

# Thank you for purchasing this product.

## Before Use

We thank you for purchasing the **ALATECH** Cycling Computer. In order to correctly and effectively use the functions of this device, please read this manual carefully and keep it in a safe place for future reference.

## Package Contents

- Cable Ties
- Screws
- User Manual
- Instructions manual for Battery Replacement
- Warranty
- Cycling Computer
- Bike Mount
- Handlebar Clamp Connector Base (including Magnet, Rubber pad)
- Speed Sensor (including Magnet, Rubber pad)
- Cadence Sensor (including Magnet, Rubber pad)
- Heart Rate Transmitter (include Elastic belt)



Cycling Computer (Wireless)



Cadence Sensor



Speed Sensor



Magnet for Cadence Sensor



Magnet for Speed Sensor



Handlebar Clamp Connector Base



Bike Mount

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## Disclaimer

- The CB100 is for use on bicycles only. It is not designed for medical use.
- To ensure correct display values, make the adjustments and enter your personal data when you use this device for the first time and also after changing batteries or resetting. Please refer to the chapter on user configuration.
- The values measured and displayed should be treated as reasonably accurate.
- Alatech is not responsible for any claims of loss or damage from third parties incurred from the use of this device.
- Alatech reserves the right to change the specifications of the hardware and software described in this manual at any time without prior notice.



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# 1 Getting started with Cycling Computer

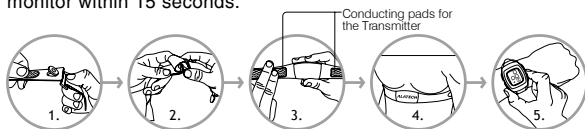
## 1-1 Before use

1. When installed on a bicycle this device can display the speed, number of laps and cadence rate. It can also help you to monitor your training output during a fitness session based on your gender, age, body weight, height and maximum heart rate. It will also measure the time used and calories burned. This device helps you to progressively realize your dreams of better physical performance and an improved physique.
2. The device has speed, lap and heart rate sensors built in that provide readouts of cycling speed, cadence, and real time heart rate.
3. When using the device for the first time and after battery changes or resetting, please adjust the different sensors and enter your personal information to ensure data accuracy. Please refer to User Setting 2-3, Page 14 for details.

## 1-2 Steps to wear the transmitter

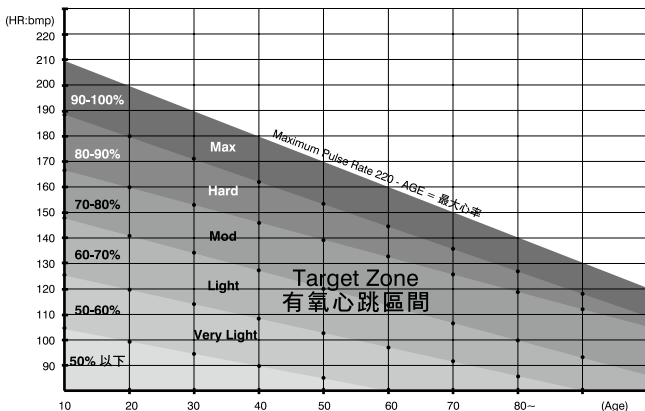
The Heart Rate Transmitter Belt reads your real-time heart rate and transmits this to the cycling computer. Please refer to the following steps to wear the Transmitter before you start to exercise.

1. Fix the hook on one side of the band to the end of the chest strap.
2. Adjust the length of the band so the chest strap fits comfortably on your body and won't slip or loosen during training.
3. Wet the conducting pads on both sides of the chest strap fully.
4. Adjust the strap so that the Logo faces away from your chest. Move the strap up to just under your pectorals and then hook the other end up with the band.
5. Change the chronograph to BIKE MODE and check if the heartbeat symbol is displayed as a regular rhythm. If the signal is steady the chronograph will detect your heartbeat and display it on the monitor within 15 seconds.



### 1-3 Know and customize your maximum training output






The chart below shows the heart rate level using %HR max. HR max = 220 - Age with every 10 years of age as an age zone. This chart is a reference for appropriate training output using the heart training mode.



- The unit for heart rate is bpm (beats per minute), or heartbeats per minute.
- Maximum heart rate = 220 - age. If your age is 20, then 220-20 = 200 bpm, and your maximum heart rate is 200 bpm.
- Maximum heart rate (maximum heart rate, MHR, or HRmax) refers to the maximum heart rate for optimizing exercise or stamina. It is often used as the prescribed index for training output in order to find the THR. The most direct and accurate method of measuring the maximum heart rate is to have this done by a doctor or professional. An Exercise Stress Test is conducted and monitoring is done by an electrocardiograph (ECG). Or you can use the simple age formula to calculate your personal maximum heart rate.

- Target heart rate = training output (%) × maximum heart rate (HRmax).
- The target heart rate (THR) or training heart rate is used to find the ideal rate for the optimal performance of aerobics to maximize the benefit to your heart and lungs. You can find your own upper and lower range target heart rate using the maximum heart rate formula (%HRmax).
- In general, for persons with less than optimal health, it is recommended that the low-strength target heart rate range be set at 60% or below.

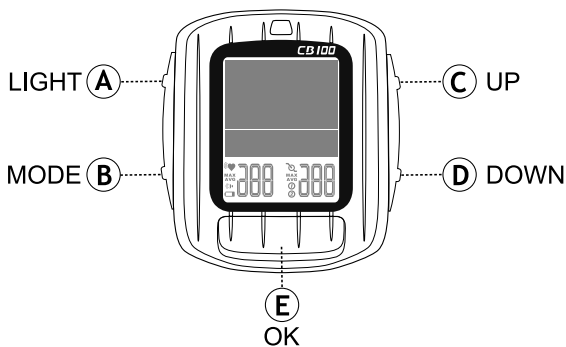
This table has six training programS of exercise intensity heart rate zone:





Training Output	Heart Rate (%), bpm	Time Sustained	Body Condition
<b>MAX</b> * 	171-190 90-100%	Less than 5 minutes	Body condition: muscles are very tired, pounding heartbeat and shortness of breath. Suitable for experienced bikers and runners for the last sprint. Workout time is short. Usefulness: your breathing, heartbeat and muscle stamina are operating at their maximum capacity. If this phase is sustained too long, injury may result.
<b>HARD</b> * 	152-171 80-90%	2-20 minutes	Body condition: your muscles are tired; heart is beating fast and your breaths are short. Suitable for experienced bikers and runners. Usefulness: high output and high speed training. Good for muscle endurance and strengthening.
<b>MED</b> * 	133-152 70-80%	10-60 minutes	Body condition: breathing is fast and your muscles are somewhat tired. Suitable for improving your training. Usefulness: Medium training output, medium fitness strength training; raising training efficiency.
<b>LIGHT</b> * 	114-133 60-70%	60-300 minutes	Body condition: comfortable, relaxed. The strain on the muscles and heart is low. Suitable for basic fitness training. Usefulness: Fostering circulation, improved recovery. Useful for basic training.
<b>VERY LIGHT</b> * 	104-114 50-60%	20-60 minutes	Body condition: very relaxed without any sense of tiredness. Suitable for light training or relaxation exercises. Usefulness: Helps the body warm up, cool down and recover.
<b>User</b>	40-220 (Note 1) custom- 100%	User Defined (Note 2)	User Defined



- Note 1: The 40-220 range is the normal CB100 setting range, but the range values can be user defined. The graph will show the strength of the training according to the value configured.
- Note 2: If the user defined training output is above the 90-100% range, it is recommended that the Time Sustained should be less than 5 to avoid sports injury.

## 1-4 Keys

The has 5 keys, see the figure below:

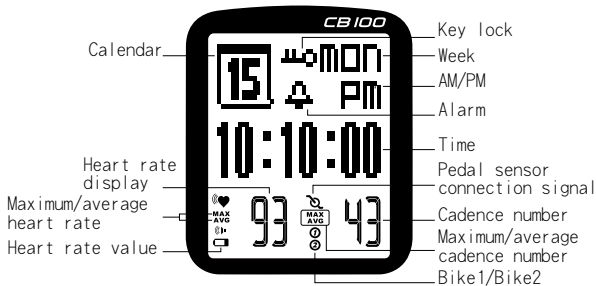


Key	Icon	Function
A	 LIGHT	backlight, on/off lock key (press and hold for 3 seconds).
B	 MODE	enters mode selection; switch mode / leaves mode selection.
C	 UP	used to select pages and as a shortcut key to adjust values or files.
D	 DOWN	used to select pages, adjust values or as a shortcut key to TRAIN.
E	N/A	Light, backlight, on/off lock key (press and hold for 3 seconds).

1. Press the A Key to turn on the backlight. The time the light stays on can be user defined as Always, Flash (BIKE MODE only) or 3S. It can be difficult to see the backlight under the sun.
2. On the Time Main Menu, press and hold the A Key for 3 seconds to lock the keys. The bottom left corner of the Menu will display a “” symbol. Repeat the above to unlock the keys.
3. Low battery indicator “”. Please replace low batteries as soon as possible to maintain the CB100 in working condition.
4. In general mode, keys C, D, and E have a shortcut key function (see 1-5 Basic operation and the CB100 main function structural diagram, page 10).

## 1-5 Main screen

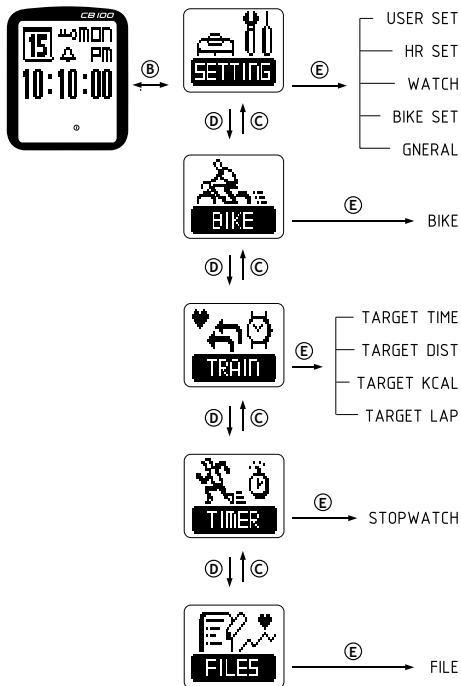
The Main Menu is divided into 2 sections: The top section displays general information, The lower section displays the heart and cadence rates.





## 1-6 Switching Mode

### CB100 Main function structure illustration

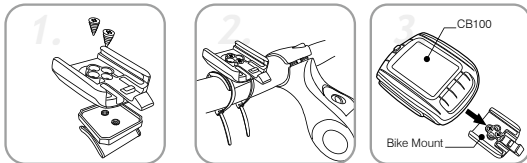


From the general Menu,  
press the E shortcut key to enter the BIKE MODE directly  
(by passing the Welcome Menu for BIKE MODE).  
Press the D shortcut key to enter the TRAINING MODE directly  
(by passing the Welcome Menu for TRAINING MODE).  
Press the C shortcut key to enter the FILE MODE directly  
(by passing the Welcome Menu for FILE MODE).

## 2 Using the Cycling Computer for the first time

### 2-1 Installing the Cycling Computer :

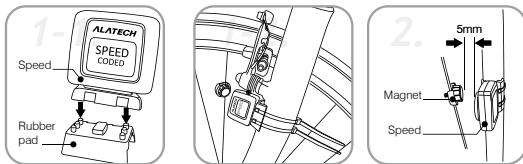
Either on the Handlebar or on the Handlebar Stem



1. First , screw the Bike Mount and handlebar clamp connector base together tightly.
2. And then use the ties to secure the device to the Handlebar or Handlebar Stem . Make sure the handlebar moves freely before securing .
3. Slide the Cycling Computer into the socket of the Bike Mount until you hear a click sound , make sure the Cycling Computer is in the right position and will not fall off.
4. To remove the Cycling Computer : press the lever of the Bike Mount , push the Cycling Computer out of the Bike Mount from the other side.

### 2-2 Installing the Sensors

2-2-1 Installing the Speed Sensor (SPEED) : Install the Speed Sensor on the same side of the Cycling Computer . The Speed Sensor should form a 90angle with the Cycling Computer within a maximum distance of 50cm / 1.6404ft.



1. Use the ties to fasten the Speed Sensor along with the Rubber Pad on the front fork of the bike, ALATECH logo faces outward.
2. Then secure the magnet to a spoke of the front wheel, the magnet should face the Speed Sensor. Adjust the magnet position to be as high as the Speed Sensor and in maximum distance of 5mm / 0.19685ft. between each other.
3. Finally, turn the front wheel, enter to the screen of BIKE SET\_Speed Coding of the Cycling Computer, and see if the signal showed at 3~4

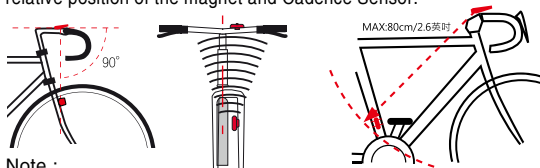
grids. (See P.? for the Steps of the signal interpretation. )

4. If there is no sense of the signal or less grid showed, then adjust the relative position of the magnet and Speed Sensor.

2-2-2 Installing the Cadence Sensor (CADENCE) : Install the Cadence Sensor at the same side of the Cycling Computer , the maximum distance from the bevel angle of both is 80cm / 2.6247ft..



1. Use the ties to fasten the Cadence Sensor along with the Rubber Pad on the down tube of the bike, ALATECH logo faces outward. ( For Small Wheel Bike or Folding Bike, fasten the device on the seat tube. )
2. Then secure a magnet on the inside of the crank, ALATECH logo faces to the Cadence Sensor. Adjust the magnet position in a distance of 5mm / 0.19685ft from the Cadence Sensor, make sure there is no collision while pedaling.
3. Finally, turn the pedal, enter to the screen of BIKE SET \_Cadence Coding of the Cycling Computer, and see if the signal showed at 3~4 grids. (See P. ? for the Steps of the signal interpretation. )
4. If there is no sense of the signal or less grid showed, then adjust the relative position of the magnet and Cadence Sensor.



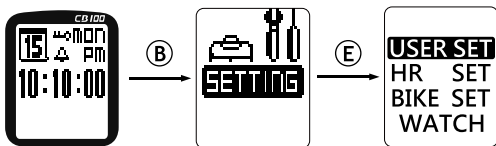
Note :


- Cut off the extra length of the ties to avoid any danger while riding.
- The receiving distance could be increased or decreased due to the installation position, the position of the Sensors or Cycling Computer can be adjusted slightly.
- Before riding, you are requested to enter the tire size of the bike in the setting mode. For details about configuration, refer to 2-3-5 Bike Setting. 11

## 2-3 INPUT BASIC SETTING (SETTING)



### 2-3-1 Accessing the Setting Mode

On the General Menu, press the B Key Mode. Enter the User Setting page (SETTING), and press E OK to confirm.



- Check if the Menu is locked “”; to unlock, press and hold A for 3 seconds.

### 2-3-2 User Setting (USER SET)

Screen Display	Setting Key	Confirm Key
1. Unit setting Set metric or Imperial units mode: (UNIT: m/ft)	Press C, D Keys ▲ / ▼	Press E to confirm and enter the next setting
2. Gender setting Set to Male / Female: (  /  )	Press C, D Keys ▲ / ▼	Press E to confirm and enter the next setting
3. Age setting Set age: set range (10-99)	Press C, D Keys ▲ / ▼	Press E to confirm and enter the next setting
4. Height setting Set height: set range (130-230cm)	Press C, D Keys ▲ / ▼	Press E to confirm and enter the next setting
5. Weight setting Set weight: set range (35-110kg)	Press C, D Keys ▲ / ▼	Press E to confirm and enter the next setting

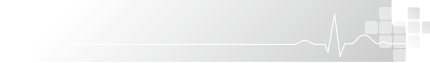
- After completing a setting, press the B Key to quit the User Setting mode (User Set).

### 2-3-3 Heart Rate Setting (HR SET)

On the User Menu select HR SET and press the E Key to enter.

Screen Display	Setting Key	Confirm Key
1. Turn on the heart rate alarm (HR ALARM)  Turn the heart rate alarm On or Off "HR" (ON/OFF)	Press the C, D keys ▲ / ▼ to select heart rate alarm On or Off	Press E to confirm and enter the next setting
2. Heart rate view (HR VIEW)  Numerical / percentage display "HR / HR%"	Press the C, D keys ▲ / ▼	Press E to confirm and enter the next setting
3. Maximum heart rate (HR MAX)  Display the maximum heart rate of the user. (See Note 1.)	1. If no change to the maximum heart rate is needed, press E to confirm 2. Press C, D keys ▲ / ▼	1. Press E to confirm 2. Press E to confirm
4. Heart rate (HR ZONE)  Select different heart rates. (See Note 2.)	Press C, D keys ▲ / ▼ to set the target heart rate Press E to confirm. You can enter a customized heart rate.	Press E to confirm
5. Maximum air volume (VO2MAX) Set your aerobic index  Physical Activity Status Scale, PAR. (See Note 3.)	1. Press E to confirm use of the default 2. Press C, D to enter level setting (see chart) Press E to perform test	Press E to confirm use of the default

- After completing a setting, press the B key Mode to leave the User Setting mode (User Set).
- Note 1: The default maximum heart rate (HR MAX) is based on your age, height and weight. The maximum heart rate value is for reference only. You can enter your custom maximum heart rate value to suit your own training regimen.
- Note 2: Physical Activity Status Scale, PAR.



## Physical Activity Status Scale, PAR

Grade	Description
<b>Sedentary to Light Exercise</b>	
<b>ACT-00</b>	Avoid walking or exertion, e.g., always use elevator, drive whenever possible instead of walking.
<b>ACT-01</b>	Walk for pleasure, routinely use stairs or occasionally exercise sufficiently to cause heavy breathing or perspiration.
<b>Recreational Activity (golf, bowling, yard work)</b>	
<b>ACT-02</b>	10 to 60 minutes per week.
<b>ACT-03</b>	Over one hour per week.
<b>Heavy Aerobic Exercise (run or brisk walking or comparable activity, such as basketball, tennis, racquetball, aerobic dance...)</b>	
<b>ACT-04</b>	Run about 1 mile per week or walk about 1.3 miles per week or spend about 30 minutes per week in comparable physical activity.
<b>ACT-05</b>	Run 1 to 5 miles per week or walk about 1.3 to 6 miles per week or spend 30 to 60 minutes per week in comparable physical activity.
<b>ACT-06</b>	Run 6 to 10 miles per week or walk about 7 to 13 miles per week or spend in 1 to 30 hours per week in comparable physical activity.
<b>ACT-07</b>	Run 11 to 15 miles per week or walk about 14 to 20 miles per week or spend in 4 to 6 hours per week in comparable physical activity.
<b>ACT-08</b>	Run 16 to 20 miles per week or walk about 21 to 26 miles per week or spend in 6 to 8 hours per week in comparable physical activity.
<b>ACT-09</b>	Run 21 to 25 miles per week or walk about 27 to 33 miles per week or spend in 9 to 11 hours per week in comparable physical activity.
<b>ACT-10</b>	Run over 25 miles per week or walk over 34 miles per week or spend over 12 hours per week in comparable physical activity.

Source: National Aeronautics and Space Administration.

## Percentile Value for Maximal Aerobic Power chart

The oxygen uptake index will increase as your stamina increases and decrease as you get older. Generally, world-class athletes have a higher aerobic uptake index. Studies show that when the aerobic uptake index falls below the 20th percentile, it reflects a sedentary lifestyle without much exercise that may increase the amount of free radicals inside the body, which is harmful to your health. Please compare your aerobic uptake measured by the chronograph with the chart below and learn about your ability for maximal oxygen uptake.

Maximal Aerobic Power can improve with training and decrease with age, world class athletes typically have high VO<sub>2</sub>max. Research suggests that the VO<sub>2</sub>max below the 20th percentile for age and sex, which is often indicative of a sedentary lifestyle, is associated with an increased risk of death from all causes.

You can compare your own VO<sub>2</sub>max value measured by this watch with the reference list on page 20 for better understanding of your health status.

Percentile Value for Maximal Oxygen Uptake in Men (unit: ml/kg/min)					
Percentile	Age				
	20~29	30~39	40~49	50~59	Over 60
90	55.1	52.1	50.6	49.0	44.2
80	52.1	50.6	49.0	44.2	41.0
70	49.0	47.4	45.8	41.0	37.8
60	47.4	44.2	44.2	39.4	36.2
50	44.2	42.6	41.0	37.8	34.6
40	42.6	41.0	39.4	36.2	33.0
30	41.0	39.4	36.2	34.6	31.4
20	37.8	36.2	34.6	31.4	28.3
10	34.6	33.0	31.4	29.9	26.7


  

Percentile Value for Maximal Oxygen Uptake in Women (unit: ml/kg/min)					
Percentile	Age				
	20~29	30~39	40~49	50~59	Over 60
90	49.0	45.8	42.6	37.8	34.6
80	44.2	41.0	39.4	34.6	33.0
70	41.0	39.4	36.2	33.0	31.4
60	39.4	36.2	34.6	31.4	28.3
50	37.8	34.6	33.0	29.9	26.7
40	36.2	33.0	31.4	28.3	25.1
30	33.0	31.4	29.9	26.7	23.5
20	31.4	29.9	28.3	25.1	21.9
10	28.3	26.7	25.1	21.9	20.3



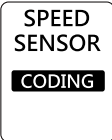
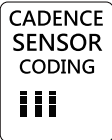

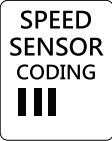
Data were obtained from the initial examination of apparently health men and women enrolled in the Aerobics Center Longitudinal Study(ACLS), 1970 to 2002. (Units: ml/kg/min)

## 2-3-4 Timer Setting (WATCH)


Screen Display	Setting Key	Confirm Key
1. Turn on the alarm (ALARM) Turning the Alarm On or Off "On / Off" (Note 1.) Set time (HH: mm)	1. Press the C, D keys ▲ / ▼ Select On or Off 2. After the alarm is turned on, set the alarm time Press the C, D keys ▲ / ▼ to set (HH: mm)	Press E to confirm
2. Set standard/ military time (12H / 24H) Standard/ Military Time (12H / 24H)	Press the C, D keys ▲ / ▼ Select (12H / 24H)	Press E to confirm and enter the next setting
3. Set time (HH: mm) HOUR MINUTE	1. Press the C, D keys ▲ / ▼ to set the hours 2. Press the C, D keys ▲ / ▼ to set the minutes	Press E to confirm and enter the next setting
4. Set Date (Y-M-D) YEAR MONTH DATE	1. Press the C, D keys ▲ / ▼ to set the year, month, date	Press E to confirm and enter the next setting

- Note 1: The icon for alarm on the General Menu is "  " After completing each setting, press the B key to leave the User Setting mode .

## 2-3-5 Bike Setting (BIKE SET)

Screen Display	Setting Key	Confirm Key
1. Select BIKE1 / BIKE2  1 /  2	Press the C, D keys ▲ / ▼ Select BIKE1 / BIKE2	Press E to confirm (Default: Bike1)
2. Set Bike Wheel Set the Bike Wheel Value (see chart 1)	Press the C, D keys ▲ / ▼ Set the Bike Wheel Value	Press E to confirm
3. SPEED SENSOR 	Press the E key for coding 	Coding failed, Please code again. (Notes 1, 2.)
4. CADENCE SENSOR 	Press the E key for coding 	Coding failed, Please code again. (Notes 1, 2.)



- This chart can memorize two sets of bike values and the setting methods for both are the same.
- To select between BIKE1 and BIKE2, highlight a bike and press the B key Mode to go back to Watch Mode and confirm whether icon or is the desired bike. If the sensor coding time runs over 4 minutes, the screen will display coding fail.
- Note 1: Installing on standard bikes (road bike/mountain bike/folding bike) (see 2-2) with regular methods should display a signal strength in the middle range. For signals over the standard or not reaching the standard, the installation location must be adjusted to enable optimal signal display (refer to the chapter on installing the sensor).
- Note 2: If only one bar shows when the Cadence sensor is coding, it means that the signal is weak and cannot be used normally. If all the bars show ( “ ” ), it means the signal is too strong and could interfere with the signal from the chest strap. It is advisable to adjust the angle and distance until the display shows 3 or 4 bars.

You have the following alternatives for finding out the wheel size of your bike:

- Method 1:Chart 1. (Bike Wheel Adjustment Chart)

Tire size	L (mm)	Tire size L (mm)	L (mm)	Tire size	L (mm)
12 x 1.75	935	26 x 1(59)	1913	650 x 20C	1938
14 x 1.50	1020	26 x 1(65)	1952	650 x 23C	1944
14 x 1.75	1055	26 x 1.25	1953	650 x 35A	2090
16 x 1.50	1185	26 x 1-1/8	1970	650 x 38A	2125
16 x 1.75	1195	26 x 1-3/8	2068	650 x 38B	2105
18 x 1.50	1340	26 x 1-1/2	2100	700 x 18C	2070
18 x 1.75	1350	26 x 1.40	2005	700 x 19C	2080
20 x 1.75	1515	26 x 1.50	2010	700 x 20C	2086
20 x 1-3/8	1615	26 x 1.75	2023	700 x 23C	2096
22 x 1-3/8	1770	26 x 1.95	2050	700 x 25C	2105
22 x 1-1/2	1785	26 x 2.00	2055	700 x 28C	2136
24 x 1	1753	26 x 2.10	2068	700 x 30C	2146
24 x 3/4 Tubular	1785	26 x 2.125	2070	700 x 32C	2155
24 x 1-1/8	1795	26 x 2.35	2083	700C Tubular	2130
24 x 1-1/4	1905	26 x 3.00	2170	700 x 35C	2168
24 x 1.75	1890	27 x 1	2145	700 x 38C	2180
24 x 2.00	1925	27 x 1-1/8	2155	700 x 40C	2200
24 x 2.125	1965	27 x 1-1/4	2161	29 x 2.1	2288
26 x 7/8	1920	27 x 1-3/8	2169	29 x 2.3	2326

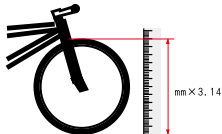
(The wheel size shown on the chart represents the normal sizes according to the wheel type. For precise manual measuring is recommended.)

## Method 2


How to measure the diameter of the front wheel

To get the necessary wheel data, follow the steps below:

1. Set the bike upright and use a tape measure to determine the diameter of the wheel.
2. Multiply the diameter by 3.14 to get the circumference.
3. Enter the value into the Chronograph.
4. Press B or E to exit or enter the next setting screen.



### 2-3-6 General Settings (GENERAL)

Screen Display	Setting Key	Confirm Key
1. Turn tone On or Off (TONE) (default: OFF)	Press the C, D keys ● / ▼ Turn tone On or Off	Press E to confirm and enter the next setting
2. Turn Night Mode On or Off (NIGHT MODE)  (default: OFF)	Press the C, D keys ● / ▼ Select Night Mode. (Note 1.) ALWAYS - Always on FLASH - flashing (only available in BIKE MODE) 3S - flash for 3 seconds	Press E to confirm
3. Display total trip distance (Odo. DST)	N/A (Note 2.)	
4. Display total riding time (Total TIME)	N/A (Note 3.)	

- **Note 1: Night Mode: Always on (ALWAYS), Flash (FLASH) and on for 3 seconds (3S).**
- **Always on (ALWAYS):** Press the A key to set the backlight to “always on”, press and hold the A key to keep it on and press again to turn off the backlight. This can be used in every mode. Using the ALWAYS mode for a long time will reduce the life of the battery.
- **Flash Mode (FLASH):** Press the A key and backlight flash will be available in BIKE MODE.
- **3-second mode (3S):** Press the A key and the backlight will be on for 3 seconds. Can be used in any mode.
- **Note 2: Total Trip distance (ODO.DST):** Records the total distance rode. After a session, the distance will be updated but the total trip distance data cannot be cleared.

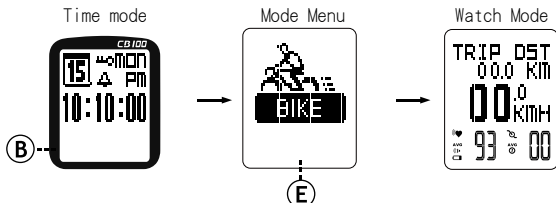
- Note 3: Total Riding Time (Total TIME): Records the total time of your session. After the session ends, the Total Riding Time will be automatically updated, but the Total Riding Time data cannot be cleared.
- The combination keys for resetting the Chronograph are (B + C + D + E). The Chronograph will reset after a beep. After resetting, the Chronograph screen will turn off. Press any key to turn on the Chronograph. After turning on, press any key to shut off the beep and start using Chronograph.

## 3 BIKE MODE




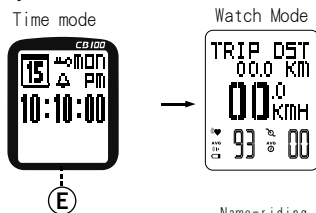
### 3-1 Accessing Bike Mode

A. Standard method: In Watch Mode, press the B key Mode to enter the mode menu. After accessing, Select BIKE mode, press E OK to confirm Access to BIKE MODE.



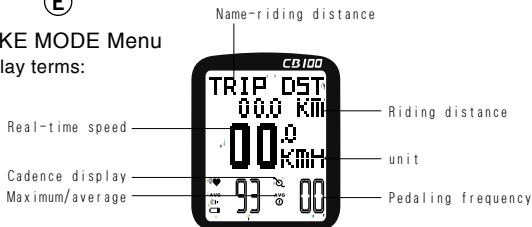
B. Shortcut key: in Watch Mode, Press the E key OK to confirm and enter BIKE MODE directly.

Note: In Watch Mode, check to see the key lock symbol  is not displayed on the menu.










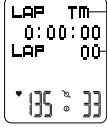
### 3-2 BIKE MODE Menu

Display terms:



## Sub-Menu explained (in menu order)

Screen Display	Setting Key	Confirm Key
 <p>TRIP DST ① 00.5 KM 10.5 KMH ② 135 33 ③ ④ ⑤</p>	1- Trip distance (TRIP DST) 2- Real-time speed 3- Cadence frequency 4- Bike number 5- Real-time heart rate	Press E OK to switch the menu
 <p>TRIP TM ① 00:00 10.5 KMH 135 33</p>	1-Trip time (TRIP TM)	Press E OK to switch the menu
 <p>TM FIM ① 00:00:00 10.5 KMH 135 33</p>	1-Current time (TM) (AM / PM)	Press E OK to switch the menu
 <p>AVG SPD ① 00.5 KMH 10.5 KMH 155 50 ② ③</p>	1-Average speed (AVG SPD) 2-Average Cadence frequency (AVG) 3-Average heart rate (AVG)	Press E OK to switch the menu
 <p>MAX SPD ① 00.5 KMH 10.5 KMH 175 90 ② ③</p>	1-Maximum speed (MAX SPD) 2-Maximum Cadence Frequency (MAX) 3-Maximum heart rate (MAX)	Press E OK to switch the menu

Screen Display	Setting Key	Confirm Key
 <p>HR ZONE ①            * [Progress Bar] ②            LIGHT ②            100--200 ③            175 ④</p>	1-Target heart rate (HR ZONE) 2-Previously configured heart rate 3-Cadence Frequency and the bike used(Bike1/Bike2) 4-Real-time heart rate	Press E OK to switch the menu
 <p>IN ZONE ①            0:00:00 ①            Kcal ②            0000 ③            155 ④</p>	1- Heart in training zone time (IN ZONE) 2-Calories burned 3-Cadence Frequency and bike used (Bike1/Bike2) 4-Real-time heart rate	Press E OK to switch the menu
 <p>LAP TM ①            0:00:00 ①            LAP 00 ②            135 ③</p>	Manual Lap counting (Note 1.) 1-Time used per lap 2-Lap Number Display the number of the current lap in real time (n lap)	Press E OK to switch the menu

- Note 1: **CB100** provides two kinds of lap counting functions-- manual and automatic. Manual lap counting is used on ground where one does not go in circles and the data for each section needs to be manually recorded. The automatic lap function is used on circular tracks and each circle (lap) is recorded.
- The manual lap function can be used in Watch Mode, TRAINING MODE and riding. You can press the C key (Up) to record the number of laps.
- Automatic lap counting function. In TRAINING MODE and in Target lap, you can configure the necessary number of laps and the length of each lap. Press the E key and the chronograph will count the number of laps. If you want to force a manual lap count, Press the C key to do so (see 4.TRAINING MODE).

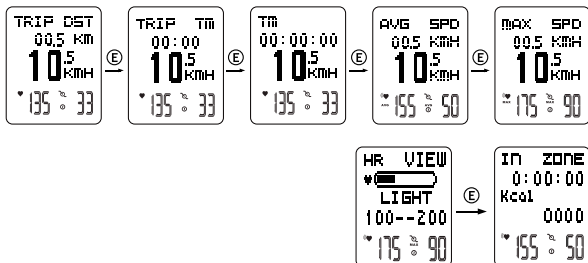
### 3-3 How to Switch the Menu

When you're riding the bike, you can press E OK to switch menus.

The sub Menu in order:

Without using the chest strap heart rate transmitter:

Trip distance (TRIP DST) / Trip time (TRIP TM) / Current time (TM) / Average speed (AVG SPD) / Maximum speed (MAX SPD). (Menu cycling)



### 3-4 Things You Should Know

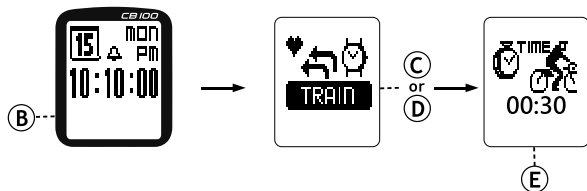
1. To manually record laps (Lap), press the C key (Up) to record the number of laps (Lap), the lap distance (Lap DST), time for a lap, heart rate information and other exercise information.
2. When the bike has been stationary for approximately 2 minutes (no SPEED signal), the menu will display 0' s for data. The power saving mode will also be on. When the bike moves again, CB100 will leave the power saving mode and all signals will be normally displayed.
3. After 30 minutes in power saving mode, CB100 will leave Bike Mode and enter Watch Mode.

## 4 TRAINING MODE




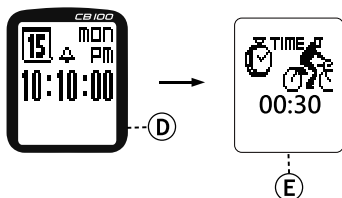
### 4-1 Accessing the TRAINING MODE

A. Standard access: In Watch Mode, press B Mode to enter mode selection and select Train (TRAINING MODE). Press E OK to confirm access.



B. Accessing via a shortcut key: In Watch Mode, press D Down to directly enter TRAINING MODE.

Note: In Watch Mode, check to see the key lock symbol  is not displayed.









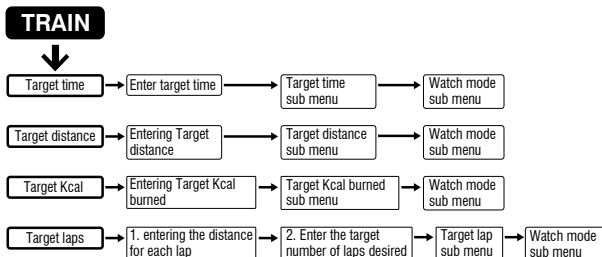
## 4-2 TRAINING MODE EXPLAINED

This sets a training target and provides a user countdown. Four training modes are provided:

1. Target Trip Time: Set a fixed time for training.
2. Target Distance: Set a fixed distance for training.
3. Target Kilocalories: Enter a target kilocalories (Kcal) for training.
4. Target Lap: Records laps automatically (Auto Lap). Enter the number of laps and the distance per lap.





Abbreviated Name	Default	Explanation
 TARGET TIME	30 minutes	Target Trip Time
 TARGET DIST	1 Km	Target Distance
 TARGET KCAL	1000 Kcal	Target Kilocalories
 TARGET LAP	1 Km, 2LAP	Target Lap (automatic lap counting)

TRAINING MODE flow chart, see below:



### 4-3 How to Switch the Menu

1. The method for switching Menus is the same as in BIKE MODE.
2. Select the desired training mode and then press E OK to begin.
3. The first sub Menu is the target Menu. The later sub menus are the same as the ones in BIKE MODE. The sub menus listed in order: TRIP DST/TRIP TM/TM/AVG SPD/MAX SPD/HR ZONE/IN ZONE, LAP.

Sub Menu	To Access/ Use	Explanation
	1-After setting a target time in the Timer Setting, press E OK to start training.	The sub menu displays user target time in a Countdown. When the time is up, the device will beep.
	1-After setting a target distance, press E OK to start training.	The sub menu displays the user's target distance. After the Countdown and training is over, the device will beep.
	1-After setting target kilocalories, press E OK to start training.	The sub menu displays the kilocalories set. After the Countdown and training is over, the device will beep.
	1-After setting auto lap, press E OK to start training	The sub menu displays the number of auto laps set by the user and counts them automatically.

### 4-4 Things You Should Know

1. During Auto Lap, you can still use manual lap to record laps.
2. When the training target has been reached, the device will beep for approximately 5 seconds, but you can press D or E to turn off the alarm and continue training.

## 5 TIMER MODE

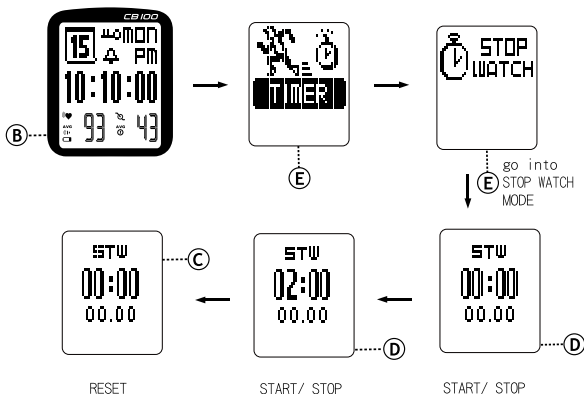
### 5-1 TIMER MODE

#### 5-1-1 Accessing the TIMER MODE

From the General Menu, press B Mode to enter Mode and then select TIMER MODE. The screen displays STOP WATCH.



#### 5-1-2 Icon Flow Explained



To access Stop Watch mode, press B Mode to access mode selection and select TIMER. Press E OK to confirm.

Press E to confirm access.

Press C to return to 0

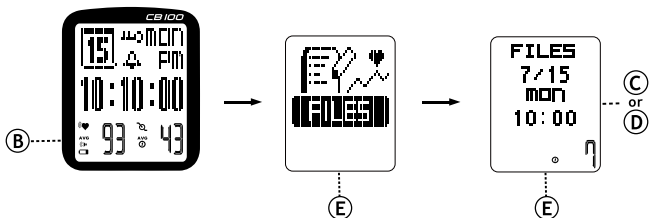
Press D (START/STOP): start/stop countdown

## 6 Files

### 6-1 Accessing Files

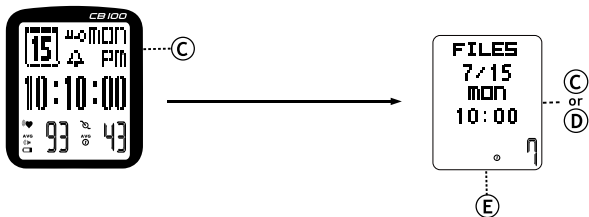
A. Standard access:

in the General Menu, press B Mode to access and select Files. Press E OK to confirm and select the desired file. Use the C or D keys for page up and page down.



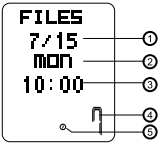
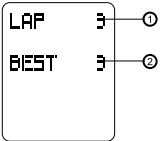
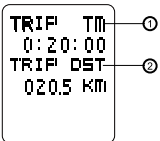
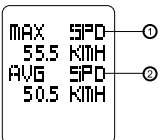
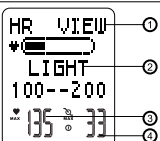
B. Accessing via a shortcut key:

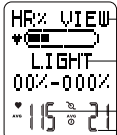
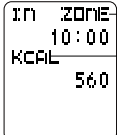

In the General Menu, press C Up to access Files mode. Press E to select the desired file and use the C or D key to change the page.



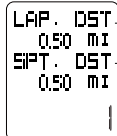
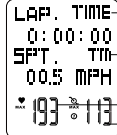

## 6-2 Check Files

### 6-2-1 Check Files

Menu Display	Menu Items	Explanation
	1, 2-Date of training (month, day, week) 3-Starting time 4-The nth training record (first in, first out) 5-The bike being used (Bike1/Bike2)	Select a record to view and press E Up to access.
	1- Total laps in one session (Lap) 2- Best lap (Best)	Press E OK to change the page and to view the entire record for a session.  Press C Up to access the lap record (Lap mode).
	1-Trip Time (TRIP TM) 2-Trip distance (TRIP DST)	Press E OK to change the page.
	1-Maximum speed (MAX SPEED) 2-Average speed (AVG SPEED)	Press E OK to change the page.
	1-View heart rate (HR VIEW-1) 2-User set heart rate target 3-Maximum heart rate (MAX) 4-Maximum Cadence Frequency (MAX) and the bike used (Bike1 / Bike2)	Press E OK to change the page.

 <p>HR% VIEW ①        LIGHT ②        00%-000%        115 ③ 21 ④</p>	<p>1-View heart rate (HR VIEW-2)          2-User set heart rate target          3-Average heart rate (HR)          4-Average Cadence frequency (CAD) and the bike used (Bike1 / Bike2)</p>	<p>Press E OK to change the page.</p>
 <p>IN ZONE ①        10:00        KCAL ②        560</p>	<p>1-Training zone (In Zone) Check to see if the heart rate falls within the set zone and how long it has been there.          2-Kilocalories used (Kcal), Unit: Kcal</p>	<p>Press E OK to change the page.</p>
 <p>FILE DELETE ①        ?        YES</p>	<p>1-Delete file          2-Confirm (NO/YES)</p>	<p>Press E OK to change the page.</p>

### 6-2-2 Check LAP Data (LAP Data)

Menu Display	Menu Items	Explanation
 <p>LAP. DST ①        0.50 MI        SPT. DST ②        0.50 MI          ③</p>	<p>1-Distance for the current lap          2-Total distance from start to lap n (Note)          3-Current number of laps (Note 1)</p>	<p>Press E OK to change the page.</p>
 <p>LAP. TIME ①        0:00:00        SPT. TIM ②        00.5 MPH        193 ③ 113 ④</p>	<p>1-Time used for the current lap          2-Total time for the current session          3-The maximum heart rate for the current lap          4-The maximum Cadence frequency for the current lap (Note 2)</p>	<p>Press E OK to change the page.</p>
 <p>MAX SPD ①        00.5 KMH        AVG SPD ②        00.5 KMH        158 ③ 60 ④</p>	<p>1-Maximum speed for the current lap          2-The Average speed for the current lap          3-The average heart rate for the current lap          4-The Average Cadence Frequency for the current lap</p>	<p>Press E OK to change the page.</p>

Note 1: Only Lap 1 is calculated from the starting point. Others are calculated via the Lap key and when the Lap key is pressed.

Note 2: The concepts of Lap and Split:

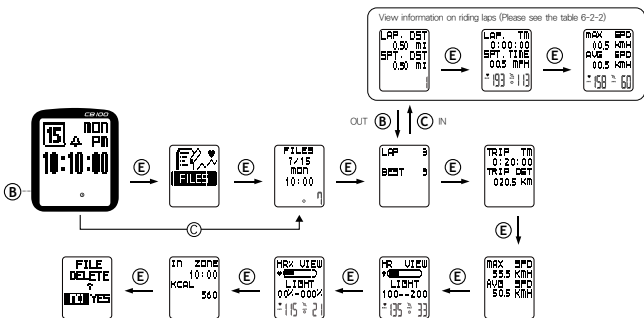
1. Lap means the time or distance used in a section. Only Lap 1 is calculated from the starting point, others are calculated via the Lap key and when the Lap key is pressed.

2. Split represents the time or distance used for each section and is calculated from the starting point each time the Lap key (C) is pressed.

### 6-3 FILES operation flow

After accessing Files, press E OK to turn pages and view them.

To view lap information, in the Files Menu, press C Up to access the Lap (LAP) record.



### 6-4 File Management

- Files are saved as they are produced and the larger the file the longer it will take to save. The file mode is saved using a first in, first out method. Because the larger the file the longer it takes to record, the latest data is saved as the 7th record, following the order of 6, 5...1.
- To view other records, press C Up or D Down, to change the page.
- Files are deleted entry by entry.
- Each file can hold the data from 50 laps maximum.



## 7 Specifications

### Cycling Computer

Surface material: ROHs compliant polymer casing (ABS plastic)

Chronograph accuracy: less than  $\pm 0.5$  seconds/day at 25 ° C / 77° F

Accuracy of heart rate measurement:

Beat per second (bpm): displayed as a numerical value

Heart rate measuring range: 40~220

Number of training records: 7

Number of lap records: 50

Operating temperature: -10° C to +50° C / 14° F to 122° F

Battery model: CR2032 × 1

Battery life: 1 year on average (estimated 1 hour/day, 7 days/week)

Battery seal “O” ring: silicone

Speed and Cadence sensor

Casing for sensors: ROHs compliant polymer casing (ABS plastic)

Operational temperature: -10° C to +50° C / 14° F to 122° F

Water resistance: resistant to splashes and sweat drops (see attachment)

Heart rate Transmitter

Strap material: synthetic rubber

Hook material: synthetic rubber

Woven band material: elastic band

Battery model: CR2032 × 1

Battery life: 300 hours on average

Operating temperature: -10° C to +50° C / 14° F to 122° F

## 8 Warranty Information

### 1. Changing the battery:

A. Insert a coin into the battery socket on the back of the chronograph.

B. Turn the socket cover counterclockwise to open and check the “O” ring is properly seated, clean and dry.

C. After changing the battery replace the “O” ring and close the cover (it is recommended that the “O” ring be changed with each battery change).

D. Make sure the back cover is in the correct position and turn it clockwise to tighten.



## 2. Heart Rate Detection Strap maintenance and cleaning:

A. In normal use the battery in the chest strap will last approximately 1300 hours.

B. Please rinse the strap with water or a non-corrosive cleaning solution and wipe with a soft towel. Do not use alcohol or other solvents and do not wipe with rough material.

C. Do not place the chest strap in a washing machine, or spinner and dryer.

D. Do not iron the elastic band accessory for the chest strap.

- To ensure the integrity and water resistance of the Heart Rate Detector Strap as well as the function and performance of the components, it is recommended that you open the battery cover only when the battery must be changed. You should replace the “O” ring with each battery change. You can get the “O” rings and batteries from an authorized dealer.
- If you purchased an integrated chest strap (CS003) with a non-removable battery, please take it to an authorized dealer when the battery needs to be replaced.
- When not using the chest strap, place it in a dry place and away from TVs, monitors or other sources of radiation to avoid interference that will reduce the life of the battery.

## 9 Q & A

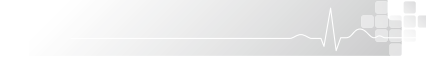
**Q1 : Why are the speed and cadence values not being displayed properly?**

**A :**

1. Refer to 2-1 and 2-2 and check if the distances between the sensors and the device match the recommended distance and reception angle.

2. Check for sources of interference such as: TVs, electric bikes, trains, railroad cables, traffic signals, high voltage lines, electronic door locks, mobile phones and car engines.

3. When coding on the Cadence sensor, make sure the signal strength is greater than 1 bar but avoid reaching 5 bars in strength. Having the signal between 2 and 4 bars will ensure proper reception of the Cadence sensor signal. One bar is too weak and 5 bars is too strong, and will cause heartbeat and cadence signals to interfere with each other. To test after installation (do not wear the chest strap) spin the pedal and check for turning value and a heartbeat signal. If each spin of the pedal (without any other interference) causes a heartbeat symbol to appear, then the cadence signal is too strong and is interfering with the heartbeat signal. The location or angle of the cadence sensor must be adjusted.



4. When installing the sensor, pay careful attention to possible interference. Even if the coding can be completed and seems correct, interference can cause false data entry that will result in abnormal readings later. To detect interference during coding, watch for signals that appear when the pedal and front wheel are stationary. If no signals appear spontaneously then no interference is present. When later adjustments are made always check for interfering signals.

5. Check the battery.

6. Check the location of the sensor – it may have been moved by an accidental kick or impact. If the sensor is out of place it may not receive impulses from the magnet.

7. When coding the sensors, do not wear the chest strap, this can cause coding failure or false readings.

**Q2: I pressed all the keys, but the Chronograph does not respond. What can be done?**

A:

1. Press the B + C + D + E keys all at the same time to reset the Chronograph. The screen will light up and then turn off. Press any key to turn it on again and then any key to turn off the beep and start using the device again.

2. Make sure the battery is not dead.

**Q3: Why is the signal from the Heart Rate Transmitter not being read?**

A: 1. Make sure the conducting flaps on both sides of the Heart Rate Transmitter are completely wet.

2. Confirm that there is no electromagnetic interference nearby such as TV, electric bikes, trains, railroad cables, traffic signals, high voltage wires, electronic door locks, mobile phones or car engines. If there is possible interference, leave the location or take off the transmitter to find the source of interference and move it away.

3. Stop and check for the heartbeat signal. If the signal is beating irregularly and there is no interference, then it means the transmitter is not fitting or working correctly. Please adjust the transmitter and make sure the conducting pads on each side are wet. After 9 or 10 regular beats the heartbeat value will be correctly displayed.

4. If the heartbeat signal is still irregular, lift the transmitter off the skin to stop the circuit, without touching the conducting pads, and check for a signal. If there is a signal then there is some interference with the proper heartbeat rate signal and it will not be displayed.

5. The heartbeat display is normal when the bike is stationary, but the value is wrong when biking. Follow Q1 above and confirm that the Cadence sensor is correctly installed and make sure there is no outside interference.

## 10 Chinese to English Glossary

