



eWave

is a small and high-tech system for recording EXG (EEG, ECG, EMG, EOG, ERG) signals in Biofeedback and neurofeedback applications

Biofeedback & Neurofeedback System Wireless , Light and Low power



What Is NeuroFeedBack

Have you ever seen people who suffer from unwanted behavioral patterns but still refuse to see psychotherapists out of the fear of drugs and side effects? Have you ever looked for a non invasive and drug free way to train the brain to self regulate itself and improve your mood, behavior, learning patterns and physical symptoms? This is exactly where NeuroFeedBack comes in. NeuroFeedBack provides a safe way for people to improve their brain activity by training their wave brains , decreasing the power or amplitude of some undesirable frequency bands and increasing the desirable ones. Providing distinct protocol for each individuals by a therapist, NeuroFeedBack gives feedback to clients that how much they were successful in improving their brain waves by giving them a reward such as playing amovie or game. Receiving appropriate feedback about its behavioral patterns, the automatic brain's self-regulating organ is trained to correct itself and to strengthen its functionality.

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8-16-32 channel low noise differential bioamplifier
for recording of EEG/EOG/ECG/EMG
24 bit analog to digital converter
Sample Rate: 1Ks/s
Wireless technology
Rechargeable battery



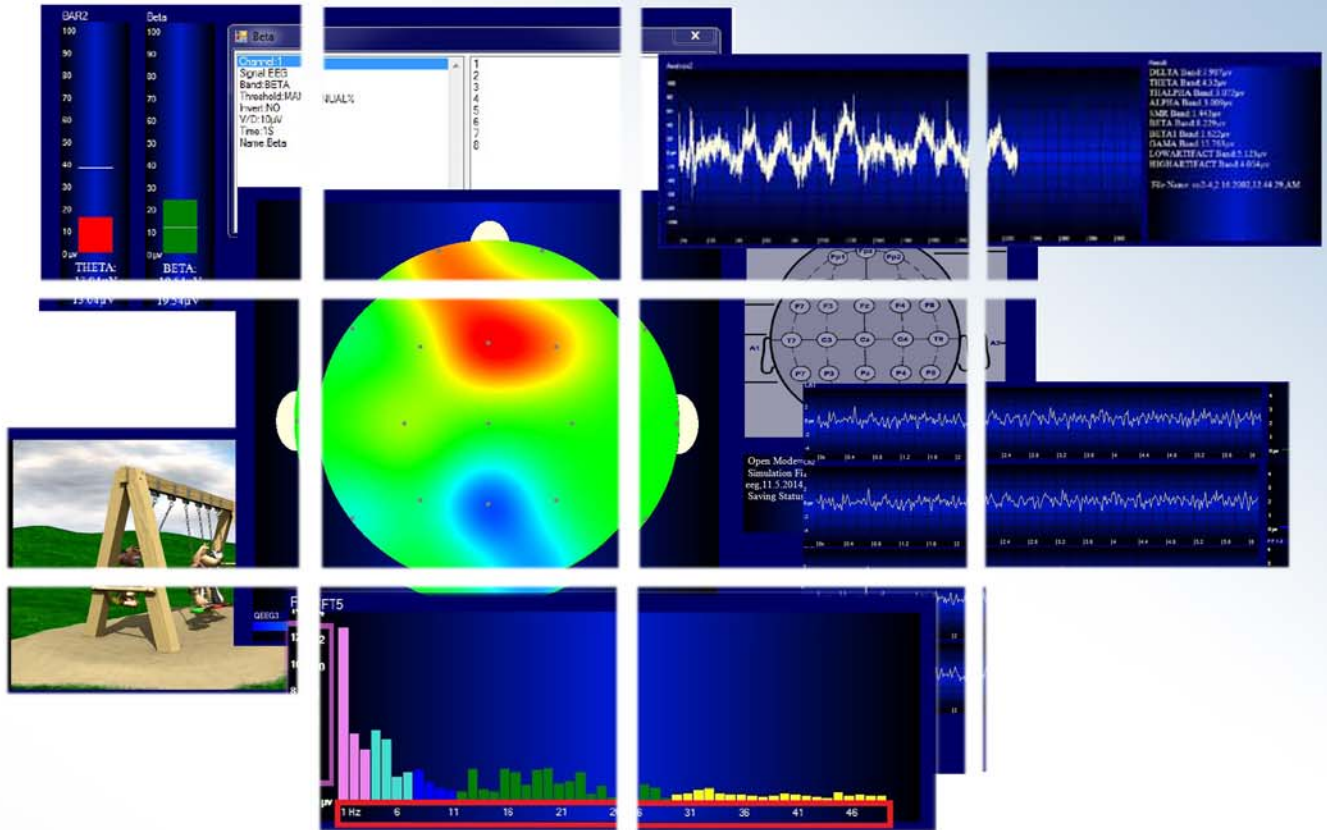
The eWave is a small and high-tech system for recording EXG (EEG, ECG, EMG, EOG, ERG) signals in Biofeedback and neurofeedback applications.
eWave amplifies bio signals by advanced and low noise amplifier and collects them by a 4,8,16,32 channels of 24bit ADC 1K sample per second
DC coupled amplifiers record signals from 0Hz to 500Hz, including EEG, ECG, EMG, EOG and other DC signals. eWave transfers data to computer by Bluetooth wireless technology Powerful Biofeedback software
The eWave4 comes with the flexible and user friendly eWavePlus software, It offers clinicians and researchers lots of protocols for different type of treatment and research strategies .

Who Can Benefit

Everyone can benefit from NeuroFeedBack therapy just like going to the gym that can be useful for anyone. **It is practical for any age from children who suffer from learning problems to adults who like to be at their peak performance in their work and for elders who want to keep their brain abilities as they age.**

NeuroFeedBack can be used to improve attention, cognitive abilities, and emotional regulations. It has been used in numerous disorders including depression, attention deficit disorder, anxiety, sleep disorders, headaches and migraines, and other emotional issues. It can also be used for organic brain disorders, such as autism, cerebral palsy, seizures, stroke, and traumatic brain injury. it can also be helpful for people who struggle with drug and alcohol use and conditions like mood swings and PMS.

The eWave comes with the flexible and user friendly eWavePlus software. It offers clinicians and researchers lots of protocols for different types of treatment and research strategies



this software analyze your EEG signals to determine if your state of the brain is in order or not or how much it is deviated from the normal.

The software gives you feedback about your brain status by stopping or resizing themovie or game. For example, whenever your brain waves are in order the movie is played with large screen giving your brain reward for its positive performance. whenever it is out of order, the movie is stopped or its size is decreased.

software Components

- PlayBox: receives or opens recorded data and controls playing of different panels.
- Scope: displays the signal both in time and frequency domain.
- Val: displays the square of the FFT power of a specific band
- FFT: displays the square of the instantaneous FFT power of a specific band.
- Text: displays some pure information or the result of the analyze panel.
- Image: shows image.
- Game: plays video, movie or game.
- QEEG: shows the instantaneous Quantitative Electroencephalograph (QEEG) or Brain map of a specific band.
- Bar: shows whether the square of the instantaneous FFT power of a specific band is beyond or less than the threshold and considers it as a logic for the Game panel.
- Analyze: displays the whole signal and shows the FFT power of each of the bands that you want in a text panel.



High quality EEG signals

Comfortable fit

Several cap sizes to cover a large variety of head circumferences

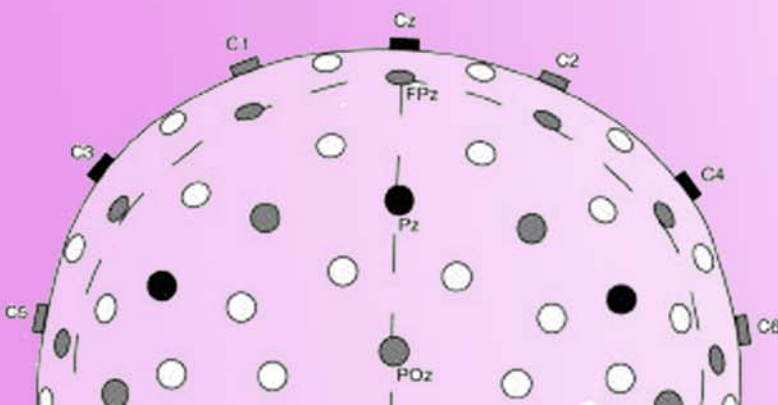
Quick application

Easy to clean

Connects to any EEG system

1 year warranty

caps are very light-weight and comfortable recordings even over a longer period of time.





eWave specification

Analog to digital converter

Channel numbers :8-16-32
ADC resolution: 24bit
Linearity error: ± 7.6 ppm (maximum)
Sample rate: 1Ks/s per channel
Analog input range : ± 2.5 v
Interface :Serial

Data Connection

eBWave8-16:bluetooth wirelss
eWave32:bluetooth wirelss & USB2

BioAmplifier Amplifier

Type : Differential, DC
Number of channels 8
Gain 20
Input voltage range ± 2.5 V
Maximum analog input voltage ± 2.5 V
Input impedance 10 12 Ω
Input leakage current 60pA (typical)
Input capacitance 8pF
Common mode rejection ratio 75dB @ 50/60Hz

Digital I/O Digital

output: 4 Digital inputs: 4

Power

Battery Chargeable, Lithium, 3.7V
Batter Charger 4.5- 5V

Physical specifications

Weight eWave-4: 75g
Dimensions eWave-4: 75 x 20 x 45mm

Requirements

PC CPU : 2core, 2Ghz, memory : 2GB, Graphic : 1024,768
Operating System Windows 7



How Does It Affect Brain?

Is this like a fiction that a person can learn how to regulate his brain waves and promote his brain functionality? But you have experienced it before when you first learned how to ride a bicycle! That time, your brain learned how to selfregulate your state of balance during biking using the feedback it was being received from gravity. Just like your eyes who helped your brain learn how to bike, NeuroFeedBack send feedback to the person about his current brain status and how much it is in order using games and movies. It needs no effort from you, rather it is the central nervous system that decides to reorganize neural connections to modify the function of those parts. While you are seeing movie or playing games, your subconscious brain is going to modify itself based on the information it received during interruption in game or movie. For clients, it seems like a miracle when they saw how symptoms are diminished in their lives. This is the power of their brain that beyond their conscious awareness process more information than what their mind can handle from a software and constantly send commands to correct itself. Interestingly enough, this method has been both scientifically and empirically proved to be effective and has been increasingly practiced by specially trained psychotherapists.

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