

# **Emotiv Insight User Manual**

**Revision 1.0**

**June 2015**

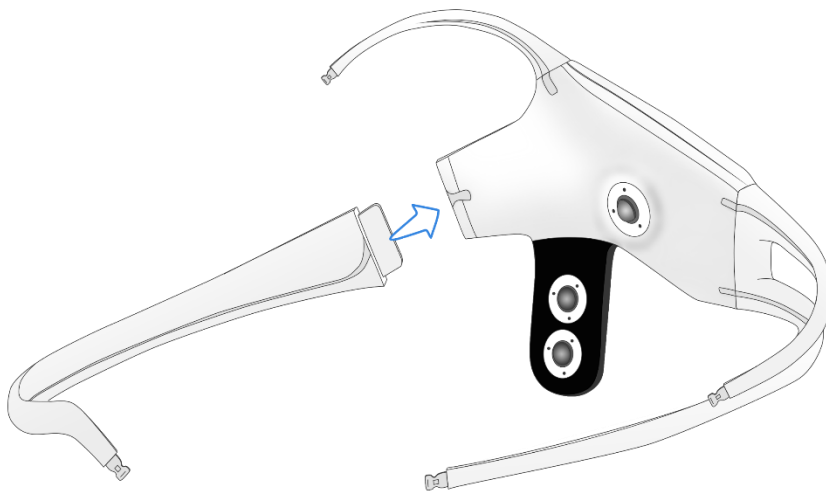
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## Before first use

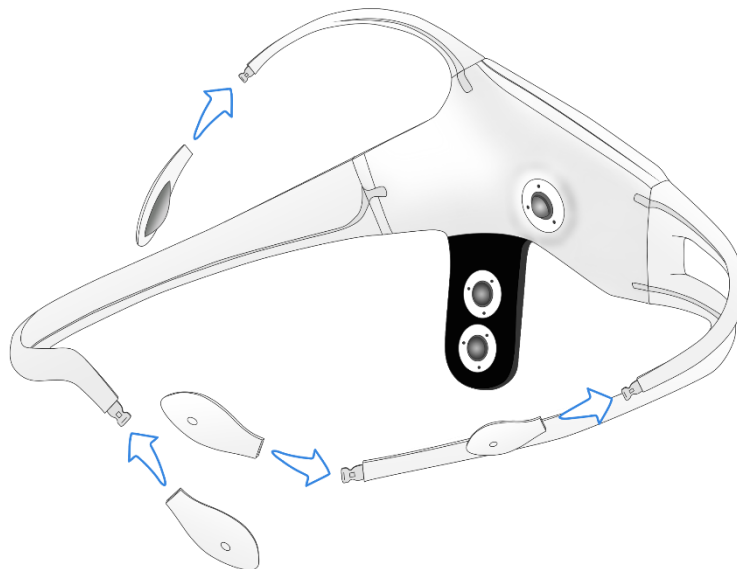
- check the parts are in the box
- assemble the Insight
- charge the Insight
- obtain software
- check operation
- read safety warnings

## Assembling the Insight

**Step 1:** Attach the rear arm to the Insight.



**Step 2:** Attach the sensors to the arms.



## Charging the Insight

Plug the cable into the Insight (see diagram) ensuring the connector is fully inserted. Attach the cable to an active USB port on your PC or a USB charger. Note the device requires 5V supply and will draw a maximum of 0.5A from the charge port. If plugged into a USB port on your PC, the Insight will check for the maximum available current from the port up to a limit of 0.5A. Note that if the port does not support extended power mode, Insight will draw 0.1A and will charge much more slowly. Try a different USB port if Insight takes more than 2 hours to reach full charge.

## Turning On the Headset

The Insight's power switch is above the charging port. A white light above the Emotiv logo indicates the headset is on. \*\*\* diagram

## Pairing the Headset

### **Devices with Bluetooth™ 4.0 SMART Low Energy (BTLE):**

The Insight can pair using BTLE. Make sure that your device's Bluetooth connection is turned on. The headset should pair automatically. Note that not all Bluetooth 4.0 devices support the SMART (low energy) protocol. You may need to purchase an adaptor for use with some PCs and older Macs. See [www.emotiv.com](http://www.emotiv.com) for recommended BTLE adaptors.

### **Using an Emotiv Universal USB Receiver (OPTIONAL):**

Plug the receiver into your device's USB port. There are two LEDs on the device which indicate connection status. When first plugged into the USB port, one green LED will flash slowly. When a headset is paired, that indicator LED will flicker rapidly and a second LED will glow continuously. If the second LED is blinking slowly the headset has passed out of range or switched off, and the receiver will wait to reestablish contact with the same headset. If you wish to pair that receiver with a different headset, unplug the receiver and re-insert it. If you have problems establishing contact, make sure all other receivers are unplugged, all local Bluetooth devices are currently turned off, then reinsert the receiver and try again. You may also try turning the headset off and on again to establish a connection.

## Emotiv Universal USB Receiver States:

### Emotiv USB Dongle States:



#### **Broadcasting**

*The LED above the power symbol is blinking about once a second.*



#### **Paired**

*The second LED will be lit, and the LED above the power symbol becomes fainter and flickers rapidly.*

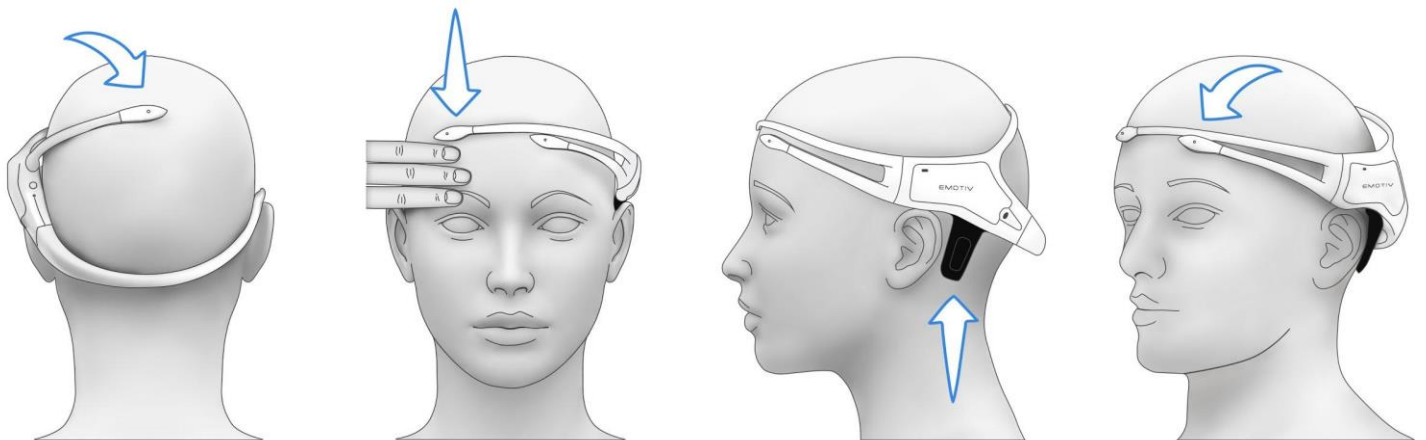


#### **Re-Pairing State**

*If the connection is lost, the dongle will attempt to pair again. The LED above the power symbol will blink slowly. The second LED will remain lit. The dongle will only pair with the original headset in this state. To pair with a different headset, unplug the dongle and plug it in again.*

## Fitting the Headset

DO NOT spread the headset open to fit it. Gently slide the headset onto the head. The reference sensors, which are on the black arm, should make contact with the skin behind the ear. If necessary, gently bend the reference sensor arm so that the sensors make contact with the skin. The frontal sensors should be positioned about three finger widths above the eyebrows.



## Obtaining Good Contact Quality

Placement of the reference arm is critical for successful operation. The reference arm is the black tab which sits directly behind the left ear. The arm is designed to bend and may be positioned to suit the user. The two sensors on the reference arm must make contact with the patch of bare skin directly behind the ear. The sensor should be positioned so that it follows the angle of the rear of the ear, sits flat and parallel on the skin and has light, but definite pressure so that it is not displaced by moving the head. The following figure shows the available adjustments and the recommended placement of the sensor.

As the Insight sensors establish and maintain contact, it may take a minute or so for the signal quality to stabilize. If sensor indicators remain red or black, check that the sensors are making comfortable but firm contact with the scalp. Try parting the hair or gently working the sensor underneath the hair. Press and hold the sensor against the scalp for a few seconds to establish better contact quality. If the contact quality does not improve, try moistening the sensor with the rehydration solution.

Although the majority of indicator lights should be green, the detections will usually tolerate input if a few sensors are orange or red, even with one or two black sensors depending on the detection and which sensors are missing. Adjust the reference sensors so that their indicator lights are green.

## **Safety:**

Please note the following safety considerations:

**CHOKING HAZARD** – detachable small parts. Keep away from small children.

DO NOT attach the Insight to the charger or USB connector while in use. ALWAYS remove the Insight during charging and avoid touching the sensors if fitted. Although unlikely, an insulation failure in the charger or USB source may cause the Insight to become live. Insight will automatically enter sleep mode while attached to the charger, so it is not possible to extend use while charging. Insight may be operated while charging ONLY when used in conjunction with the Emotiv Extender product.

**WARNING:** Radio emissions may interfere with appliances and medical equipment including heart pacemakers and automated medical dosimetry systems. Use with caution.

**WARNING:** Discontinue use if the system becomes uncomfortable to wear or if skin irritation occurs. Users are advised not to share sets of sensors to avoid cross-infection risks.

# Regulatory Requirements:

## USA: FCC Requirements Part 15

This device complies with Part 15 of the FCC Rules (CFR47).

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.

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 radio or

television off and on, the user is encouraged to try to correct interference by one or more of the

following measures:

1. Reorient or relocate the receiving antenna.
2. Increase the separation between the equipment and receiver.
3. Connect the equipment into an outlet on another circuit.
4. Consult the dealer or an experienced radio/TV technician for help.

**NOTE: Modifications not expressly approved by Emotiv could void the user's authority to operate the equipment**

## **Canada**

This device complies with RSS-210 of Industry Canada (IC). Operation is subject to the following

two conditions:

1. This device may not cause interference, and
2. This device must accept any interference received, including interference that may cause undesired operation of this device.

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la Classe B est conforme à la norme NMB-003 du Canada.

## **Europe, Australia, New Zealand**

**Product Name and Model:** Emotiv Insight Model 1.0

**Product description:** Insight Neuroheadset,  
USB-01 Transceiver (optional), charge cable

Conforms to the following Product Specifications and Regulations:

### **EMC and Telecom: Class B**

#### **Wireless Certifications:**

AS/NZS 4268

EN 300-328

EN 300-440

EN 301-489-1

FCC CFR 47 Part 15C (identifiers 2ADIH-INSIGHT01, XUE-USBD01)

IC RSS-210 (Identifier 12769A-INSIGHT01)

#### **Safety Certification:**

UL 60950-1, 2nd Edition, 2011-12-19

CSA C22.2 No. 60950-1-07, 2nd Edition, 2011-12

IEC 60950-1:2005 (2nd Edition); Am 1:2009

EN 60950-1:2006 + A1:2010 + A11:2009 + A12:2011

AS/NZS 60950.1:2011



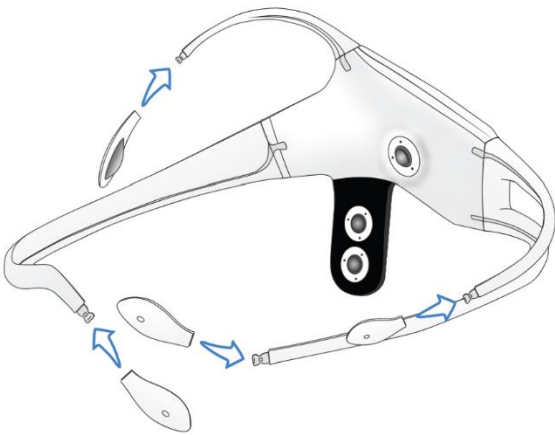
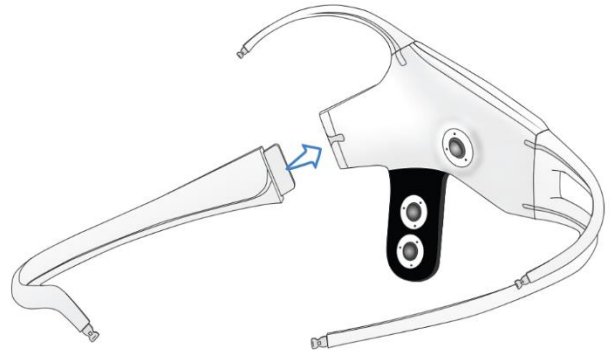
## EMOTIV INSIGHT

# QUICK START GUIDE

Visit the **Emotiv website** to download software for your *Insight*.

### 1 Attach the rear arm to the headset.

Attach the rear arm connector to the headset body. The connector should slide fully into the slot and the arm should be flush with the body.



### 2

### Attach the sensors to the headset.

Attach a sensor to the end of each arm with the sensor pads facing inward. The sensors should snap in place and be flush with the arm.

**Charging the Insight:** Charge the Insight with the included cable. The Insight will attain full charge in about 2 hours.

**Turning the Insight ON and OFF:** The Insight's ON/OFF button is above the charging port.

### 3 Correctly position the headset.

Position the reference sensors to touch the skin behind the ear. It is critical that the reference sensors make contact with the skin behind the ear. If necessary, gently bend the reference sensor arm so that the sensors make contact with the skin. Frontal sensors should align above each eye and should be positioned about three finger widths above the eyebrows. If necessary, remoisten the sensor pads with the rehydration solution.

