Mobile mindwave

Quick Start & User Guide

The NeuroSky® product families consist of hardware and software components for simple integration of this biosensor technology into consumer and industrial end-applications. All products are designed and manufactured to meet consumer thresholds for quality, pricing, and feature sets. NeuroSky sets itself apart by providing building block component solutions that offer friendly synergies with related and complementary technological solutions.

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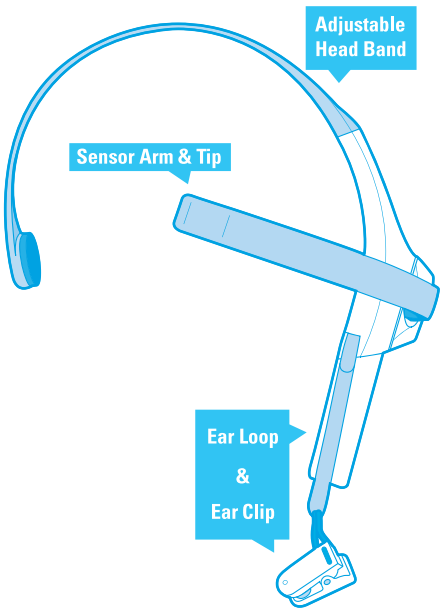
http://mindwavemobile.neurosky.com

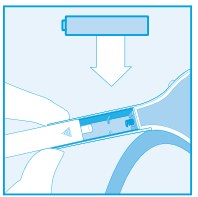
Quick Start Guide

The fastest way to start your experience

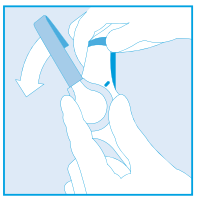
1 The Headset



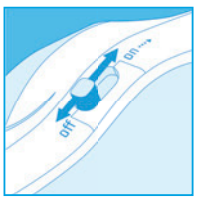
2 Getting Started Turning on and preparing to pair



Insert one (1) AAA battery



Rotate the sensor arm down



Power located here

3 Activating Pairing Mode Switch Positions and LED

In this position the headset will be **OFF**
The LED will be **OFF**

In this position the headset will be **ON**

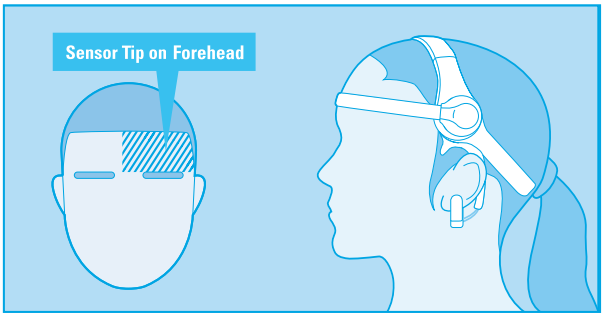
The first time the headset is turned on the LED will go into **Pairing Mode** automatically and **Flash Blue**

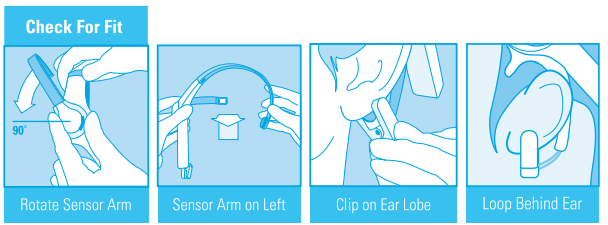
You will have 2 minutes to pair the headset

Slide the switch into this position to manually activate Pairing Mode. The LED will **Flash Blue** again for 2 minutes

4 How to Wear the MindWave

The headset should rest on the head as shown below with the sensor tip touching the forehead, the ear loop behind the ear and the clip attached.





For iPhone, iPad, iPod & All Android-Based Mobile Devices

1. Turn on the headset. It should automatically go into **pairing mode** with the LED light **flashing blue.** If this does not occur, hold the power switch in the "ON" position for 3 seconds until the light flashes. The headset is now in **pairing mode.**

2. Once in pairing mode, refer to your iOS or Android *Bluetooth™* pairing procedure.

3. Select the "MindWave Mobile" device when it appears. For Android devices enter "0000" as the *Bluetooth* authentication key if prompted.

4. The device and headset should now be successfully paired and the headset's light will turn **solid blue.**

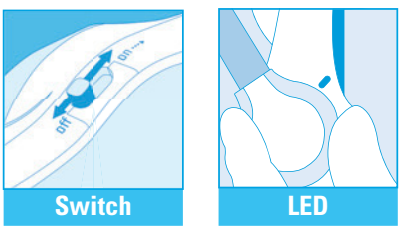
   The headset is now ready to connect to this iOS or Android device from now on

**The MindWave can remember up to three devices. To clear the memory hold the switch in pairing mode for ten seconds.*

5. Go to the iTunes App Store or Android Market, and search for "NeuroSky"

6. Download from the list of NeuroSky enabled applications. We recommend downloading "Welcome to MindWave" first to get an interactive walk through of how to use the EEG commands.

7. Enjoy your MindWave Mobile!



For Windows XP, Windows Vista, Windows 7

Note *Do not insert the application disc yet. You will need to pair the device successfully and connect first.*

1. Turn on the headset. It should automatically go into **pairing mode** with the LED light **flashing blue.** If this does not occur, hold the power switch in the "ON" position for 3 seconds until the light flashes.

2. **To install a Bluetooth-enabled device on:**

Windows Vista:

a. Click **Start,** then **Control Panel**

b. Open **Bluetooth Devices**

c. Select **MindWave Mobile** and click **Next**

d. Click **Apply**

e. Click **Close** to complete pairing

Windows XP:

a. Click **Start,** then **Control Panel**

b. Click **Bluetooth Devices**

c. Select the **Devices** tab and click **Add**

d. Check **"My device is setup and ready to be found"**

e. Select **MindWave Mobile** and click **Next**

f. Select **"Let me choose my own passkey"** and enter **0000**

g. Click **Finish** to complete pairing

For Windows XP, Windows Vista, Windows 7

Windows 7:

a Click **Start,** then **Control Panel**

b Click View by: small icons (in the top right-hand corner)

c Select **Devices and Printers**

d Click **Add Device**

e Select **MindWave Mobile** and click **Next**

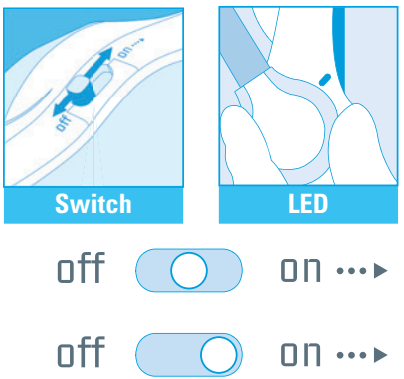
f Click **Close** to complete pairing

3 If successful, the Bluetooth software will indicate paired and/or connected and the headset's light will turn **solid blue.**

4 Once the headset is paired and connected, insert the **Windows** version of the Application Disc.

5 Open your CD-ROM drive folder and double-click on "Setup.exe" to begin the installation process. Keep your MindWave connected through the installation process.

6 After installation, the "Welcome to MindWave" app should automatically launch. Enjoy!



For Mac OS X 10.5 and Later

Note *Do not insert the application disc yet. You will need to pair the device successfully and connect first.*

1. Turn on the headset. It should automatically go into **pairing mode** with the LED light **flashing blue.** If this does not occur, hold the power switch in the "ON" position for 3 seconds until the light flashes. The headset is now in **pairing mode.**

2. If your Mac already has Bluetooth installed, proceed with pairing procedure. Otherwise, plug in the included Bluetooth Dongle and follow the directions below.

   Mac Bluetooth driver pairing procedure:

   a. Open **System Preferences**

   b. Click **Bluetooth** icon

   c. Click on the **" + "** icon in the lower left

   c. When asked to **"Select Device Type"** choose **Any Device**

   a. Click **Passkey Options** and make sure the option is set to "Use a specific passkey."

   b. Select **MindWave Mobile** and click **Next**

   c. Enter **0000** when prompted for passkey.

   c. Use the **Default** setting when asked about services

   b. Click **Close** to complete pairing

3. The headset's light will turn **solid blue**, indicating that it has been successfully paired.

4. Once the headset is paired and connected, insert the **Mac** version of the Application Disc.

5. Open your CD-ROM drive folder and double-click on "Setup.pkg" to begin the installation process. Keep your MindWave connected through the installation process.

6. After installation, the "Welcome to MindWave" app should automatically launch. Enjoy!

Signal Status

Bluetooth pairing must be completed before you can operate the MindWave with your device (covered in the previous pages). This will also allow you to get a good EEG signal with the MindWave. Icons depicting your connection status appear in the upper right-hand corner of most NeuroSky apps:

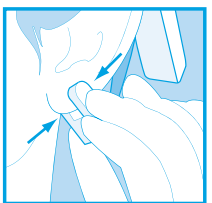
Connected | Check Fit | No Signal

Quick Fixes & Older Icons

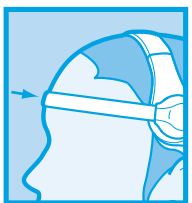
If your device is properly paired and there is a fresh battery in the headset, try these tips to help ensure good EEG connection. Older applications may use the signal status icons below.

4 or less bars
Fitting

5 bars
Connected



Squeeze ear clip to press contacts to touch ear.



Press sensor to forehead to get skin contact.

eSense Meters

The meters are gauges of certain mental states that the MindWave can detect. You can try to control them to cause action in an app, or the app can react to how you happen to be feeling in the moment.

Attention / Focus

- Identify and maintain a single thought
- Stare at a specific object
- Focus on something you like
- Calculate math
- Listen intently to someone talking
- Imagine accomplishing a goal

Meditation / Relaxation

- Take a deep breath and slowly exhale
- Deliberately relax all muscles
- Clear mind of any specific thoughts
- Let mind wander and drift
- Close eyes
- Imagine going to bed

Blink

- Blink eyes as naturally as possible
- You may need to blink harder or softer to control certain things

Thank you for purchasing NeuroSky's MindWave™ Mobile

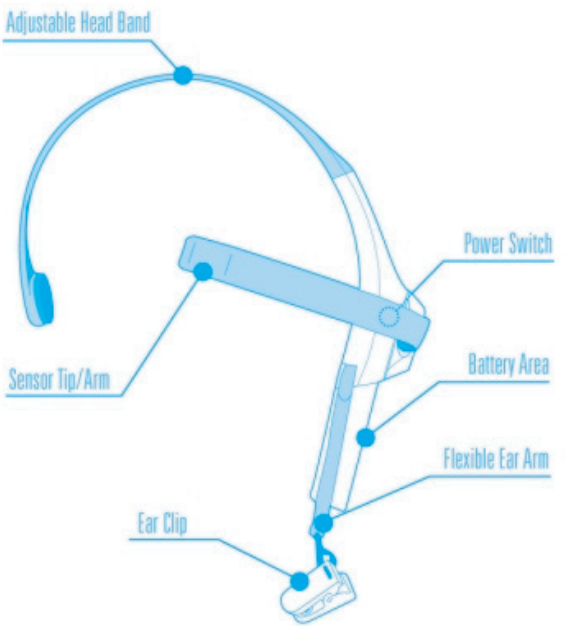
This Brain-Computer Interface (BCI) device turns your brainwaves into actions, unlocking new worlds of interactivity. The MindWave Mobile reports the wearer's mental state in the form of NeuroSky's proprietary Attention and Meditation eSense™ algorithms, along with raw wave and information about the brainwave frequency bands. The NeuroSky MindWave Mobile can be used with supported video games, research software, or a number of other applications for an enhanced user experience.

For any technical information updates and additional support questions not answered by this document please register at the NeuroSky support website at *http://support.neurosky.com*. We also recommend you join our email list by filling out the form on *http://www.neurosky.com* to receive general information about NeuroSky, new products announcements, and any technical information updates.

MindWave Mobile Product Contents

- MindWave Mobile headset
- MindWave Mobile Quick Start & User Guide (this document)
- MindWave Mobile PC Disc
    - Windows Frameworks, Connectors, and Utilities for MindWave Mobile
    - Bundled PC Apps
- MindWave Mobile Mac Disc
    - OS X Frameworks, Connectors, and Utilities for Mind Wave Mobile
    - Bundled Mac Apps

MindWave Mobile Headset



Minimum System Requirements for PC / Mac

	PC	Mac
Operating System	XP / Vista / 7	Mac OS X 10.5.8
Processor	Intel Core Duo or equivalent	
Memory	IGB or more	
Video	DirectX 9.0 or above	Intel GMA900 or above
Hard Disk	1GM free disk space	
Wireless	Bluetooth	

Minimum System Requirements for iOS / Android

	iOS	Android
Operating System	iOS 4.3.3 or later	Android 2.2 or later
Hardware	At least iPhone, iPad or iPod Touch 3 (3rd gen 32GB or later)	Compatible Android Phone or Tablet
Wireless	Bluetooth	

Replacing the Battery

The MindWave Mobile headset requires 1 AAA battery to operate. To install or replace the battery, slide open the battery cover. Remove any existing battery within and replace with a new AAA battery.

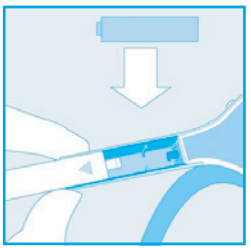
Power

To power on the MindWave Mobile headset, slide the switch to the ON (middle) position. When held past the ON position for 3 seconds, the headset will enter Bluetooth pairing mode. When held past the ON position for 6 seconds, the headset's pairing memory will be cleared.

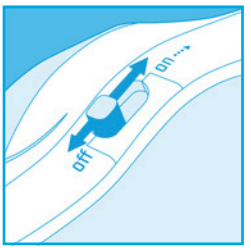
While the MindWave Mobile headset is powered on, the LED light on the side of the headset will be turned on. If the MindWave has a low battery, the LED light will flash to indicate low battery status.

To turn the MindWave Mobile off, slide the switch back to the OFF position.

Open Battery Door

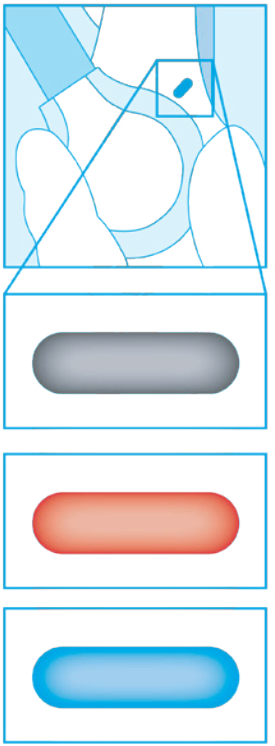


Power/Pairing Switch



The MindWave Mobile's LED light has has two colors: red and blue. Refer to the chart to see what state the MindWave is in.

Light Color	MindWave State
Off	Powered Off
Solid Red	Waiting / Ready for a paired device to connect
Solid BlueA	Actively connected to a paired device
Flashing Blue	Waiting / Ready for a device to pair
Flashing Red	Low battery



LED OFF
Device Off

Flashing Red
Low Battery

Solid Red
Waiting / Ready to Connect

Flashing Blue
Ready to Pair

Solid Blue
Connected & Paired

"Pairing" is when your computer/tablet/phone remembers your MindWave Mobile headset, and your MindWave Mobile headset allows that computer/tablet/phone to connect to it. Note that this is different from "connecting", which is when the computer/tablet/phone is actively sending or receiving data and information.

You must first pair each of your computers/tablets/phones to your MindWave Mobile headset in order for them to connect to each other. To do so:

1) Put the MindWave Mobile headset into "Pairing Mode" by holding the On/Off switch past the "On" position for 3 seconds.

Important: Release the switch when the light starts flashing blue. If you continue holding for more than 6 seconds, the MindWave Mobile headset will clear all previously remembered pairings.

2) Refer to the Bluetooth pairing instructions that came with your iOS, Android, PC, or Mac device to search for and pair to the MindWave Mobile headset.

- If prompted, enter **"0000"** for the authentication key.

Your MindWave Mobile headset can "pair/remember" up to 3 computers/tablets/phones at the same time.

Bluetooth Connection

Depending on your computer/tablet/phone, it may automatically connect to the headset whenever an application needs to use the headset. If your Bluetooth software does not automatically connect when an app is started, please refer to the Bluetooth connecting instructions that came with your iOS, Android, PC, or Mac device to manually connect to the headset before running your apps.

Serial/COM Port Name or Number

Some games and applications will ask for you to enter the serial COM port name or number for the game or application to connect to the headset. Use the Bluetooth software on your computer/tablet/phone to determine the COM port name or number that your MindWave Mobile has been assigned to.

Problem	Cause	Solution
Unable to find or connect to MindWave Mobile headset, or headset disconnects unexpectedly	Low Battery	Replace the AAA battery in the MindWave Mobile with a new battery
	MindWave is not turned on	Turn the MindWave on
	MindWave is not paired to this computer	Make sure that you use your computer/device's Bluetooth software to pair the headset
	MindWave headset is too far from the Wireless USB Adapter	Check that your headset stays within 10 feet of the Wireless Adapter
	ThinkGear Connector is not running	Make sure the ThinkGear Connector is running and enabled.
		Make sure you have the latest version of the ThinkGear Connector or app.
Light on MindWave headset d oes not turn from red to blue	Bluetooth is not enabled on your computer/device	Make sure you have Bluetooth enabled and turned on in your computer/device
Other	Strong radio interference	Move the headset closer to the Bluetooth on your computer/device, or move the Bluetooth of your computer/device closer to the headset using a USB extension cable (not included)

Note: If problems still persist, re-run the MindWave Mobile Application Disc setup to download the latest version of the software, or visit http://support.neurosky.com or email support@neurosky.com

This chapter walks you through fitting the MindWave and installation of the included MindWave software on your computer. Be sure to first connect and pair the headset as described in the previous chapter first.

Fitting the MindWave Mobile

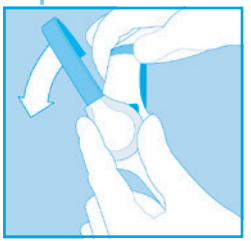
The MindWave Mobile is more than your average headset. It has the ability to use your brainwaves for exciting new applications.In order to take full advantage of these functions and features of the MindWave Mobile, it must first be properly worn.

1) Orient the MindWave with the forehead Sensor Arm on your left hand side. Rotate the Sensor Arm from its base by about 90 degrees. It can be rotated slightly more if necessary to get proper fit and comfort.

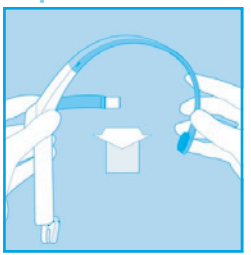
2) The overhead band of the MindWave is adjustable and can be extended to fit various sizes. Put on the MindWave. If the sensor does not make contact with the forehead or if the fit is not comfortable, remove the MindWave to readjust the overhead band and the forehead Sensor Arm. The forehead Sensor Arm is flexible and should arch inwards.

3) Allow the rubber ear hoop to rest behind your left ear, and then clip the earclip onto your earlobe.

Step 1



Step 2



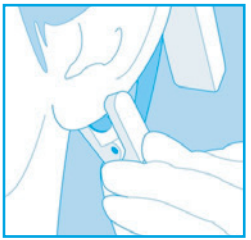
4) Make sure the two metal contacts on the inside of both sides of the earclip make skin-contact with your earlobe or ear. Move any hair or obstructions (such as jewelry) out of the way. Readjust the earclip as necessary to make proper contact with the skin of your ear. You may need to squeeze the ear clip against your ear for a few seconds.

5) Adjust the forehead Sensor Arm of the headset so that the Sensor Tip makes contact with the skin of your forehead. This Sensor Tip must maintain steady skin contact in order to properly measure your brainwaves, it will not work through hair. The Sensor Tip should be comfortable, yet stay firmly in position. Keep hair away from the sensor – the sensor must be able to directly contact the skin at all times. Make up, dead skin, or debris can interfere with the connection. Scratch or wipe the obstruction away if you have trouble obtaining a clean signal.

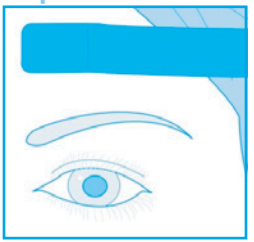
6) This is how the MindWave should look when properly worn. During usage, if you are not receiving a signal, repeat the steps above to make minor adjustments to ensure the sensor and contacts have proper skin contact.

Note If you are having a problems with the signal quality, carefully recheck all the instructions above, and then try sitting still for a few seconds. Note that talking can sometimes interfere with the signal quality as well. If this does not work, check that your head is not within a few feet of a strong electrical device (like a laptop adapter or an electrical outlet).

Step 4



Step 6



Brainwaves

The last century of neuroscience research has greatly increased our knowledge about the brain and particularly, the electrical signals emitted by neurons firing in the brain. The patterns and frequencies of these electrical signals can be measured by placing a sensor on the scalp. The MindTools line of headset products contain NeuroSky ThinkGear™ technology, which measures the analog electrical signals, commonly referred to as brainwaves, and processes them into digital signals. The ThinkGear technology then makes those measurements and signals available to games and applications. The table below gives a general synopsis of some of the commonly-recognized frequencies that tend to be generated by different types of activity in the brain:

Brainwave Type	Frequency Range	Mental States & Conditions
Delta	0.1Hz to 3Hz	Deep, dreamless sleep, non-REM sleep, unconcious
Theta	4Hz to 7Hz	Intuitive, creative, recall, fantasy, imaginary, dream
Alpha	8Hz to 12Hz	Relaxed (but not drowsy) tranquil, conscious
Low Beta	12Hz to 15Hz	Formerly SMR, relaxed yet focused, integrated
Midrange Beta	16Hz to 20Hz	Thinking, aware of self & surroundings
High Beta	21Hz to 30Hz	Alertness, agitation

ThinkGear

ThinkGear is the technology inside every NeuroSky product or partner product that enables a device to interface with the wearers' brainwaves. It includes the sensor that touches the forehead, the contact and reference points located in the ear clip, and the on-board chip that processes all of the data. Both the raw brainwaves and the eSense Meters (Attention and Meditation) are calculated on the ThinkGear chip.

eSense

eSense™ is a NeuroSky's proprietary algorithm for characterizing mental states. To calculate eSense, the NeuroSky ThinkGear technology amplifies the raw brainwave signal and removes the ambient noise and muscle movement. The eSense algorithm is then applied to the remaining signal, resulting in the interpreted eSense meter values. Please note that eSense meter values do not describe an exact number, but instead describe ranges of activity.

eSense Meter - General Information

The eSense meters are a way to show how effectively the user is engaging Attention (similar to concentration) or Meditation (similar to relaxation).

Like exercising an unfamiliar muscle, it may take some time to gain full proficiency with each of the eSense™ meters. In many cases, people tend to be better at one eSense than the other when they first begin. We recommend trying different tactics until you are successful with one. Once you see a reaction on the screen from your efforts, you will be able to duplicate the action more easily with additional practice.

Generally, Attention can be controlled through a visual focus. Focus on a singular idea. Try to "funnel" your concentration and focus your train of thought towards pushing up the meter. Other suggestions include picking a point on the screen to stare at or imagining the action you are trying to accomplish happening. For example, look at the Attention eSense meter and imagine the dial moving towards higher numbers.

eSense Meter - General Information (Cont.)

For Meditation, it typically helps to try to relax yourself. Connect to a sense of peace and calm by clearing your mind of thoughts and distractions. If you are having difficulty engaging Meditation, close your eyes, wait a number of seconds, and then open your eyes to see how the meter has responded.

If you have trouble at first in controlling your eSense meter levels, be patient. Try different techniques and practice. Also be sure to read and try to understand the Technical Description in order to get a better idea about how eSense actually works under the hood.

eSense Meter - Technical Description

For each different type of eSense (i.e. Attention, Meditation), the meter value is reported on a relative eSense scale of 1 to 100. On this scale, a value between 40 to 60 at any given moment in time is considered "neutral" and is similar in notion to "baselines" that are established in conventional brainwave measurement techniques (though the method for determining a ThinkGear baseline is proprietary and may differ from other methods).

A value from 60 to 80 is considered "slightly elevated", and may be interpreted as levels tending to be higher than normal (levels of Attention or Meditation that may be higher than normal for a given person). Values from 80 to 100 are considered "elevated", meaning they are strongly indicative of heightened levels of that eSense.

Similarly, on the other end of the scale, a value between 20 to 40 indicates "reduced" levels of the eSense, while a value between 1 to 20 indicates "strongly lowered" levels of the eSense. These levels may indicate states of distraction, agitation, or abnormality, according to the opposite of each eSense.

The reason for the somewhat wide ranges for each interpretation is that some parts of the eSense algorithm are dynamically learning and at times employ some "slow-adaptive" algorithms to adjust to natural fluctuations and trends of each user, accounting for and compensating for the fact that brainwaves in the human brain are subject to normal ranges of variance and fluctuation. This is part of the reason why ThinkGear sensors are able to operate on a wide range of individuals under an extremely wide range of personal and environmental conditions, while still giving good accuracy and reliability.

ATTENTION eSense

The eSense Attention meter indicates the intensity of a user's level of mental "focus" or "attention", such as that which occurs during intense concentration and directed (but stable) mental activity. Its value ranges from 0 to 100. Distractions, wandering thoughts, lack of focus, or anxiety may lower the Attention meter level. See eSense Meter - General Information for more details about interpreting eSense levels.

MEDITATION eSense

The eSense Meditation meter indicates the level of a user's mental "calmness" or "relaxation". Its value ranges from 0 to 100. Note that Meditation is a measure of a person's mental states, not physical levels, so simply relaxing all the muscles of the body may not immediately result in a heightened Meditation level. However, for most people in most normal circumstances, relaxing the body often helps the mind to relax as well. Meditation is related to reduced activity by the active mental processes in the brain. It has long been an observed effect that closing one's eyes turns off the mental activities which process images from the eyes. So closing the eyes is often an effective method for increasing the Meditation meter level. Distractions, wandering thoughts, anxiety, agitation, and sensory stimuli may lower the Meditation meter levels. See eSense Meter - General Information for details about interpreting eSense levels in general.

To find new and exciting ways to unlock the full potential of you MindWave, visit the NeuroSky Store for additional software and applications: http://store.neurosky.com

Development Tools 3 (DT3)

The NeuroSky MindSet Development Tools 3 (DT3) is a collection of drivers, sample code, and documentation describing how to develop applications for several software platforms, including PC, Flash, and even lower level platforms such as microcontrollers like the Arduino™. The DT3 is available for free from the NeuroSky Store, and provides all the tools and resources necessary to create and publish games and applications capable of taking advantage of the exciting new Brain-Computer Interface (BCI) technology of NeuroSky's MindSet or MindWave headset.

Research Tools

The NeuroSky Research Tools bundle is a collection of two data collection and viewing applications. The Research Tools enable researchers to use the MindSet, MindWave, or MindWave Mobile as a data collection device. Using the cost-effective and user-friendly features of MindWave Mobile in conjunction with the Research Tools allows researchers to broaden the scope of their research and to make efficient use of resources.

The Research Tools bundle includes the NeuroView software, which make it easy to connect, graph, view, and record MindSet, MindWave, or MindWave Mobile data in real time. The Research Tools bundle also includes the more advanced NeuroSkyLab MATLAB module, which adds the ability to define custom MATLAB scripts and functions for customized processing and analysis of MindSet, MindWave, or MindWave Mobile data.

For more information on the uses and capabilities of the Research

- Clean the MindWave's sensor and ear contacts with alcohol or a damp cloth periodically to ensure the best signal quality. Use a soft cloth to clean the MindWave casing.

- For travel and storage, gently push the sensor arm up until it is aligned with the top of the headset. Be careful not to overextend the maximum range of the boom by adjusting it beyond the natural stopping point.

- Do not expose the MindWave to temperatures above 140°F (60°C)

- Dropping or throwing the MindWave may cause damage to the MindWave.

- Remove the battery from the MindWave when not in use for extended periods of time.

Clean Sensor Contacts

Do not over extend the sensor arm

The MindWave does not turn on.
The battery might be low. Please try replacing the battery and try again.

The signal quality status is consistently poor (fewer than three bars).
Check that the forehead sensor and each clip contacts are making good contact with the skin. Make sure to remove all obstructions including hair and jewelry.

It usually takes three or four seconds for the headset to validate the signal after holding still. Also make certain to keep the sensor and contacts clean.

The eSense meters do not move.
Be sure to allow several moments for the eSense meters to go through some self-calibration and initialization before troubleshooting. If the meters still do not move after 10 seconds, make sure the sensor rests on the skin of the forehead and the contacts are on the skin of the left ear. The sensor and contacts must always make firm and consistent contact with your skin.

I don't seem to be able to control the eSense™ meters.
Like exercising an unfamiliar muscle, it may take some time to gain full proficiency with the eSense™ meters. First, be sure you understand how the eSense meters work and what they are measuring. Generally, we recommend engaging Attention by concentrating and Meditation by relaxing. Most importantly, be sure you have read the detailed explanation of eSense previously described in the eSense sections.

I still have a problem, or my problem is not covered by this Troubleshooting section.
For further technical support, please contact NeuroSky Support at http://support.neurosky.com or email support@neurosky.com.

Operating Conditions

Operating temperature: 0-35C
Headset: 1.5V / 95mA maximum average current
Dongle: 5V / 60mA maximum average current

Safety

Batteries should not be exposed to excessive heat such as sunshine, fire, or similar conditions.

ISO/IEC

ISO/IEC Guide 37 [17].

No naked flame sources, such as lighted candles, should be placed on the apparatus;
Battery disposal: This product requires the use of an AAA battery. AAA batteries commonly available in the market contains hazardous waste and should be properly disposed of. Contact your local government for disposal or recycling practices in your area.

FCC

FEDERAL COMMUNICATIONS COMMISSION INTERFERENCE STATEMENT
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

– Reorient or relocate the receiving antenna.
– Increase the separation between the equipment and receiver.
– Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
– Consult the dealer or an experienced radio/TV technician for help.

CAUTION:
Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) This device may not cause harmful interference and
(2) This device must accept any interference received, including interference that may cause undesired operation.

FCC (Cont.)

RF exposure warning

This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment must be installed and operated in accordance with provided instructions and must not be co-located or operating in conjunction with any other antenna or transmitter. End-users and installers must be provided with antenna installation instructions and transmitter operating conditions for satisfying RF exposure compliance.

Canada, Industry Canada (IC) Notices
This Class B digital apparatus complies with Canadian ICES-003 and RSS-210.
Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) thisdevice must accept any interference, including interference that may cause undesired operation of the device.

Radio Frequency (RF) Exposure Information
The radiated output power of the Wireless Device is below the Industry Canada (IC) radio frequency exposure limits. The Wireless Device should be used in such a manner such that the potential for human contact during normal operation is minimized.

Canada's REL (Radio Equipment List) can be found at the following web address: http://www.ic.gc.ca/app/sitt/reltel/srch/nwRdSrch.do?lang=eng
Additional Canadian information on RF exposure also can be found at the following web address: http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf08792.html

Canada, avis d'Industry Canada (IC)
Cet appareil numérique de classe B est conforme aux normes canadiennes ICES-003 et RSS-210. Son fonctionnement est soumis aux deux conditions suivantes : (1) cet appareil ne doit pas causerd'interférence et (2) cet appareil doit accepter toute interférence, notamment les interférences qui peuvent affecter son fonctionnement.

Informations concernant l'exposition aux fréquences radio (RF)
La puissance de sortie émise par l'appareil de sans fil Dell est inférieure à la limite d'exposition aux fréquences radio d'Industry Canada (IC).
Utilisez l'appareil de sans fil Dell de façon à minimiser les contacts humains lors du fonctionnement normal.

Ce périphérique est homologué pour l'utilisation au Canada. Pour consulter l'entrée correspondant à l'appareil dans la liste d'équipement radio (REL - Radio Equipment List) d'Industry Canada rendez-vous sur: http://www.ic.gc.ca/app/sitt/reltel/srch/nwRdSrch.do?lang=eng
Pour des informations supplémentaires concernant l'exposition aux RF au Canada rendez-vous sur : http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf08792.html