



**POWERBEAT™**

## USER MANUAL



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## POWERBEAT Package Contents

The POWERBEAT package consists of the following:



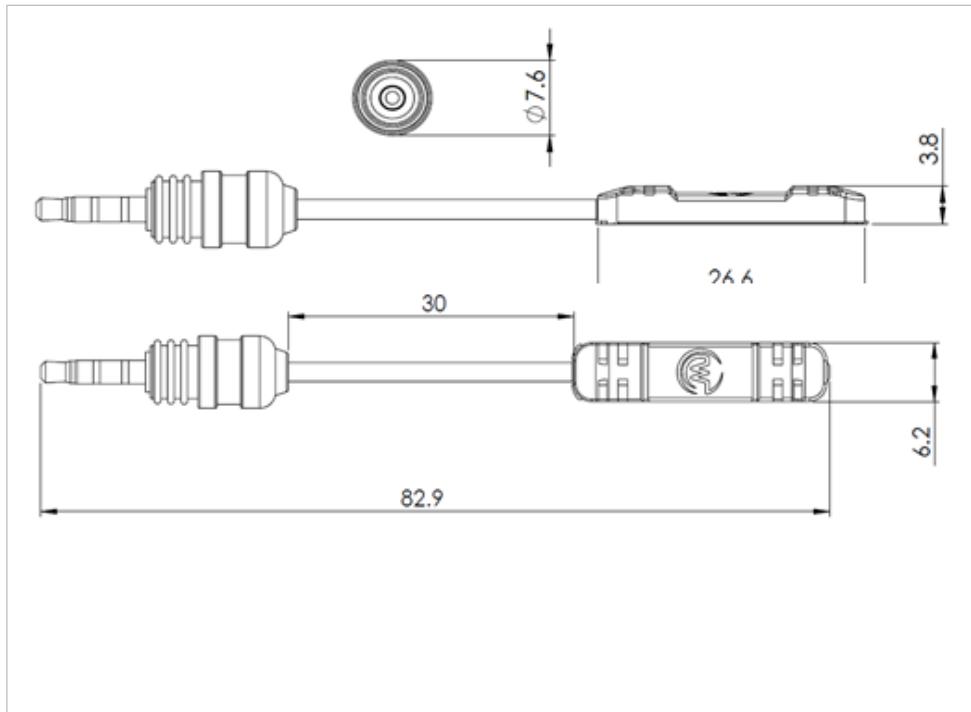
2 Comp Units  
2 sensors  
1 Gluing tool  
1 Charger with cable  
1 User's Manual  
1 USB cable  
2 adhesive rubber strips  
4 washers (spacers)

4 alcohol pads  
2 pieces of sandpaper  
1 tube of glue  
1 tube of glue remover  
1 pair of protective rubber gloves  
1 primer pad  
2 hooks  
2 water bags

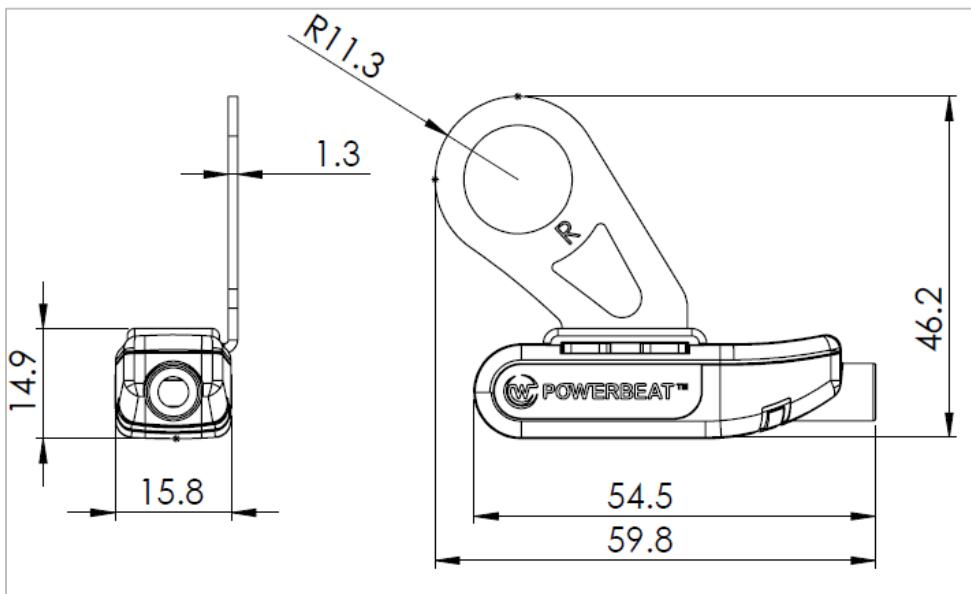
## POWERBEAT Data

<b>Weight</b>	25 grams
<b>IP</b>	67
<b>Humidity</b>	5 to 95% non-condensing

### POWERBEAT Comp Unit Dimensions

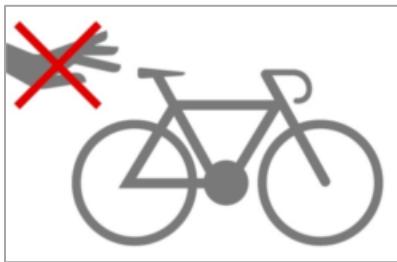


### POWERBEAT Sensor Dimensions



# Installation

## Before Getting Started



Once you begin setup, you will not be able to ride your bike for the next 24 hours.



You will need a 6 or 8 mm Allen key or a 15 inch ratcheting wrench, depending on the type of pedal on your bike.



Mount your bike to a trainer so it is steady throughout the entire installation process. This is especially important when you glue the sensors, attach the comp units and calibrate the POWERBEAT.

Once you have installed the POWERBEAT application, it will guide you through the installation process, step by step.

## Conventions

In this document the names of buttons on the application are written in bold italic, for example:

“Press **Next**” means to press the Next button on the application.



Most of the steps need to be repeated on both the left and right sides of the bike.  
Always start with the left side.

## POWERBEAT installation consists of the following steps:

1. Downloading the POWERBEAT application
2. Accepting the end-user license agreement (EULA)
3. Scanning the QR code (barcode)
4. Registering your POWERBEAT
5. Selecting crank type
6. Removing the left and right pedals
7. Gluing the left and right sensors, then waiting 24 hours for the glue to dry
8. Installing the left and right comp units
9. Zero Calibration
10. Calibration
11. Pairing your POWERBEAT with your head unit

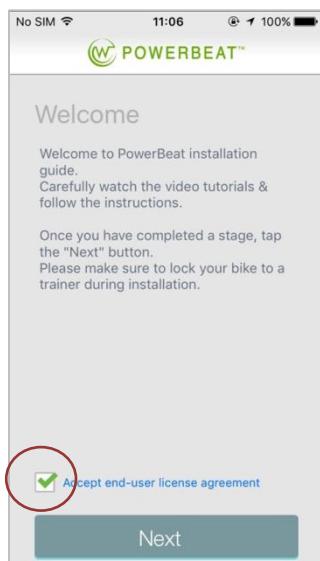
## Step 1: Downloading the POWERBEAT application



Download the WATTEAM  
POWERBEAT application from  
Google Play or the Apple store.



## Step 2: Accepting the end-user license agreement



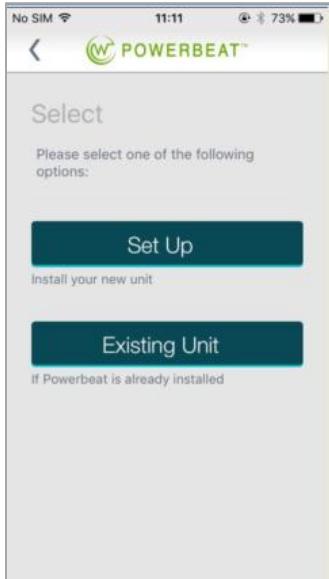
1. In the POWERBEAT app Welcome screen, follow the link to the end-user license agreement and read it carefully.
2. Check **Accept end-user license agreement** and press **Next** to display the Set Up screen.

## Step 3: Scanning the QR code (barcode)

The first stage of POWERBEAT installation is scanning the QR code.

### NOTES:

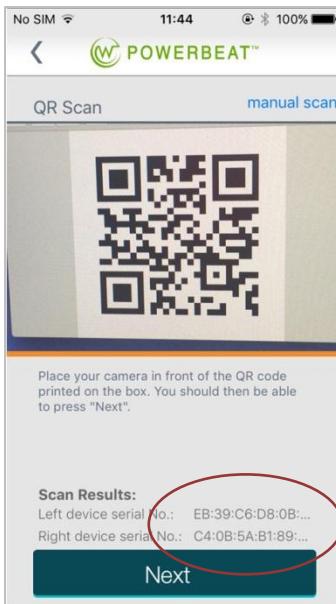
- *The QR code is printed on the inside lid of the POWERBEAT box.*
- *The iPhone has a barcode reader.*
- *If your phone has an Android operating system, you will need to first download a barcode reader.*



1. Press **Set Up** to scan the QR code.  
(Or, if your PowerBeat is already installed and you want to access it with a new smartphone, press **Existing Unit** and proceed to [0Manual Scan.](#))



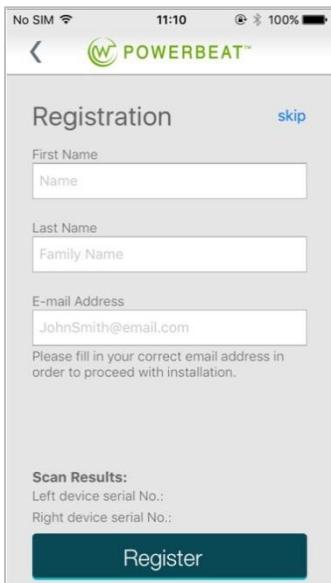
2. When the Attention screen appears, press **Next**.



3. The camera in the smartphone is activated. When you aim it at the QR code on the inside lid of the POWERBEAT box, it recognizes the QR code and photographs it and the QR Scan screen appears.
4. Make sure the QR codes displayed are the same as those on the left and right comp units.
5. Press **Next** to display the Registration screen.

## Step 4: Registering your POWERBEAT

Your POWERBEAT is now installed and ready to be paired with your head unit.

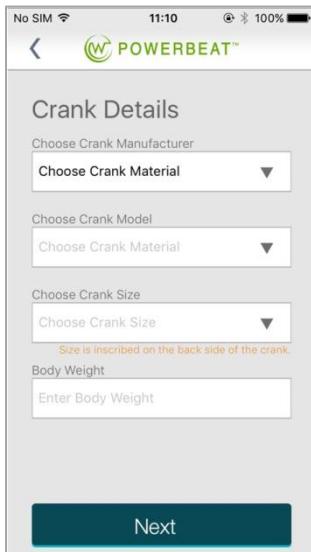


In the Registration screen enter your first name, last name, and email address and press **Register**.

Once you have registered your POWERBEAT the Crank Details screen appears.

## Step 5: Entering crank details and body weight

When the Crank Details screen appears, enter the following information in this order:



1. Crank manufacturer
2. Crank model
3. Crank size (printed on the inside of the crank)
4. Your body weight

Press **Next** to display the Removing Pedals screen.

## Step 6: Removing the Left and Right Pedals



Tools: Allen key or ratcheting wrench

### Removing the Left Pedal



1. With the left crank arm pointing downwards towards the floor, insert the appropriate Allen key or ratcheting wrench into the back side of the pedal spindle, holding the pedal down so it doesn't spin.
2. Turn the Allen key in a clockwise direction until the pedal comes off.

## Removing the Right Pedal

1. With the right crank arm pointing downwards towards the floor, remove the right pedal in the same way, but turning the Allen key in a counter-clockwise direction.
2. Put the two pedals aside until tomorrow, when you will reattach them.
3. Press **Next**.

## Step 7: Gluing the Left and Right Sensors

**Note:** The sensors have no right or left side, so you can glue either sensor to either crank arm.



Once you have glued the sensors, you will need to wait 24 hours for the glue to dry.

To glue the two sensors you will need the following:



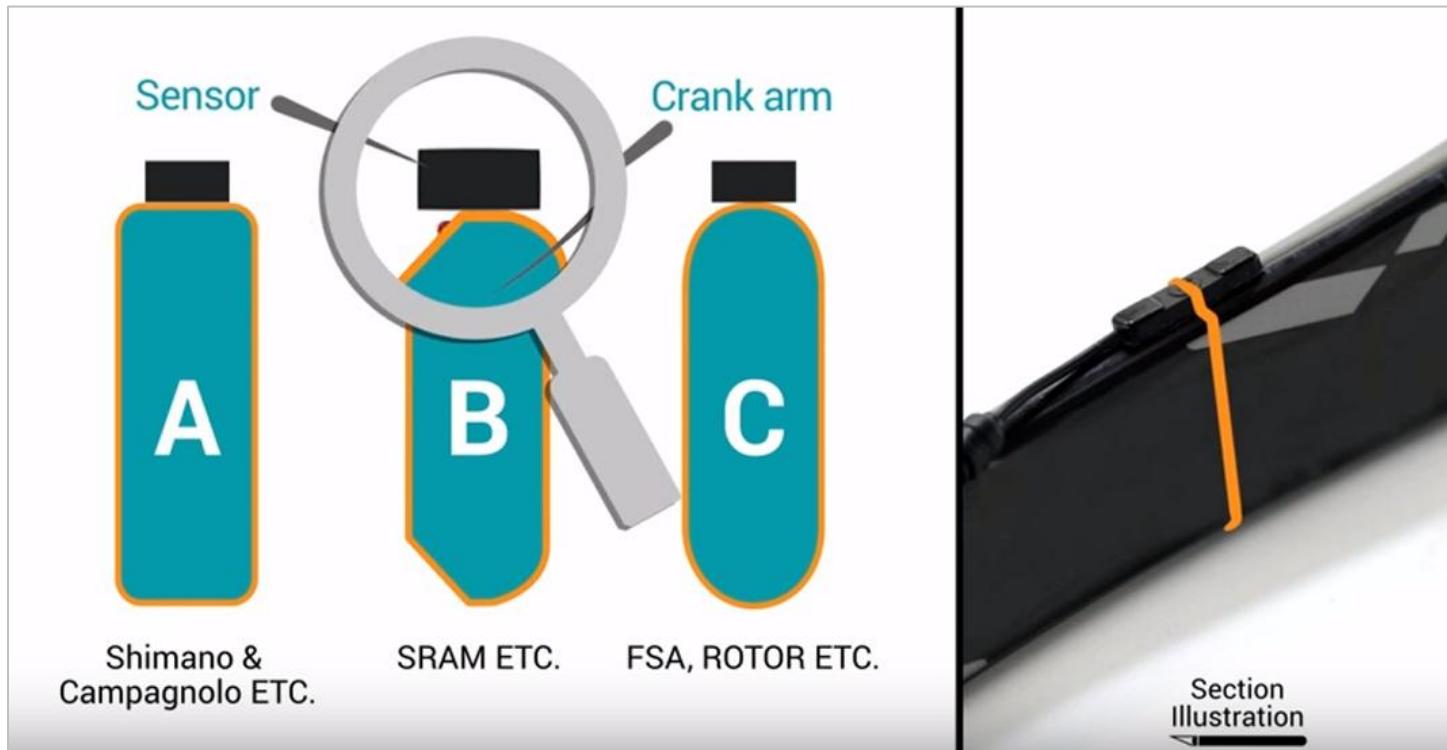
### Included with your PowerBeat:

- ✓ 2 sensors
- ✓ 1 gluing tool
- ✓ 2 refillable water bags
- ✓ 1 charger with cable
- ✓ 2 adhesive rubber strips
- ✓ 4 washers
- ✓ 4 alcohol pads
- ✓ 1 primer pad (To be used only if your crank is aluminum. Do not use on a carbon crank.)
- ✓ Sandpaper
- ✓ Tube of glue (Shake before using.)
- ✓ Tube of glue remover (Shake before using.)
- ✓ Pair of protective rubber gloves

### Not included with your PowerBeat:

- ✓ Pencil
- ✓ Bucket of water, dishwashing liquid and a sponge
- ✓ Paper towel

## Three Rules for Situating the Sensor in the Perfect Position



Crank arms come in many different designs and shapes. Before gluing the sensors in place, you will need to determine the proper location, so that when you use the Gluing Tool, you will know where to attach the sensors. Strive for maximum surface area and fill any gaps with glue.

### 3 Simple Important Rules



#### Rule 1:

With the crank arm pointing to the rear of the bike, the sensor should be glued on the topside.



#### *Rule 2:*

When glued, the sensor should be aligned straight in the center.

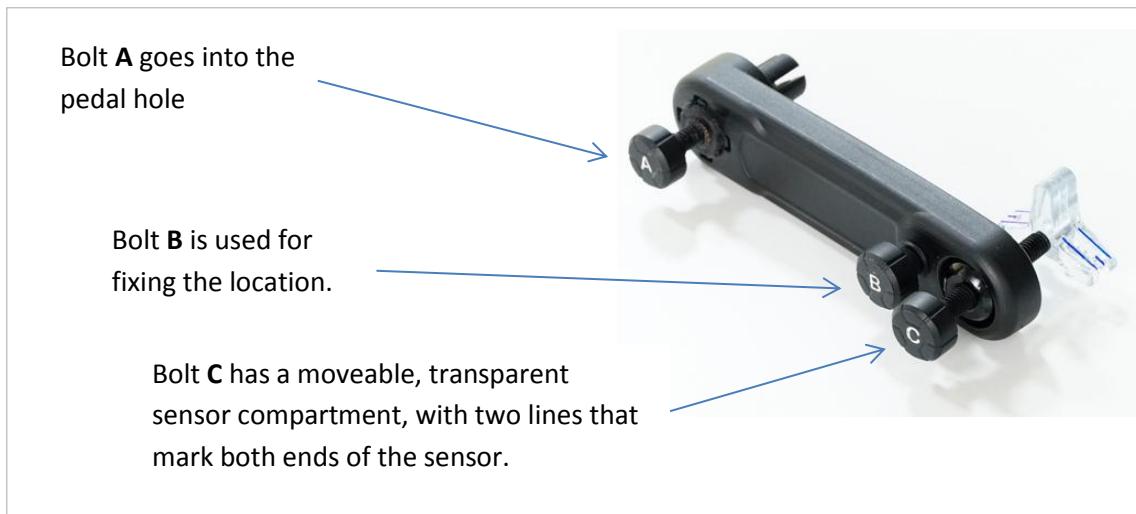


#### *Rule 3:*

The silver side of the sensor should have full contact with the surface of the crank arm when glued. Any gaps should be filled in with glue.

## The Gluing Tool

The gluing tool is used to position the sensor on the crank arm, so it is glued in the proper location.



## Cleaning the Crank Arms

1. Clean both crank arms thoroughly with the sponge dipped in diluted dishwashing liquid, to remove any dirt and oil residues. Wipe with paper towel and wait until completely dry.
2. On the left side of the bike, turn the crank so the left crank arm is facing the rear wheel, parallel to the floor at a three o'clock position.

3. Wipe the top side of the crank arm with one of the alcohol pads.
4. Wait a moment for the alcohol to evaporate by itself. (Don't be tempted to blow on it!)
5. On the right side of the bike, turn the crank so the right crank arm is facing the rear wheel, parallel to the floor at a three o'clock position.
6. Wipe the top side of the crank arm with the second alcohol pad.
7. Wait the alcohol to evaporate by itself.
8. Put on the protective rubber gloves and keep them on until both sensors have been glued to the crank arm.
9. **If your crank arm is carbon, do not apply primer! Continue to the next section, Attaching the Gluing Tool.**  
If your crank arm is aluminum, turn the left crank arm towards the rear wheel and wipe the primer pad once along the top part of the crank arm.  
Turn the right crank arm towards the rear wheel and wipe the same primer pad once along the top part of the crank arm.
10. Let the primer undercoat cry for 10 minutes before proceeding with the gluing.

## Attaching the Gluing Tool



1. Turn the crank so the left crank arm is facing the rear wheel, parallel to the floor at a three o'clock position.
2. Attach the gluing tool by plugging Bolt A firmly into the pedal hole, making sure the gluing tool is aligned with the crank arm and fits tightly against it.
3. Loosen Bolt B and use Bolt C to find the exact place for the sensor, according to the 3 rules.  
Bolt C has a transparent sensor compartment with blue lines to indicate exactly where the sensor will be once it is glued.
4. Use the adjustable ball joint to find the right spot on the crank arm.
5. Once you have the proper location, tighten Bolt B counter-clockwise, until the location is securely fixed, that is, aligned in the center with as much contact as possible.
6. Move the Gluing Tool up and down several times, to make sure the sensor compartment falls back into the appropriate place each time. If you detect any displacement, repeat the steps, rather than taking any chances once the glue is applied.



## Gluing the Sensors

### Preparing the left sensor for gluing



1. Place the sandpaper on a flat surface.
2. With the silver side facing down, scrape one of the sensors (they are identical) gently on the sandpaper for about 5 seconds, pressing with two fingers, and being careful not to bend it or to apply too much pressure, until you notice scratch marks on the silver.
3. Gently place the sensors inside the sensor compartment of the Gluing Tool, with the plug facing the direction of the front wheel.
4. Check one last time to make sure the sensor falls into the proper location, according to the 3 rules.
5. Gently rub one alcohol pad on the silver side of the sensor and another alcohol pad on the spot it will be glued to, in order to remove any dirt and oil.  
Wait about two minutes, for the alcohol to dry by itself (without blowing on it).
6. Shake the tube of glue and carefully spread a thin layer of glue over the entire surface of the sensor, making sure the cable is not in the way.
7. Place the sensor compartment on top of the crank arm in the proper location.
8. Press gently on both ends of the sensor, using two fingers, for about 30 seconds, for the glue to dry.
9. Release your fingers and let the glue dry for another 5 minutes.
10. Carefully detach the sensor from its compartment and disengage the Gluing Tool.
11. If the sensor is not fully in contact with the surface of the crank arm (for example if the crank arm is curved) fill in any gaps with glue.
12. Press **Next**.



### Gluing the left sensor:

1. Preparing the right sensor for gluing
2. Prepare the right sensor for gluing in the same manner as you prepared the left sensor.

### Gluing the right sensor



1. Shake the tube of glue and on the right side of the bike, with the crank arm facing the rear wheel, in the 9 o'clock position, glue the second sensor on the right crank arm, following the instructions for gluing the left sensor, then remove the protective rubber gloves.
2. Press **Next**.
3. Wait 24 hours for the glue to dry completely before continuing the installation.
4. In the meantime charge the comp units so they will be ready for completion of installation and calibration tomorrow.

## Step 8: Installing the Left and Right Comp Units

### Tools



- 4 washers
- 2 rubber adhesive strips
- 2 comp units
- Allen key / ratcheting wrench

## Installing the Left Comp Unit



1. Turn the left crank arm until it faces the front wheel, in the 9 o'clock position.
2. Figure out how many washers or spacers you need: Feel the space where the thread of the pedal begins and the external smooth surface of the crank arm. The actual gap determines how many washers you need to use.
3. Put a washer in the space and if there is still room, add the second washer, until it sticks out just a little bit over the surface of the crank arm. (Note that some types of crank arms may not need any washers.)
4. Place the comp unit marked **Left** on the spindle thread, then add the appropriate number of washers.
5. Screw in the pedal, with the socket of the comp unit plug facing the sensor.
6. Using the Allen key or wrench, tighten the pedal back in place, making sure the comp unit is aligned with the crank arm, but not actually touching it.
7. Press **Next**.

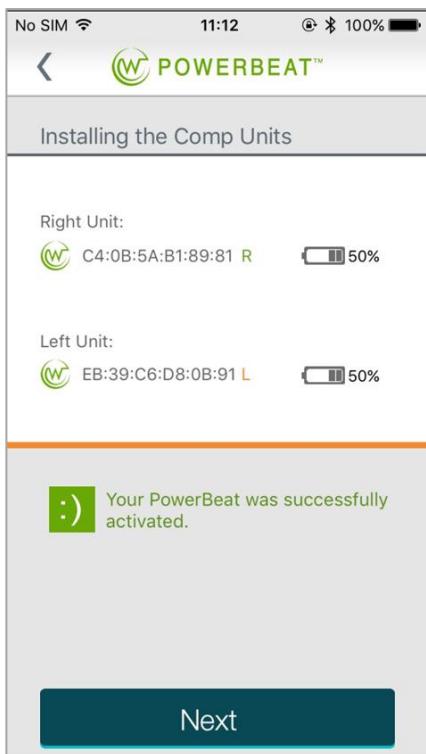
## Installing the Right Comp Unit

1. With the right crank arm facing the front wheel in the 3'oclock position, using the comp unit marked Right, install the Right comp unit, following the instructions for installing the left comp unit.
2. Press **Next**.

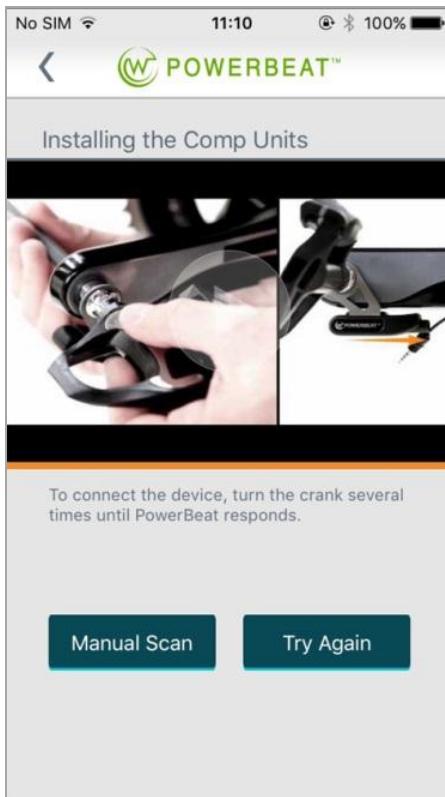
## Connecting the Sensors to the Comp Units



Connect the sensor plugs to the comp unit.  
Use the adhesive rubber strips to secure the cables to the crank arms.



Make sure your phone has Bluetooth turned on.  
Turn the crank 3 times until the following screen appears.



If the sensors are not connected the following screen appears. Press **Try Again** and keep turning the crank until the Installing the Comp Units screen appears.  
(Or, if you haven't yet scanned the QR code, see **Manual Scan** at the end of this section.)



Once the app has detected the sensors, the **Units Found** screen appears.

Check the two units and press **Next**.

The app notifies you that your PowerBeat was successfully activated.

With your bike still on the trainer, get on and ride for a moment or two.

You are now ready to calibrate your POWERBEAT. Follow the instructions on the application.

## Manual Scan

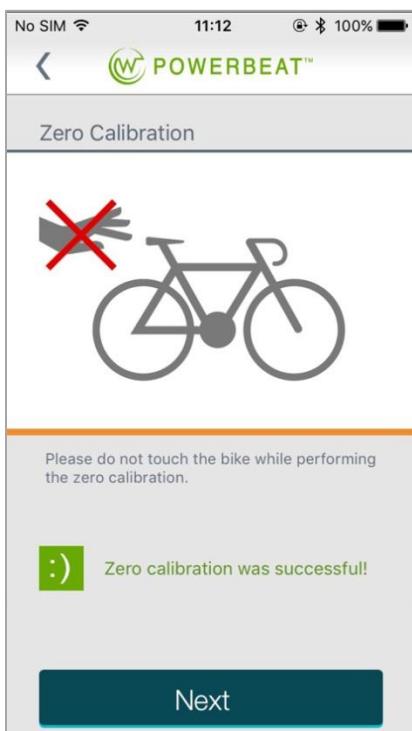
1. Press **Manual Scan** to scan the QR code.
2. Select **New Devices**.
3. When asked “Do you want the selected devices to be your permanent devices?” select **Yes**.  
The Status screen appears.

## Step 9: Zero Offset Calibration

Before calibrating your POWERBEAT, you need to perform zero offset calibration. We recommend that you watch the movie in the app before performing zero offset calibration for the first time.

We also recommend that you also calibrate the zero offset, using your head unit, every time you go for a ride. Zero offset calibration resets the zero offset value of the POWERBEAT sensors when no torque is applied. This is then used as a baseline for power measurement, to receive an accurate power reading.

It only takes seconds to perform zero offset calibration.



### To calibrate the zero offset:

1. Hold your bike upright and make sure nothing is touching the pedals.
2. If you are calibrating the zero offset via the head unit, follow the instructions for your head unit, otherwise continue.
3. Make sure both POWERBEAT sensors are connected to the comp units.  
**If you have been riding, you need to unplug them and plug them back in.**
4. Press **Set Zero**.
5. When zero calibration has been completed the app responds with “Zero calibration was successful!”
6. Press **Next** and the Calibration screen appears.

## Step 10: Calibration

POWERBEAT calibration is performed through the application. You should only need to calibrate once, when you first install your POWERBEAT. But keep the 2 water bags and 2 hooks in case you ever need to recalibrate.

## Tools



- 2 hooks
- 2 water bags (Before starting calibration, fill the two bags with water.)

For proper calibration it is important that your bike remains steady at all times. You can stand it upside down on the floor or suspended from a stable work stand.

## Preparing the Water Bags (Weights)

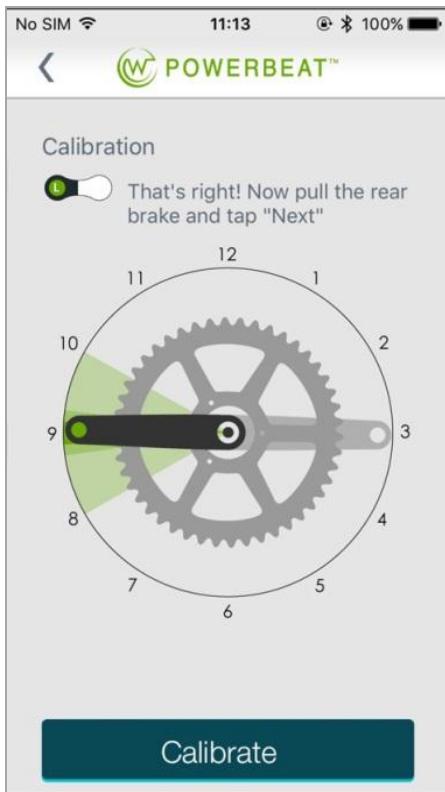


1. Uncap one of the bags and fill it completely full of tap water.
2. Jiggle and tilt it, to make sure there are no remaining air pockets, fill it to full capacity, and then cap it.
3. Fill and cap the second bag in the same way.
4. Attach the plastic handles to the two water bags, by sliding each handle through the loop and pressing the ends together until you hear a clicking sound.
5. When it is stable, the **Calibrate** button becomes active on the app.
6. Press **Calibrate**.

## Calibrating the left and right crank



1. Turn the left pedal down to the 6 o'clock position.
2. Using one of the hooks, hang one of the water bags on the left pedal and let it stabilize in the 6 o'clock position. The crank arm must be horizontal, that is, parallel to the floor. Make sure the bag is not touching any part of the bike and that it is stable.
3. When it is stable, the **Calibrate** button becomes active on the app.
4. Press **Calibrate**
5. Remove the water bag from the left pedal.
6. Turn the right pedal down to the 6 o'clock position.
7. Hang the water bag on the right pedal and let it stabilize in the 6 o'clock position. The crank arm must be horizontal, that is, parallel to the floor. Make sure the bag is not touching any part of the bike and that it is stable.
8. When it is stable, the **Calibrate** button becomes active on the app.
9. Press **Calibrate**.
10. Hang the second water bag on the left pedal.
11. Turn the pedals so the left pedal is in the 3 o'clock position and the right in the 9 o'clock position. The crank arm must be horizontal, that is, parallel to the floor. Make sure the bags are not touching any part of the bike and that they are stable.
12. When the bags are stable, the **Calibrate** button becomes active on the app.
13. Press **Calibrate**.



1. Turn the pedals so the left pedal is in the 6 o'clock position and the right in the 12 o'clock position. The crank arms must be horizontal, that is, parallel to the floor. Make sure the bags are not touching any part of the bike and that they are stable.
2. When the bags are stable, the **Calibrate** button becomes active on the app.
3. Press **Calibrate**.





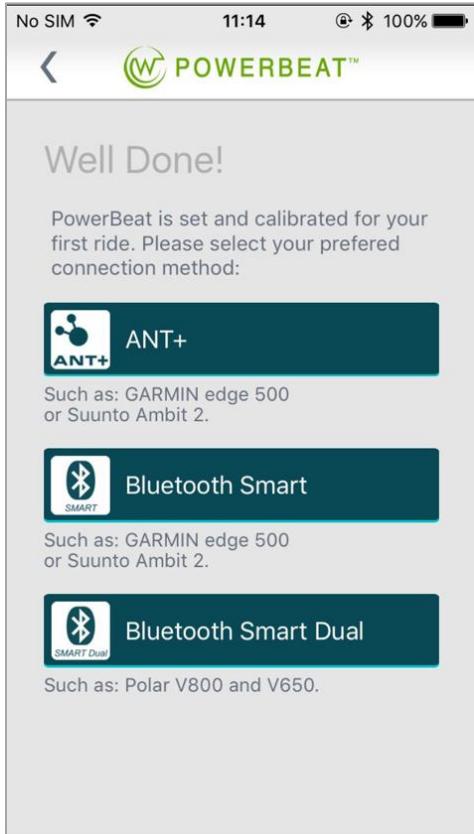
1. Turn the pedals so the left pedal is in the 9 o'clock position and the right in the 3 o'clock position. Make sure the bags are not touching any part of the bike and that they are stable.
2. When the bags are stable, the **Calibrate** button becomes active on the app.
3. Press **Calibrate**.
4. Turn the pedals so the left pedal is in the 12 o'clock position and the right in the 6 o'clock position. Make sure the bags are not touching any part of the bike and that they are stable.
5. When the bags are stable, the **Calibrate** button becomes active on the app.
6. Press **Calibrate**.



Your POWERBEAT is now calibrated and ready for your first ride. The next step is selecting your preferred connection method.

## Step 11: Pairing your POWERBEAT with your Head Unit

Once you have finished installing your POWERBEAT, you can pair it with your head unit. Carefully read your head unit's user manual for a description of the pairing process, as head units differ.



POWERBEAT is compatible with any head unit that works with  (e.g. GARMIN edge 500 or Suunto Ambit 2).

POWERBEAT also supports two modes of , in order to be compatible with most head units that are available on the market today:

### *Single power sensor channel*

- BLE: e.g. Suunto Ambit 3 or Cateye Padrone smart)
- In Single Channel mode the right PowerBeat calculates and transmits the total power to the head unit .

### *Dual power sensor channel*

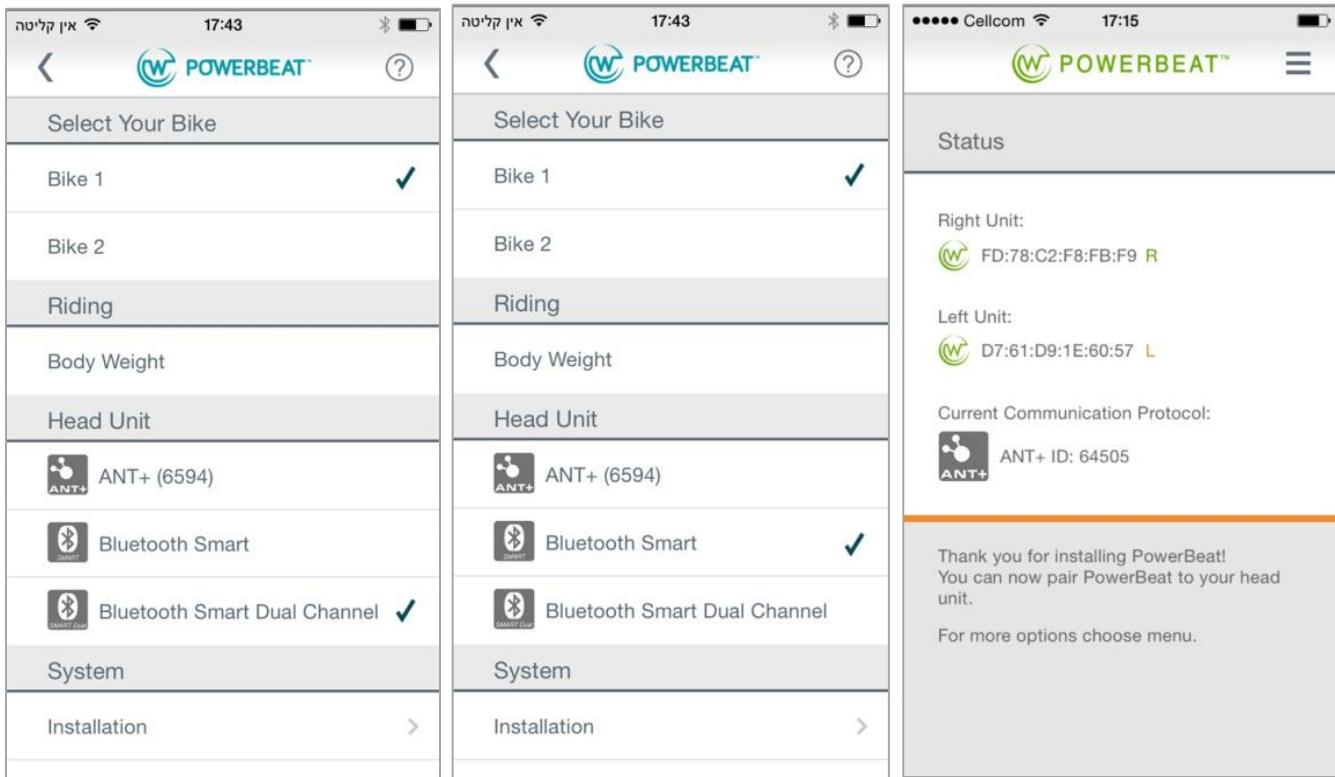
- Dual: e.g. Polar V800 and V650 or Channel POWERBEAT mobile App
- In Dual Channel mode right and left leg power data are transmitted independently to the head unit, which then calculates the total power.

## Pairing your POWERBEAT with an Head Unit



1. With the device properly installed and connected, select the **ANT+** communication method in the POWERBEAT app.
2. Make sure POWERBEAT is turned on, by spinning the crank arms several times.
3. Turn on your head unit and perform a Device Search or alternatively enter the PowerBeat **ANT+** ID number in your head unit (following your head unit's pairing instructions.)
4. Make sure the displayed **ANT+** ID is identical to your POWERBEAT ID, which is located on the comp units, as well as inside the box.

## Pairing your POWERBEAT with a Head Unit



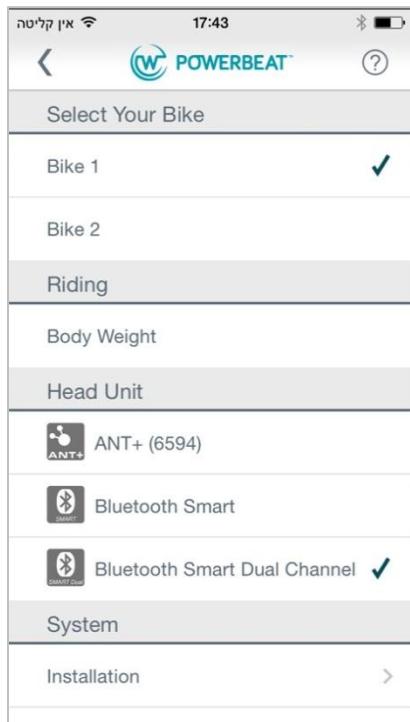
### To pair your POWERBEAT with a head unit:

1. Check your head unit's user guide, to find out which mode is supported. If your head unit allows the pairing of two power meters (left and right), use Dual Channel mode, otherwise use Single Channel mode.
2. Make sure both POWERBEAT sensors are connected to the comp units.  
If you have been riding, you need to unplug them and plug them back in. (standby mode can also be reached by waiting for a few minutes.)
3. Select (Bluetooth Smart)1 in the POWERBEAT app.
4. Unplug your left comp unit.
5. Turn on your head unit and perform a Device Search in your head unit (following your head unit's pairing instructions.)
6. Once it is paired, plug in the left comp unit.
7. If necessary, check your head unit's user guide for more detailed instructions.

## POWERBEAT Menus

When you open the PowerBeat app, the Support screen appears. Select **Update** to update your firmware. Press **<** to display the menu.

## Menu Options



<b>Select Your Bike</b>	Bike 1 Bike 2	For future use
<b>Riding</b>	Body weight	Select to change your body weight
<b>Head Unit</b>	ANT Bluetooth Smart Bluetooth Smart Dual Channel	Displays the current head unit. Select to change your head unit.
<b>System</b>	Installation Set Zeros Calibrate Support About	

## LED Status Indications

The LEDs on the comp unit indicate the POWERBEAT status. The following table describes the various states and the corresponding LED activity.

State	BLE Activity	ANT Activity	LED Activity RED	LED Activity Green	Description
OFF	None	None	None	None	The plug is out
Charging	None	None	Blinking at 1sec rate when < 90%	Blinking at 1sec rate when > 90%	Charger plugged in
Standby	None	None	One short blink when entering the state	One short blink when entering the state	Sensor plugged in
Ready	Advertising	Power Right over ANT+ if enabled over ANT+	Blinking at 2sec rate if measured value out of range	5 times blinking at 2 sec rate on transition to Ready mode	After double flip
	Power if enabled over BLE	Power Left over WT ANT if enabled over ANT+/BLE 1 Channel			
SETUP	Watteam SETUP service	None	None	One short blink every 3 sec	Application interface
Ride	Advertising Power if enabled over BLE	Power Right over ANT+ if enabled over ANT+	None	None	
	Power if enabled over BLE	Power Left over WT ANT if enabled over ANT+/BLE 1 Channel			
FOTA	Advertising as DFU Only	None		2sec rate 25% DC blinking when entering FOTA	
	DFU Service	None	Alternate 1sec rate 50%DC while updating 2sec rate 50% DC for 60sec on failure	alternate 1sec rate 50%DC while updating 100% DC for 30sec on success	

# Important Safety Information

POWERBEAT uses LiPO rechargeable batteries.

## **WARNING:**

Maximum ambient temperature for charging mode is 109.4 degrees F (43 degrees C) and for discharging mode 122 degrees F (50 degrees C.)

Do not send the comp unit in the cargo of a plane, because the low temperature may permanently damage the LiPO battery.

POWERBEAT is durable enough to sustain even harsh weather conditions. It has a built-in temperature compensation mechanism, so the power figures remain consistent regardless of the weather. But never leave the comp unit in an unattended vehicle, as extreme heat may damage it.

Do not damage, disassemble, or modify the POWERBEAT in any way.

Before washing your bike, either remove the comp units or make sure they are plugged into the sensor. Never wash the bike if the comp units are unplugged from the sensors.

Make sure the pedals are securely fastened, in accordance with the pedal manufacturer's instructions.

Do not rotate the pedals if either or both of the comp units are unplugged, as they may get caught in the bike's mechanism and become damaged.

Do not connect a power source to the charger if the charger or comp unit appears to be damaged.

# Troubleshooting

## **Power and cadence readings are zero, erratic, or inaccurate**

First check that the balance readings are correct. If they show just 50%-50% while riding, then make sure that the batteries are fully charged and that the sensor plug is well connected to the comp unit. If the readings are still erratic, calibrate or zero offset the device again using the app. Make sure not to touch the crank while calibrating.

## **No data is coming from POWERBEAT, although everything else works well.**

1. Make sure the POWERBEAT is on. If you are not sure, spin your crank arms several times.
2. Disconnect the sensor plugs from the comp units, wait several seconds, and reconnect them. Then turn POWERBEAT on by spinning the crank arm and check again.
3. Recharge the comp units.

## **My head unit doesn't have the functionality to notify me when the batteries are getting low.**

Check the battery level in the PowerBeat mobile application on main riding screen.

# Maintenance

PowerBeat is an electronic device that requires proper maintenance.

Maintenance consists mainly of the following four actions:

1. Mobile App updates. We recommend that you upgrade your app whenever a new update is released.
2. Firmware updates, when released.
3. Zero Offset calibration
4. Recharging

## **Mobile App Updates**

Watteam recommends that you automatically update your PowerBeat mobile application whenever an update is released through the mobile app store (Google Play or Apple Store.)

## Firmware Updates

Once you have downloaded the WATTEAM POWERBEAT application and registered your POWERBEAT, you will receive an email notification whenever a new firmware release is available.

<b>NOTES:</b>	Before updating your POWERBEAT firmware, make sure your smartphone battery is charged at least 50%. During Firmware update keep the bike stationary and do not turn off your smart phone or unplug the connectors. During the Firmware update process the LEDs blink alternatively red and green at a rate of about once per second.
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### To update your POWERBEAT firmware:

1. Make sure both POWERBEAT sensors are connected to the comp units.  
If you have been riding, you need to unplug them and plug them back in.
2. Spin the pedals until the green LED blinks five times.
3. Wait until the application responds.
4. Check the battery level of both POWERBEATS. If it is less than 80%, recharge until it is at least 80%.
5. In the Menu select **Update**.
6. Follow the instructions in the app.

## Changing your POWERBEAT Communication Protocol

### Changing to an Head Unit

1. Make sure both POWERBEAT sensors are connected to the comp units.  
Spin the pedals until the green LED blinks five times.
2. Select the **ANT+** communication protocol in the POWERBEAT app.
3. Turn on your head unit and perform a Device Search or alternatively enter the POWERBEAT the **ANT+** ID number in your head unit (following your head unit's pairing instructions.)

## Changing to a Single Channel Head Unit

1. Make sure both POWERBEAT sensors are connected to the comp units.

If you have been riding, you need to unplug them and plug them back in. (standby mode can also be reached by waiting for a few minutes.)

2. Select (Bluetooth Smart) 1 in the POWERBEAT app.
3. Unplug your left comp unit.
4. Turn on your head unit and perform a Device Search in your head unit (following your head unit's pairing instructions.)
5. Once it is paired, plug in the left comp unit.

## Changing to a Dual Channel Head Unit

1. Make sure both POWERBEAT sensors are connected to the comp units.

If you have been riding, you need to unplug them and plug them back in.

2. Select (Bluetooth Smart Dual Channel) in the POWERBEAT app.
3. Turn on your head unit and perform a Device Search in your head unit (following your head unit's pairing instructions.)

## Recharging your POWERBEAT



POWERBEAT Recharger  
and Comp Units

POWERBEAT is the first power meter to use an eco-friendly rechargeable battery. Each charge provides about 80 hours of riding time.

When the battery is getting low, you will receive notification in your head unit. (Note that some basic head units do not have this functionality.)

Charging POWERBEAT is like charging any other USB device. You can charge the comp units either while they are mounted to your bike or removed, whichever is more convenient.

**WARNING:**

Maximum ambient temperature for charging mode is 109.4 degrees F (43 degrees C) and for discharging mode 122 degrees F (50 degrees C.)



**To recharge your POWERBEATs:**

Unplug the sensor cables from the comp units and plug in the two charger plugs instead. Then plug the USB charger cable into a power source such as a USB charger, home computer, or laptop. A blinking red light on the comp unit indicates that POWERBEAT is charging. A blinking green light on the comp unit indicates that the comp unit is charged.

## Removing the Sensors

### Tools

- Glue remover
- Allen key or ratcheting wrench
- X-Acto knife (not supplied)

### In the event that you need to remove the sensors:

1. Unplug the sensor cable from the comp unit.
2. Shake the tube of glue remover and apply a generous amount of it around the sensor and wait for 2 hours.
3. Lift the sensor cable using the dull end of the X-Acto knife and slowly start to peel the sensor from the surface of the crank arm. Be careful not to scratch the crank arm.
4. If the sensor doesn't come off easily, apply more glue remover and wait for another hour before trying again.
5. If any glue remains on the crank arm after the sensor is removed, apply glue remover, wait a few hours and wipe it off with paper towel. Don't wait more than 2 hours, as the glue remover may damage the paint.

# Appendix A

## Warranty

The manufacturer's warranty is one year from date of purchase.



See the [website http://watteam.com/](http://watteam.com/) for details.

Make sure to carefully follow the instructions for installation and calibration, or you may damage the product.

## FCC Compliance Statement

This device 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 residential installations. 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 and television reception.

However, there is no guarantee that interference will not occur in a particular installation. If this device does cause such interference, which can be verified by turning the device off and on, the user is encouraged to eliminate the interference by one or more of the following measures:

- Re-orient or re-locate the receiving antenna.
- Increase the distance between the device and the receiver.
- Connect the device to an outlet on a circuit different from the one that supplies power to the receiver.
- Consult the dealer or an experienced radio/TV technician.

**WARNING!** Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with FCC Rules Part 15 and with Industry Canada licence-exempt RSS standard(s). Operation is subject to two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference that may be received or that may cause undesired operation.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

To comply with FCC Section 1.1310 for human exposure to radio frequency electromagnetic fields and IC requirements, implement the following instruction:

A distance of at least 0.50 cm. between the equipment and all persons should be maintained during the operation of the equipment.