The auditive order threshold is the period of time in which an individual can distinguish two auditory sensory signals from another and put them in order.

Plug the headphones into the socket with the symbol: . Please press until you notice a low click shut. The headphone plug needs to be inserted all the way into the socket.

### ***Alternative 2: Seeing only (visual)***

The visual order threshold is the period of time in which an individual can distinguish two visual sensory signals from another and put them in order.

For this alternative you do not need headphones.



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Test

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Test

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### **Alternative 3: Auditive und visual together and combined**

With this alternative you train the coordination of the auditive and visual sensory channel of you brain.

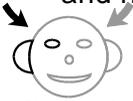
Plug the headphone into the socket with the symbol:  . Please press till you notice a low click shut. The headphone plug needs to be inserted all the way into the socket.

### **Course of training**

1. Put on the headphone. Make sure that it is put on correctly: The ear piece with „L“ has to be on the left ear. The ear piece with „R“ has to be on the right ear.
2. Press and hold the green button pressed to start **Brain-Boy**<sup>®</sup>.
3. Depending on which version of **Brain-Boy**<sup>®</sup> you have, the green light on the scale will show you 50 ms, 100 ms or 200 ms (Manager, Standard or Slow Version).
4. When you let go of the button, you start training.
5. The goal is to be prepared for the pair of sensory signals which can be heard and/or seen. Determine the order of the signals: Depending on the alternative chosen
  - you can hear one click on each ear and/or
  - you can see one light on each of the upper edges of **Brain-Boy**<sup>®</sup>

For your answer you can take as much time as you need. The importance is **not** a quick but a correct response. Therefore, you can decide calmly which sensory signal came first.

6. Depending on the order of signals, press and hold one of the gray buttons pressed:



If the first signal was on the **left side**—press button **L** and hold it pressed.

If the first signal was on the **right side**—press button **R** and hold it pressed.



⇒ If the answer was correct, the green light on the scale will light up. The lighted number shows you the current time interval between the two sensory signals.

⇒ If the answer was incorrect, the scale will not light up.

When you let go of the button, the next signal will be given out.

Depending on the correctness of your answers, the **Brain-Boy**<sup>®</sup> will alter the training-level:

⇒ If the answers were correct four times, the time span between the two signals will decrease. It is going to be more difficult.

⇒ If one answer was incorrect, you immediately continue on an easier level – the time span between the signals will increase.

7. The testing and training should end when there is no further improvement (the scale levels out at a certain value).

When you reach the highest level and answer correctly for four times, we salute you: You beat the game. Further training will begin at the starting point again.

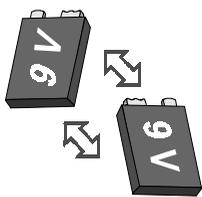
If the child is very unconcentrated, you can try a short course of training. Use only the third alternative for a few days. About every seven days you retest the auditive and visual order threshold separately. On the next day you continue training with the third alternative.



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Test

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Service

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## Changing the battery

A 9V-battery allows training for several month when you use the **Brain-Boy®** a few times per day.

In order to change the battery you need to open the case. The case is made out of an upper an a lower half.

1. Take the **Brain-Boy®** into your hand is and turn it once so the operation area are facing down and the headphone-sockets point away from you. Now you can see the label with the serial-number.
2. Withdraw the upper half with some strength while holding on to the half containing the operation area of the **Brain-Boy®**.
3. Carefully take the battery out of the case.



**Attention! Do not tear off any cables during this process.**

4. Button off the old battery from the sockets.
5. Button on the new battery onto the sockets.
6. Put the battery back into the case.



**Attention! Take care that no cable ends are caught between the two halves of the **Brain-Boy®** case.**

7. Set the case-halves together again and push them into their former position.
8. Press the halves until they fit together firmly.

## Problems: What can I do?

Problem	Solution
The clicks can only be heard on one side.	<ol style="list-style-type: none"> <li>1. Check if the headphones are plugged in correctly all the way.</li> <li>2. If you chose the socket <i>hearing only</i> and a red light flash is lit up, the headphones are out of order.</li> </ol>
The green light of the scale jumps to the best value	If you answer incorrectly at the lowest level, the <b>Brain-Boy</b> ® turns off automatically. When you press any gray button now, the described error can be caused.
The red signals up more than two times	<ol style="list-style-type: none"> <li>1. Press the gray button just <b>one</b> time on the side you noticed the first sensory signal</li> <li>2. Give your answer after noticing <b>both</b> signals.</li> </ol>
Other problems?	Contact us. We will find a solution together.




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Problems?

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## Technical Data

### **Brain-Boy**®

Power:	9 V-battery-block, 10 mA
Impedance:	32 Ohm
Loudness:	90 dB (subjectively felt als 65 dB)
Signal noise difference:	about 70 dB
ISI (Inter-Stimulus-Intervall)	
1. Manager-Version:	Scale: 5-75 ms, start value: 50 ms, step span: 5 ms
2. Standard-Version:	Scale: 10-150 ms, start value: 100 ms, step span: 10 ms
3. Slow-Version:	Scale: 20-300 ms, start value: 200 ms, step span: 20 ms
Weight:	160 g

### **Headphones**

Impedance:	32 Ohm
Response:	40 - 20000 Hz
Power:	100 mW
Lead:	1.15 straight screened
Plug:	3.5 mm stereo
Weight:	50 g




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Technical data

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Technical data

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## Label

On the backside of the **Brain-Boy**<sup>®</sup> is the following label.

type

producer

serial number

additional component

Attention:

Read directions  
for use before  
using!



This sign indicates that the **Brain-Boy**<sup>®</sup> can only be used together with another component. This is a specific headphone type **MT-HS 16**, which can be bought from **MediTECH Electronic GmbH**.

## You want to take contact with us?

**MediTECH** Electronic GmbH

Auf dem großen Kampe 35

D - 30900 Wedemark

Germany - Europe

**Hotline: 0049 - 5130 - 9 77 78-0**

**Telefax: 0049 - 5130 - 9 77 78-22**

**eMail: [service@meditech.de](mailto:service@meditech.de)**

**Internet: <http://www.meditech.de/>**



Address & Hotline

## Do you wish to visit us?

