SOLUS®

TOUCH HEALTH ⊗ TOUCH FUN

LEISURE
910
USER MANUAL

SM-713.1

1.0 General Guide

Thank you for purchasing this watch. With this watch, you can get electrocardiogram heart rate without using a chest strap.

Simply put the watch on your wrist, place your finger on the metal contact located on the face of the watch, and read your heart rate in the digital window within seconds!

IMPORTANT Notes

1) Do not use this watch for commercial or professional purposes.

2) Make sure that you read this manual thoroughly and fully understand the functions and limitations of this watch before using it.

3) This watch is a supplementary device for measuring heart rate; it is not a substitute for medical devices. You should periodically compare the heart rate reading acquired by this watch with the reading from your doctor.

4) Do not use heart rate measurement under water.

2.0 Care and Maintenance

1) This watch contains electronic components. Never attempt to open the case or remove the back cover.

2) Avoid exposing the watch to extreme temperature, chemicals which will damage the watch.

3) Keep the watch away from the conditions of strong electric field and static electricity.

4) Avoid rough usage or severe impact. The watch is designed to withstand impact under normal use. It is advisable to subject it to severe impact or rough usage.

5) Clean your watch occasionally with a soft moistened cloth only. Avoid using chemicals, especially soap as the waterproof gasket will corrode.

6) For PU straps, please wash them with mild soapy water only and not to apply perfume or moisturizers around your wrist as the chemicals can erode them.

7) There may be discoloration for light colors and transparent straps after normal wear for some time. An original replacement on straps is possible to be re-ordered through an authorized service center.

8) Store the watch in a dry place when it is not in use.

9) In case if there is any severe or persistent skin reaction, such as severe redness, itching, rash or hives, you should stop wearing this watch, and consult your doctor.

3.0 Precautions for Water Resistance & Battery

Water Resistance
Water damage may occur if the push buttons are pressed under water. Should water or condensation appear in the watch, please check the watch immediately, as corrosion of electronic parts can occur inside the case.

Battery Life
The battery in your SOLUS watch is estimated to last for 2 years, depending on frequency and use of certain features.

Battery Replacement
If the display dims or the EL backlight is dim, you are recommended to go to the authorized SOLUS service center for correct battery replacement in order to retain a valid warranty and avoid any damage on the water resistance function.

WARNING!
Always keep watch batteries away from children. If swallowed, contact a doctor immediately. Batteries contain chemical substances. They should be disposed of properly according to local regulations.

4.0 Specifications

Time Mode
- Hour, minute and second
- 12 / 24 hour format selectable
- Hourly chime on the hours

Daily Alarm Mode
- Daily Alarm: 1 daily alarm
- Alarm duration: about 60 seconds

Heart Rate Mode
- Measuring range: 40 to 240 beats per minute
- Support finger touch & chest strap (coded and uncoded) heart rate measurement

Exercise Mode
- Max. & average heart rate display
- Chronograph
- Heart rate zone timer (below - zone, in - zone & above - zone)
- Calorie & fat consumption

Chronograph Recall Mode
- Resolution: 1/100 second
- Counting range: 9 hours, 59 minutes, 59.99 seconds
- Lap memory: 25 lap memory

Timer Mode
- Resolution: 1 second
- Setting limit: 9 hours, 59 minutes, 59 seconds
- Alarm sound: 1 beep at the 10,9,8,7,6,5,4,3,2 and 1 second(s)
- Alarm sound: 3 beeps at 0 second for about 15 seconds

Others
- 5 ATM water resistance

* Water-related usage for 5 ATM:
  Light spray perspiration, light rain, bathing, etc.

- Electro-luminescent backlight

* The illumination provided by the backlight may be hard to see when viewed under direct sunlight.

5.0 Design of the Watch

Light Button [EL]
Press to turn ON the EL backlight.

Mode Button [M]
Press to change modes. Hold **[M]** to enter/exit the setting mode. In the setting mode, press to confirm items.

Bezel Touch [HR1]
Finger touch to enter HR Mode.

Start/Stop button [S/S]
Press to change values in the setting display. Activate "start/stop" function under **Exercise** and **Timer Mode**.

Reset button [R]
Activate " reset" function under **Exercise** and **Timer Mode**. Press to change values in the setting display.
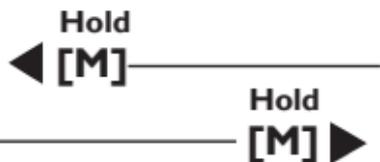
Sensor 2 [HR2]
When you wear the watch, the sensor will be activated.

HEART RATE MEASUREMENT

SOLUS®
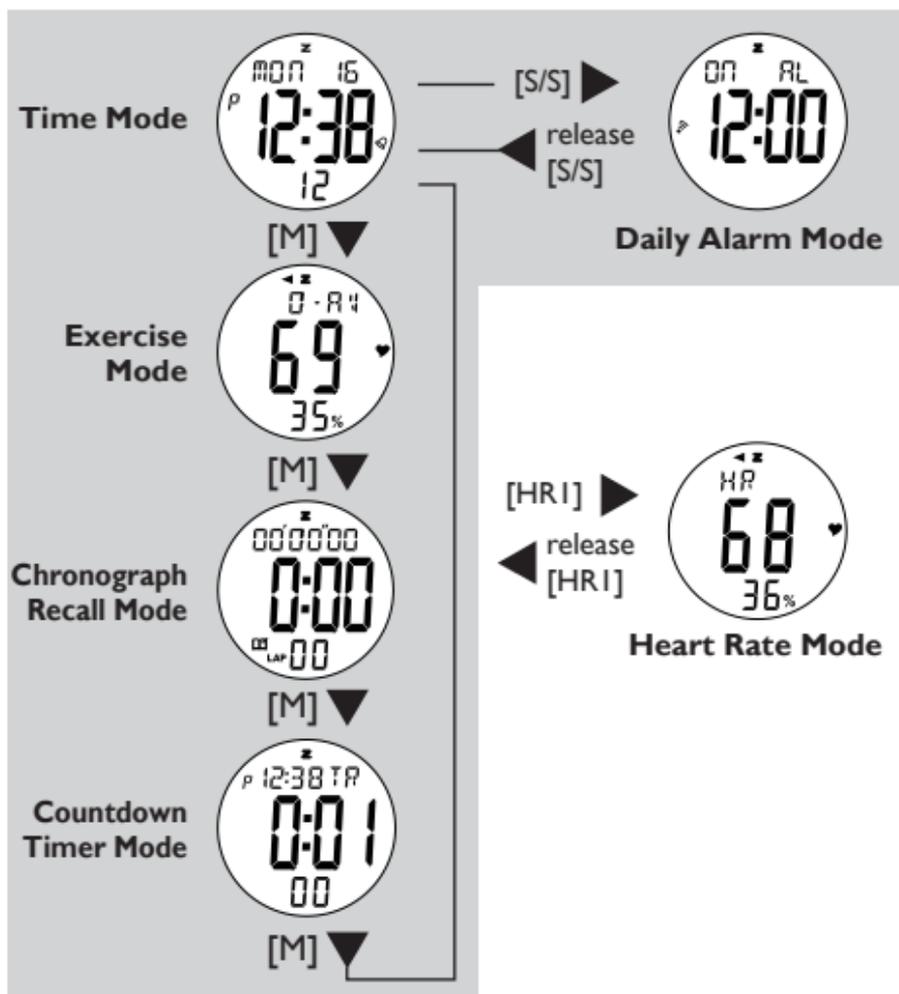TOUCH HEALTH · TOUCH FUN
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WATER RESISTANT-5ATM   LEISURE 910

6.0 Setting the Current Time

Time Mode

Hold ◄ [M]

Hold [M] ►

SEC

◄ [M] 12/24 HOUR   ◄ [M] DAY

CHIME ON/OFF

◄ [M] WEIGHT   ◄ [M] UNIT OF WEIGHT

This icon will appear while the chime is on.

[M]▶ MINUTE	**[M]▶** HOUR		
◀**[M]** MONTH	◀**[M]** YEAR	◀**[M]**	
[M]▶ BEEP ON/OFF	**[M]▶** GENDER		
◀**[M]** YEAR OF BIRTH	◀**[M]**		

Hold **[M]** to switch to the setting display, the display will start flashing. Press **[S/S]** or **[R]** to adjust, then press **[M]** to confirm. Hold **[M]** anytime to exit the setting display.

7.0 Functional Modes & Displays

Time Mode — [S/S] ▶ / ◀ release [S/S] — **Daily Alarm Mode**

[M] ▼

Exercise Mode

[M] ▼

Chronograph Recall Mode

[M] ▼

Countdown Timer Mode

[M] ▼

[HR1] ▶ / ◀ release [HR1] — **Heart Rate Mode**

8.0 Power Saving Mode

During Time Mode, hold **[R]** for 5 seconds to enter, LCD will be OFF.

Press any buttons except **[HR1]** to resume normal.

9.0 Setting the Daily Alarm

Hold down **[S/S]** during **Time Mode** to enter the setting display, the **"ON"** or **"OFF"** digits will start flashing. Hold **[M]** anytime to exit. When the alarm is on, this icon **" •)) "** will appear.

Press **[S/S]** or **[R]** to turn the alarm on/off.

Press **[S/S]** or **[R]** to set "hour".

Press **[S/S]** or **[R]** to set "minute".

10.0 Heart Rate Measuring - Precautions & Tips

✐ In exercise or sports, your heart naturally speeds up in pumping blood to the body in accordance with your increased energy level. This watch can calculate that increase expressed as the number of beats per minute (bpm) to determine a safe target heart rate for each individual.

Precautions and tips

1. A heart rate sensor is located on the back of the watch. The back sensor must firmly contact with the user's skin during finger touch heart rate measurement.
2. DO NOT take heart rate measurement when diving or under water.
3. DO NOT use hand cream; it will insulate the signal between the skin and the sensors.
4. Clean fingers with soap and water for better signal transmission.
5. DO NOT use the fingertips where the skin is dry and thick.
6. For those with extremely dry skin, moisten the skin with tap water or apply a conductive gel may help.
7. Hold the watch firmly when taking finger touch heart rate measurement in motion.
8. Adjust the Chest Strap with the supplied elastic band until it is surely held on your chest firmly to avoid loosen it when doing exercise.
9. During the measurement, avoid any awkward motion. Awkward motion creates undesired muscle noise; hence an incorrect heart rate reading may be resulted.

10.1 Heart Rate Measuring - EMHR and %EMHR

Heart beats per minute (Bpm)

Percentage of estimated maximum heart rate (%EMHR)
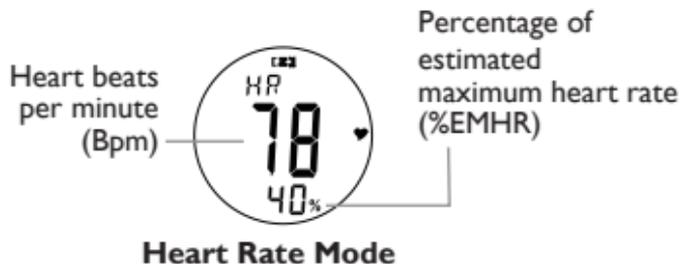
Heart Rate Mode

The Heart Rate Mode and Exercise Mode show the current heart rate in terms of:

🖉 Heart Rate (e.g 78) : The number of heart beats per minute (bpm).

🖉 Percentage of Estimated Maximum Heart Rate (e.g 40%): The percentage of the acquired heart rate with respect to one's estimated maximum heart rate.

Percentage of Estimated Maximum Heart Rate

🖉 It is a useful figure for analysing the cardio- fitness of a person.

🖉 It can be used to define a heart rate zone for cardio-fitness training.

🖉 Consult your doctor for more information on the implications of percentage of estimated maximum heart rate.

Estimated Maximum Heart Rate (EMHR):

  ✎ EMHR = 220 - user age.

  ✎ Example: What is Tom's EMHR at his age of 27?

  ✎ EMHR = 220 - 27 = 193.

NOTE: This watch can calculate the EMHR for users at the age up to 99.

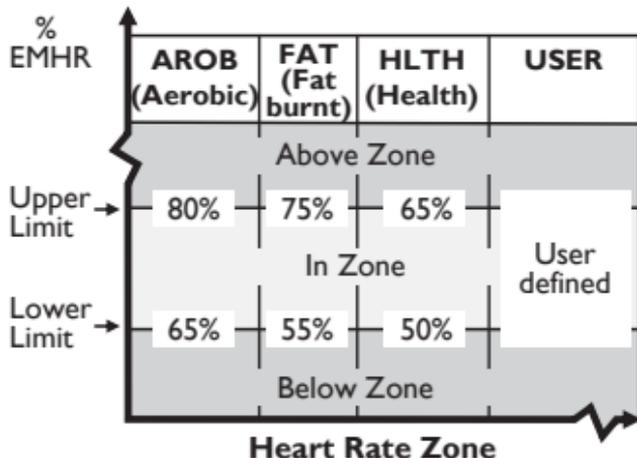**Percentage of Estimated Maximum Heart Rate (%EMHR):**

  ✎ %EMHR = Acquired heart rate/EMHR × 100%

  ✎ Example: What is Tom's %EMHR if he has acquired a heart rate of 78?

  ✎ %EMHR = 78/193 × 100% = 40%

NOTE: The user MUST input his/her age and gender into the watch ahead, otherwise this figure is not correct. Please refer to chapter **6.0** for the details on age and gender setting.

10.2 Heart Rate Measuring - Heart Rate Zone

% EMHR	AROB (Aerobic)	FAT (Fat burnt)	HLTH (Health)	USER
	Above Zone			
Upper Limit →	80%	75%	65%	User defined
	In Zone			
Lower Limit →	65%	55%	50%	
	Below Zone			

Heart Rate Zone

What is Heart Rate Zone?

Some particular training/exercise objectives like 'aerobics', 'fat burnt' or 'health' that require trainees/exercisers maintaining their heart rates (exercise paces) within one particular heart rate zone during the exercise.

WARNING: Consult a doctor or trainer prior to set the heart rate alert zone for a serious cardio-fitness training.

How to Select a Zone (for Heart Rate Zone Alert)?

In general, users may get the cardio-fitness training advices from those prestigious organizations= website, for example:

- 🖉 http://www.heart.org/HEARTORG/Conditions/CongenitalHeartDefects/
  CareTreatmentforCongenitalHeartDefects/Congenital-Heart-
  Defects-and-PhysicalActivity_UCM_307738_Article.jsp
  by American Heart Association.

- 🖉 http://en.wikipedia.org/wiki/Heart_rate#Training_zones
  by Wikipedia.

- 🖉 In **Exercise Mode**, there are three pre-defined heart rate zones ("AROB", "FAT" and "HLTH") and one user-defined heart rate zone ("USER") for user selection. (Please refer to chapter **12.6** for details)

10.3 Heart Rate Measuring - Heart Rate Zone Alert

About the Heart Rate Alert Function

By presetting an objective heart rate zone, you can activate the heart rate alert function. This function helps to prevent the user from going over or under an objective heart rate.

In course of doing exercise or sports: When you take a heart rate measurement that is out of the preset desirable zone, this watch will beep. Hence, you could render the appropriate actions such as slow-down or speed up the exercise.

For example, some training sessions may require you to maintain your heart rate at a predefined zone (the desirable zone) to achieve training objectives. This watch can remind you whether your heartbeat is out of the objective zone all the time.
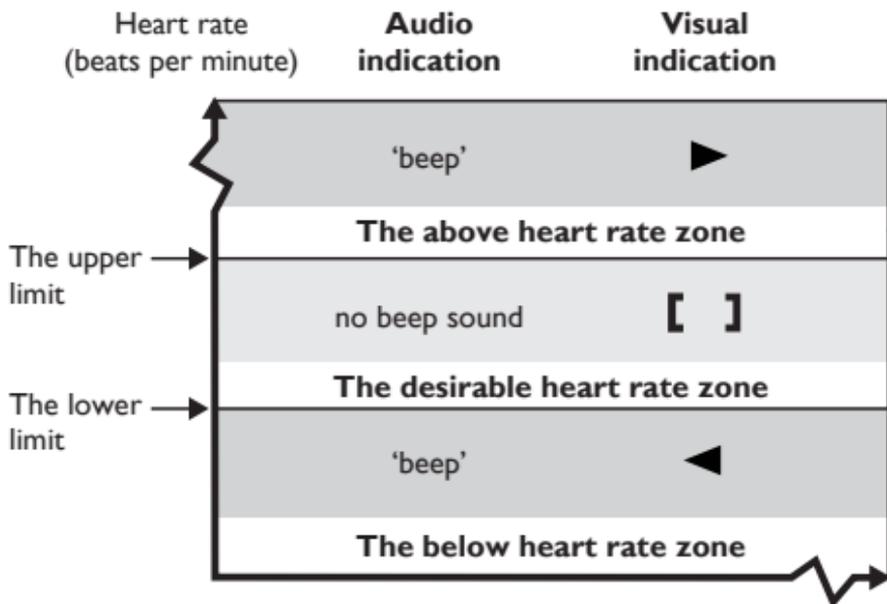
Upper & Lower Limits and Desirable Heart Rate Zone

The desirable heart rate zone is the realm that defined by the upper and lower limits. Check the adjacent diagram to see the relationship between zones and the limits. These limits can be obtained by the following approaches:

1) Get the limits by consulting a doctor or trainer that the above zone and below zone limits can be set by you.

2) Calculate the limits by using your age and gender in three pre-defined exercise objectives)

And this watch provides these functions for you to set the limits. Please check the coming "**12.6 in Exercise Mode**" section for more details on setting the limits.

**The different heart rate zones and
the corresponding indications in Exercise Mode.**

Heart rate (beats per minute)	**Audio indication**	**Visual indication**

| 'beep' | ▶ |
| **The above heart rate zone** |
| no beep sound | [ ] |
| **The desirable heart rate zone** |
| 'beep' | ◀ |
| **The below heart rate zone** |

The upper limit →

The lower limit →

Remark: Audio indication will be heard when the
corresponding heart rate alert icon is on.
(Please refer to chapter 12.6 for details)

11.0 Heart Rate Mode - Display

Flashing follows heart rate pulse.

Icon is on when zone alert is enabled.

78 beats per minute

%EMHR

11.1 Heart Rate Mode - Measuring Heart Rate

1. Make sure the sensor on the back of the watch sits firmly on your skin.

2. Place your index finger on the metal bezel (Optional).

3. Place your thumb (or index finger if not touching the metal bezel) on the bezel touch sensor [HR] and keep holding for about 5 seconds.

flashing segments

getting the result of heart rate

beep

3. Heart rate is sampling

4. Resulted heart rate display
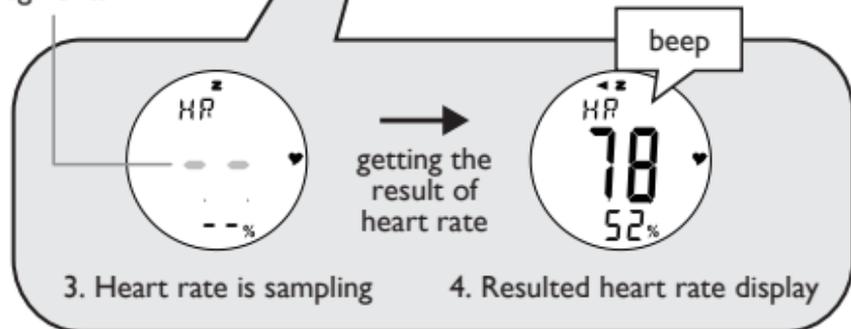
Hold **[EL]** can turn on the heart rate Key Lock function. When Key Lock function is enabled, " 🔒 " will be shown and heart rate measurement will be disabled. Hold **[EL]** again can disable the Key Lock function.

12.0 Exercise Mode
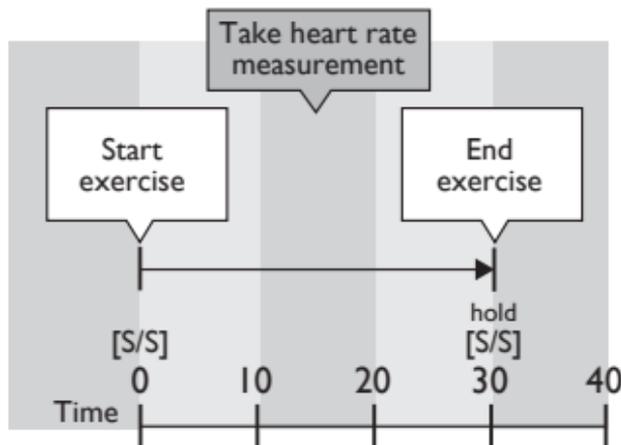
Burnt calories and fat are calculated based on the heart rate measured (Percentage of estimated maximum heart rate) and exercise time spent.

⟶ : Counting in exercise timer

Exercise Mode Overview

As your heart rate acts in accordance with your energy level (the amount of burnt calories), you can know how many calories were burnt during exercise.

And this watch provides an **Exercise Mode** to calculate the calories and fat burnt accumulation according to your heart rate measurement (percentage of an estimated maximum heart rate, which is estimated by your age).

Note: In order to achieve the more accurate result for the amount of burnt calories and fat, please keep checking heart rate measurement during the exercise frequently.

12.1 Exercise Mode - Getting a Heart Rate Reading with Chest Strap (not included in the package)

This product can support both coded and uncoded heart rate chest strap (not included in the package) during your training process. Please follow the below instructions when using the chest strap with the watch.
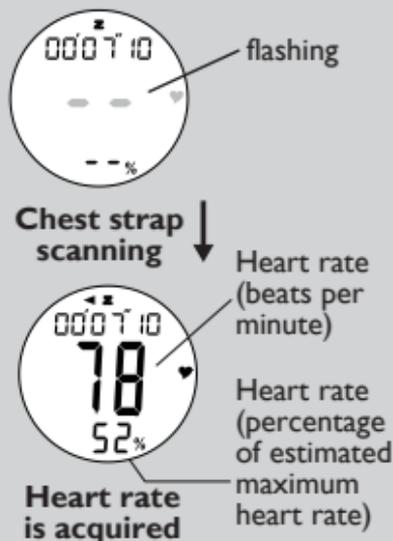
Note: When the chest strap heart rate measurement is functioning, finger touch heart rate function will be disabled.

Front view

Back view
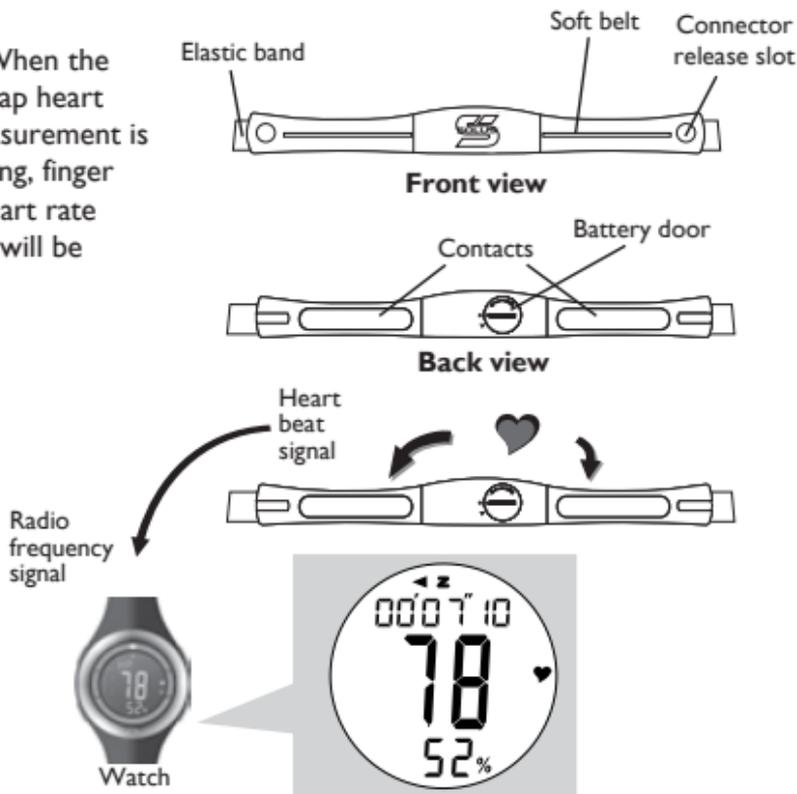
- Wear the watch on your wrist.
- Place the Chest Strap on your chest, and make sure that the contacts are in firmly contact with your skin.
- Select the **Exercise Mode**, and the connection between the watch and the strap will start automatically.

NOTE: If there is no heart rate reading or long response time, check the possible causes and solutions at chapter 12.2, and then repeat the above steps to get your heart rate.

flashing

Chest strap scanning

Heart rate (beats per minute)

Heart rate (percentage of estimated maximum heart rate)

Heart rate is acquired

How to get a heart rate reading with the chest strap?

- When entering Exercise Mode, the icon "♥" and "•—•" is shown on the display.
- While the "•—•" is flashing, the watch starts searching for the ID of the chest strap automatically and scanning heart rate data from the chest strap.
- When a heart rate is acquired, the heart rate and the percentage of estimated maximum heart rate will be shown on the display.

Note:
During ID searching and scanning, DO NOT press any buttons, it will complete in several seconds if the ID of the chest strap can be found.

12.2 Potential Causes for No Heart Rate Reading or Long Response Time

1) **Cause:** Dry skin.
   Solution: Apply conductive gel or saliva thoroughly to fingers and the wrist area. (Even water will help if conductive gel is not available).

2) **Cause:** Fingers are not placed firmly over the sensors.
   Solution: Make sure fingers (not the tips) lay flat and firmly over the sensors and watch is placed securely on the wrist. Do not use the very tips of your fingers (e.g. visualize tip toeing with your fingertips). Fingertips do not allow for enough contact, therefore, electrocardiogram will not be picked up.

3) **Cause:** Muscle tremors, caused by:
   A) Pressing down too hard on the sensors with fingertips.
   B) Person is in motion and hold the watch in an awkward manner.
   Solution: It is best to place your index finger on the "front" contact [HR1]. This will ensure good and consistent readings even while walking or jogging with arms swung naturally.

4) **Cause:** Dead skin on the wrist.
   Solution: Simply rubbing your skin with a towel will help.

5) **Cause:** A thin layer of body grease can insulate the electrocardiogram signal from the back sensor on the watch.
   Solution: Wipe the wrist and the back of watch [HR2] with a tissue or a soft towel.

6) **Cause:** Hairy arms.
   Solution: Apply conductive gel to the wrist area.

7) **Cause:** Irregular heart beats.
   Solution: N/A
   It is difficult to consistently pick up a reading for those with irregular heart beats. Inconsistent response times are expected for those with arrhythmia.

8) **Cause:** The ID of the chest strap changed.
   Solution: The watch will start searching for the new ID every time when you
   (A) press **[M]** to re-enter Exercise Mode.
   (B) press **[S/S]** to start stopwatch in Exercise Mode.
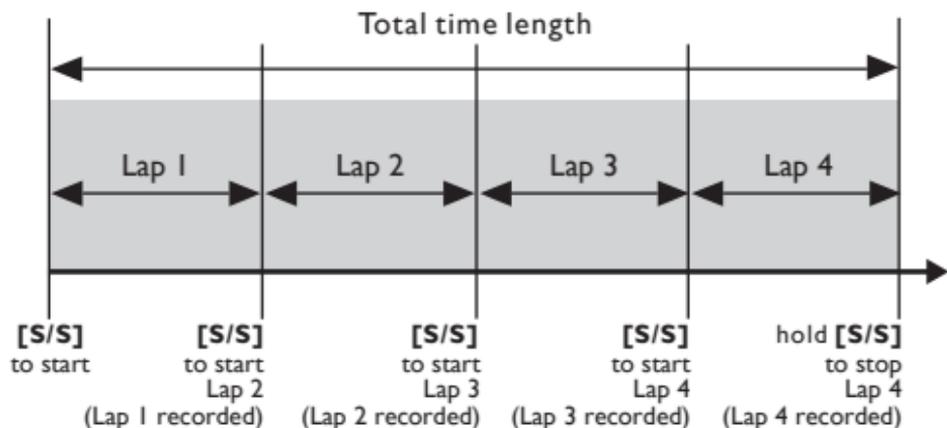
12.3 Exercise Mode

To Use the Exercise Mode

In Exercise Mode, press **[S/S]** once to start the counting. When it is counting, hold **[S/S]** once again to stop the counting. Press **[R]** to change the preview category, then hold **[R]** to reset.
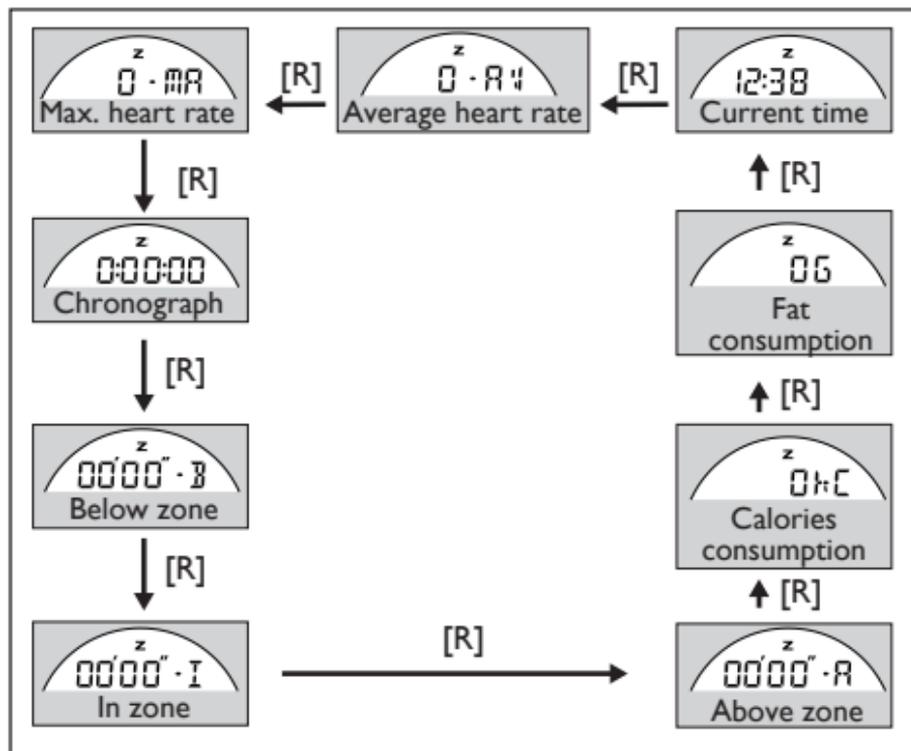
12.4 Exercise Mode - Using the Chronograph

In the chronograph category, you can divide the total time length of your training process into Laps (up to 25 Laps). The result of the single lap timer can be recalled in **"13.0 Chronograph Recall Mode"**.

Total time length

| Lap 1 | Lap 2 | Lap 3 | Lap 4 |

[S/S]
to start

[S/S]
to start
Lap 2
(Lap 1 recorded)

[S/S]
to start
Lap 3
(Lap 2 recorded)

[S/S]
to start
Lap 4
(Lap 3 recorded)

hold **[S/S]**
to stop
Lap 4
(Lap 4 recorded)

Total timer	Single lap timer	Total timer
000000 -- LAP 00	004107 -- LAP 01	004607 -- LAP 02

When the screen is in "all zero", press [S/S] to start recording.

Press [S/S], the timer will stop, " 01 " will keep flashing.
The single lap time length is recorded.

After 5 seconds, the screen will jump back to the total timer, Lap 2 is already recorded in the past 5 seconds.

12.5 Exercise Mode - Activity Level

The activity level is based on your own self - assessment of the amount of exercise you regularly perform.

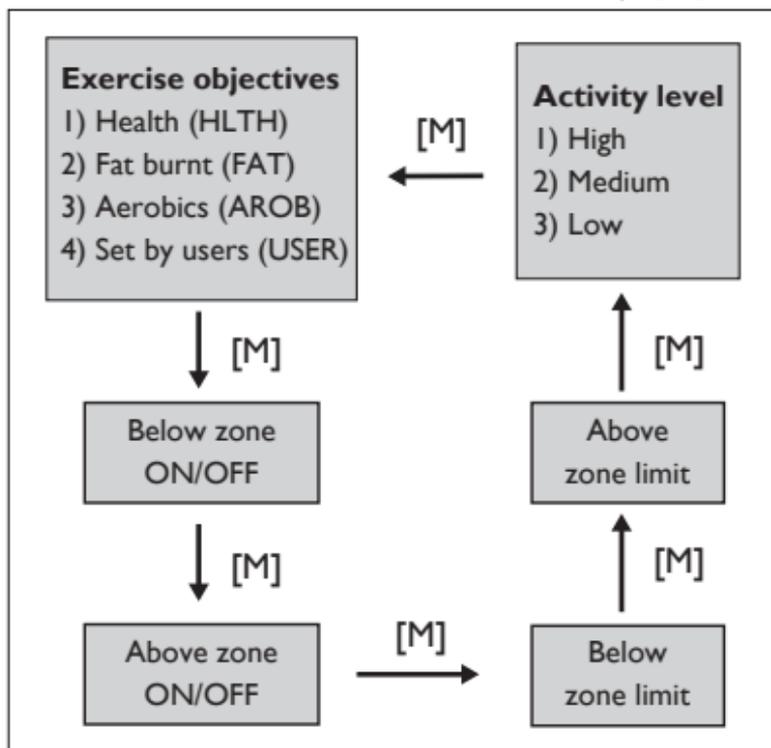|		
High	=	You are regularly involved in a highly effective physical training.
Medium	=	You do nearly an hour physical training up to 2 to 3 times a week.
Low	=	Unfit

Note:
You must enter the activity level to calculate the calories and fat burnt.

12.6 Exercise Mode - Setting Display

Under Exercise Mode, hold [M] button to enter the setting display.

hold [M] ↓

Exercise objectives
1) Health (HLTH)
2) Fat burnt (FAT)
3) Aerobics (AROB)
4) Set by users (USER)

Activity level
1) High
2) Medium
3) Low

[M] ↓ Below zone ON/OFF

[M] ↓ Above zone ON/OFF

Above zone limit

Below zone limit

Press **[S/S]** or **[R]** anytime to change values.

Hold **[M]** to exit and return to **Exercise Mode**. Either below zone or above zone is on, "Z" will be shown.

13.0 Chronograph Recall Mode

This mode is to preview the single lap timer's results which recorded in **Exercise Mode**. Press **[S/S]** or **[R]** to preview the records in different laps.
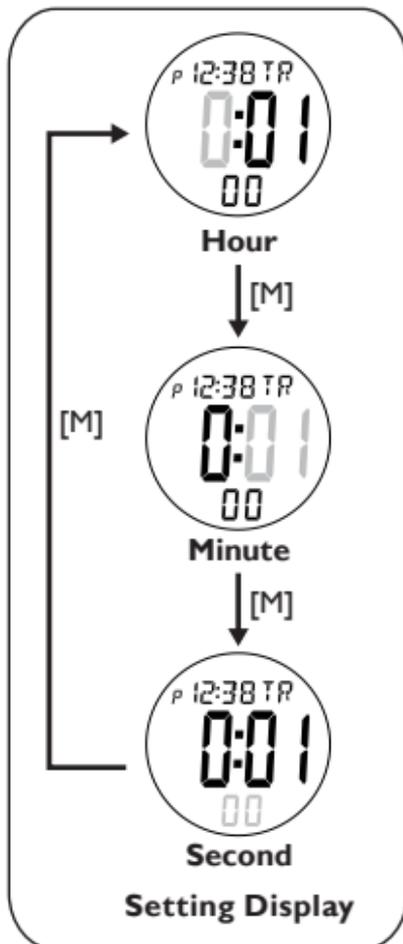
NOTE

While taking the lap time, the average heart rate for the lap is also recorded.

When the chronograph is reset in the **Exercise Mode**, the records will also be reset.

14 .0 Timer Mode

Hour

[M]

Minute

[M]

Second

Setting Display

[M]

[M]

To use the timer

Press **[S/S]** once to start the counting. When it is counting, press **[S/S]** to stop the counting.

There are alarm sound indications during the last 10 seconds count down:

1 beep at the 10,9,8,7,6,5,4,3,2 & 1 second(s).

3 beeps at 0 second for about 15 seconds.

To reset the timer

When the timer is stopped, hold **[R]** to reset the timer (ready for a new counting).

To enter the setting display

When the timer is stopped, hold **[M]** to enter the setting display, **[S/S]** or **[R]** to change the value.

Hold **[M]** button to confirm and exit.

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