

# **Finger-Type Heart Rate Monitor Watch User Manual**

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## **1 General Description**

### **1.1 Product Overview**

This product can test normal person's heart rate and calculate calorie consumptions based on pre-set personal information.

Please input your personal information before testing, such as gender, age, height, weight, resting heart rate (RHR), upper and lower heart rate limits, etc. If the tested heart rate exceeds the limit settings, the watch will beep and display will flash to give you audio and visual alert. It will remind you to adjust exercise intensity to stay in target heart rate zone. If you set target calorie consuming index, it can help you achieve exercise result effectively, since calorie and fat consumption during exercise can be figured out according tested heart rate, pre-set personal information.

This product is not only suitable for professional and amateur sportsman, but also good for those who want to keep fit through effective exercise.

**Note: This product is a monitoring tool for training and fitness. It must not be used for precise accurate medical purposes.**

### **1.2 Functions**

This product has the functions of clock, alarm, countdown timer, stopwatch, heart rate measurement etc.

- Calendar Clock: time (12 / 24 hour format option), date, day of week and calendar (year 2000 ~ 9999).
- Alarm: settable to OFF (set as default), ONCE (single alarm), Monday to Friday, Monday to Saturday, ALL (daily alarm). The

alarm rings 20 seconds.

- Hourly chime: settable to ON/OFF (OFF by default).
- Stopwatch of 23h59m59s
- Countdown timer of 23h59m59s
- Dual time: display time in two different time zones.
- Personal information setting: gender, age, height, weight, resting heart rate (RHR), upper and lower heart rate limits, etc.
- Heart Rate Measurement (HRM): finger-type heart rate measurement. Measure heart rate and percentage of maximum heart rate (MHR).
- Heart Rate Training Zone Alert: If the tested heart rate exceeds the limit settings, the watch will beep and display will flash to give you audio and visual alert. It will remind you to adjust exercise intensity to stay in target heart rate zone.
- BMI: calculate Body Mass Index (BMI) according an individual's height and weight.
- Exercise Data: 16 groups of exercise data can be recorded, including exercise time, heart rate and percentage of maximum heart rate (MHR).
- Calorie: record and display calories consumption and fat burnt.
- EL Backlight

### **1.3 Specification**

- Battery: CR2032 (3V 210mAH)
- Battery life:  
2 years (test HR 15 times per day on average with 30 seconds



one time; EL backlight up one time with 3 seconds per day on average; alarm and timer beep one time respectively per day with 20 seconds one time)

3 years (test HR less; EL backlight up one time with 3 seconds per day on average; alarm and timer beep one time respectively per day with 20 seconds one time)

- Heart rate testing error:  $\pm 2\%$  or  $\pm 1\text{bpm}$ , whichever is higher, under normal status (not including heart rate abnormalities)
- Water Resistance: 10ATM
- Working Temperature:  $0^{\circ}\text{C} \sim 50^{\circ}\text{C}$

## 2. Button Function Overview



**Fig. 1** Buttons and Display Interface

There are four buttons on the watch: S1, S2, S3, S4 as shown in Fig. 1.

**A. Button S1 (Start/Stop)**

1. In stopwatch and countdown timer mode, press S1 to start / stop these two functions respectively.
2. In Heart Rate Measurement (HRM) mode, press S1 to activate or inactivate the HRM function.
3. In setting mode, press S1 to advance the digit and hold the button for fast advance.
4. Press S1 to change mode status under different modes. It varies from mode to mode.

**B. Button S2 (Lap/Reset)**

1. When stopwatch is running, press S2 to save lap record.
2. When stopwatch stops and lap record is recalled, press and hold S2 for 2 seconds to delete the lap record.
3. When countdown timer stops, press S2 to reset the timer.
4. In setting mode, press S2 to decrease digit and hold the button for fast decrease.
5. Press S2 to change mode status under different modes. It varies from mode to mode.

**C. Button S3 (MODE)**

1. Button S3 is the button to switch between different modes. Press S3 to switch between modes of time, HRM, stopwatch, recall, calorie, alarm, and countdown timer in turns. (Fig. 2)
2. Press S3 to change displaying option. It varies from mode to mode.

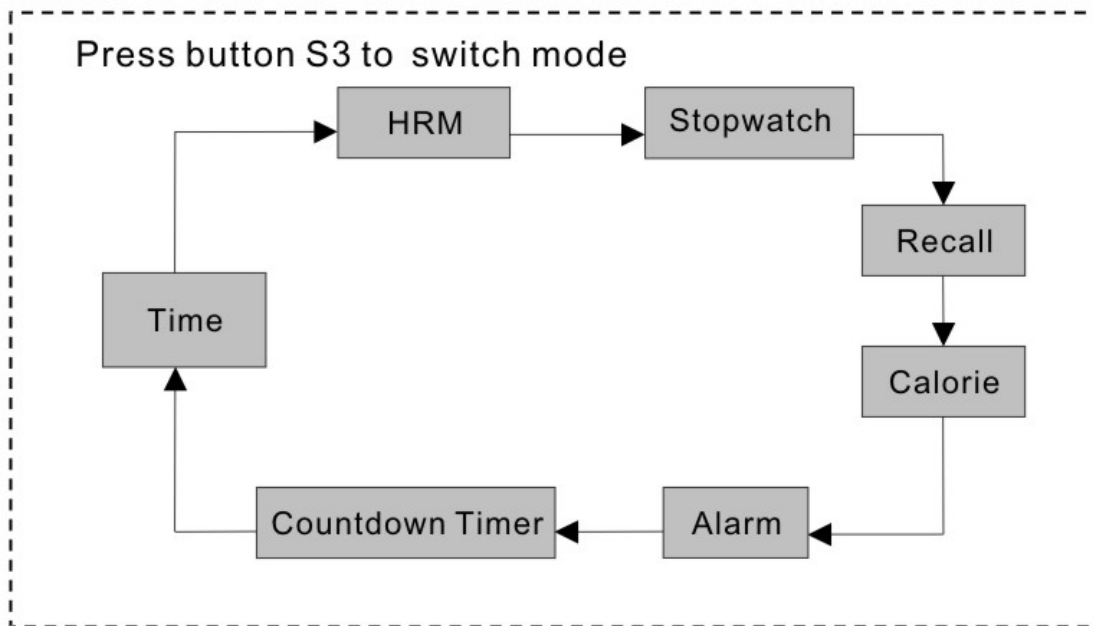


Fig. 2 Mode Switch

#### D. Button S4 (SET/EL)

1. Under non-setting mode, press S4 and the backlight will light up for 3 seconds. When the backlight is up, any button press will extend the backlight for 3 seconds.
2. Under non-setting mode, press and hold S4 for 2 seconds to enter setting mode.
3. Under setting mode, press S4 to save new settings and exit setting mode. (If no button operation in one minute, settings are saved automatically and exit setting mode.)

### 3 Time Function and Operation

#### 3.1 Time Operation

There are two time zones: local time zone and second time zone. Press S1 to switch time zones. (Fig. 3)

Local time zone: display the time in HH:MM seconds (in lower half), and day of week, day and month (in upper half). It displays PM icon in 12-hour format after 11:59 a.m. When hourly chime is on, chime icon is displayed. Press S2 to turn ON/OFF hourly chime.

Second time zone: display the time in HH:MM seconds. It displays PM icon in 12-hour format after 11:59 a.m.

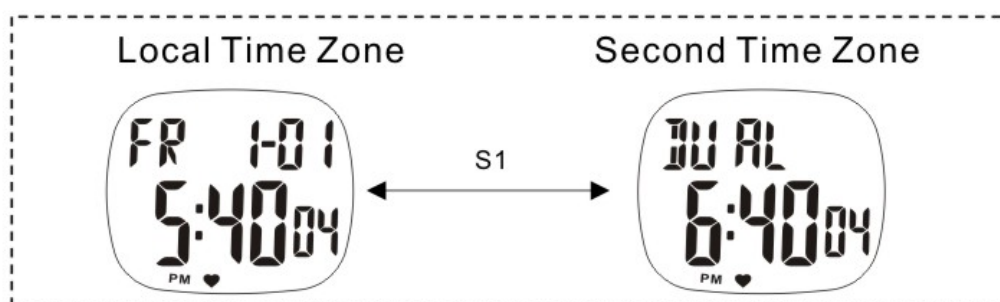


Fig. 3 Time Zone Switch

#### 3.2 Time Setting

##### 3.2.1 Local Time Zone

Press and hold S4 for 2 seconds to enter time setting mode.

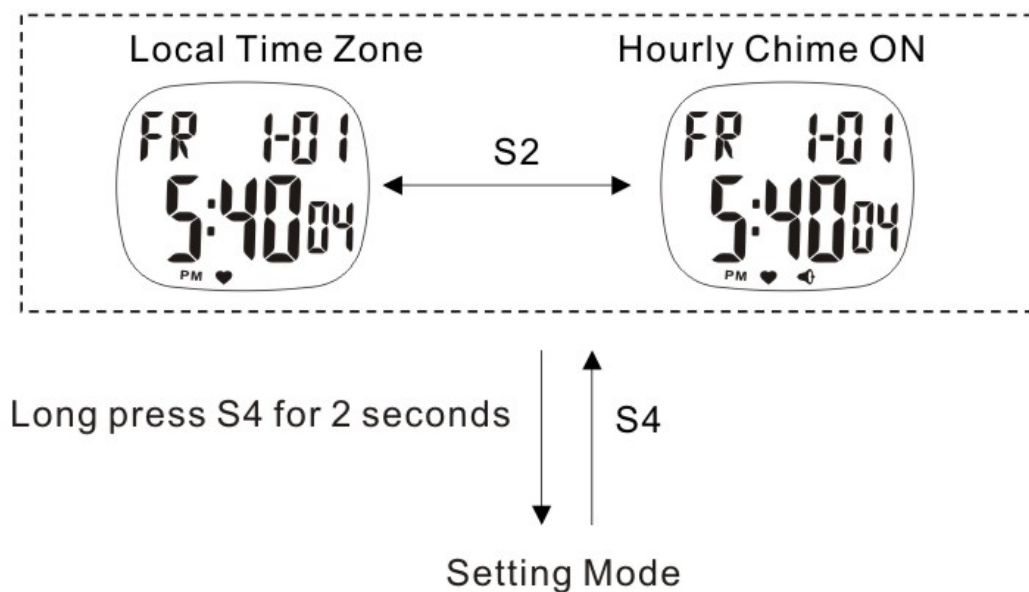
Press S3 (Mode) to switch among below eight settings:

Second → Minute → Hour → Year → Centennial → Month → Day  
→ 12hour or 24hour format



The target setting-item will flash.  
 Press S1 to advance digit and hold the button for fast advance.  
 Press S2 to decrease digit and hold the button for fast decrease.  
 When setting second, press S1 or S2 and second digit will return to zero. If the second digit is greater than 29, minute digit will increase by 1.

Local time setting is shown in Fig. 4.



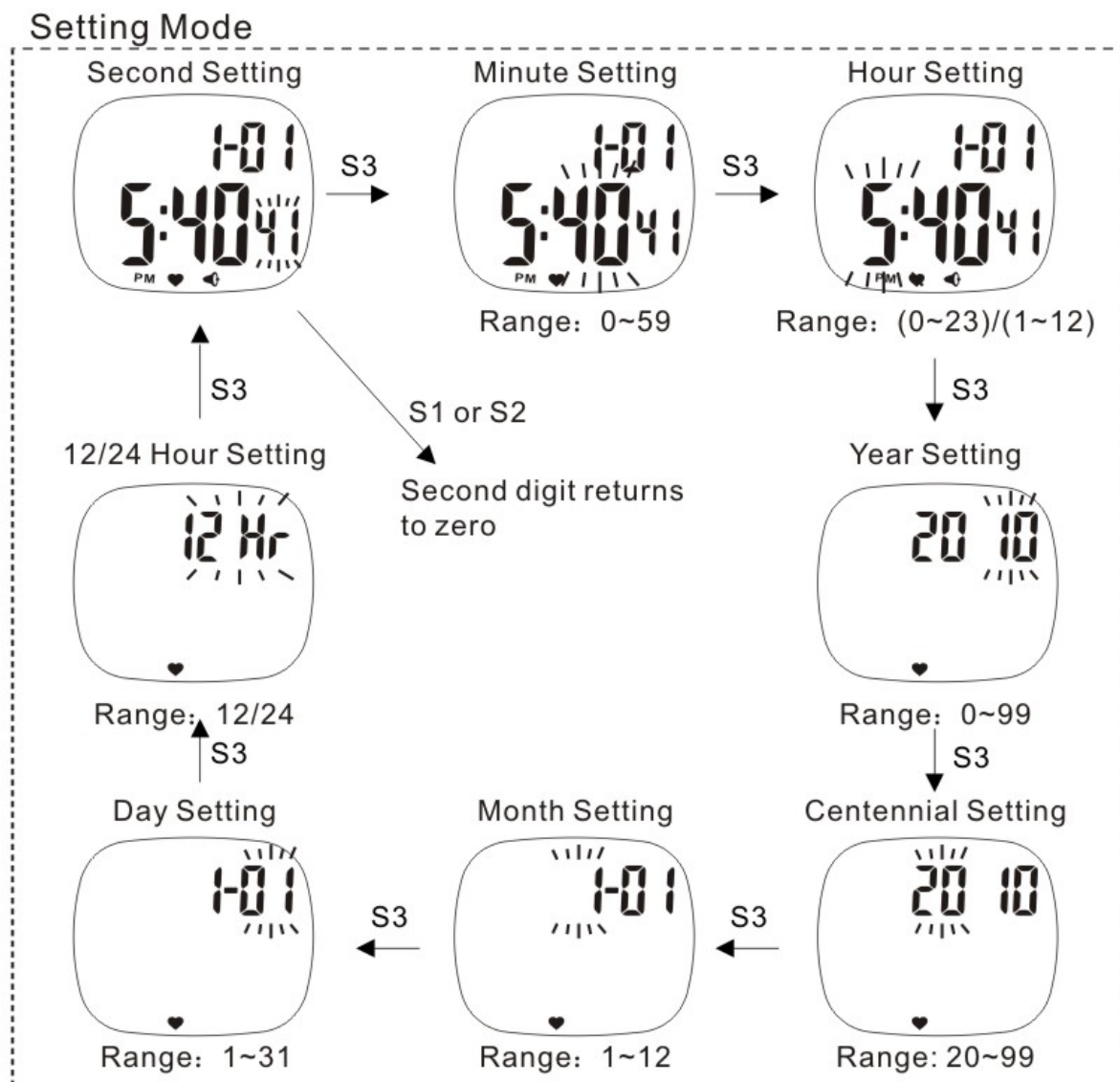


Fig. 4 Local Time Setting

### 3.2.2 Second Time Zone

Press and hold S4 for 2 seconds to enter time setting mode.  
Press S3 to switch between below settings.

Minute → Hour

Press S1 to advance digit and hold the button for fast advance.  
Press S2 to decrease digit and hold the button for fast decrease.  
When setting minute, the minute digit increases or decreases by 30 at a time.

Second time setting is shown in Fig. 5.

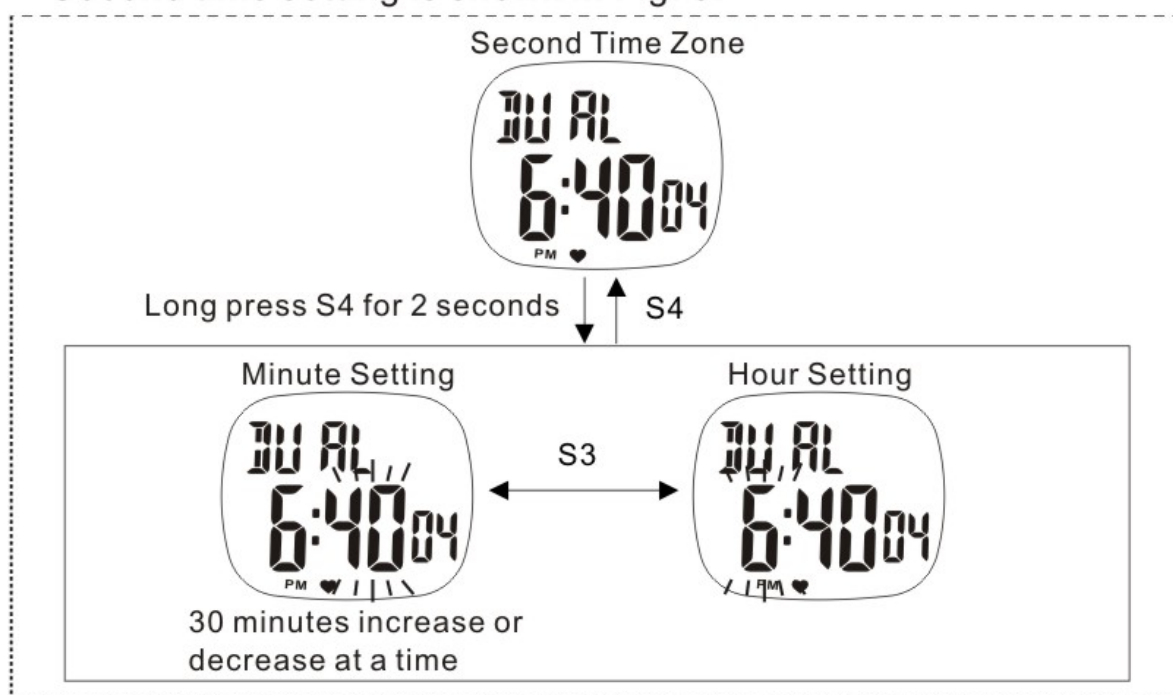


Fig. 5 Second Time Setting

## 4. Heart Rate Function and Operation

### 4.1 Heart Rate Measurement (HRM) Mode

#### 4.1.1 HRM Operation

Press S3 to switch to HRM mode. After enter HRM mode, HR measurement circuit is activated automatically. If there is no heart rate signal or heart rate is inconsistent, the measurement function will be inactivated automatically after a certain time to save power. Press S1 to activate or inactivate the HRM function. (Fig. 6)

To get your heart rate reading, place the watch on your wrist, cover the 2 sensor areas with your finger pads and make sure there is enough contact area. Please contact sensors with the same strength, relax your arms and stay still to ensure the accuracy of heart rate reading.

If the temperature is low, please rub your hands to make them warmer. If the climate is dry, please moisten your fingers with water before contact sensors.



Place the watch on your wrist and then press button S3 (Mode) to switch to HRM mode.

Cover the 2 sensor areas with your finger pads and make sure there is enough contact area.



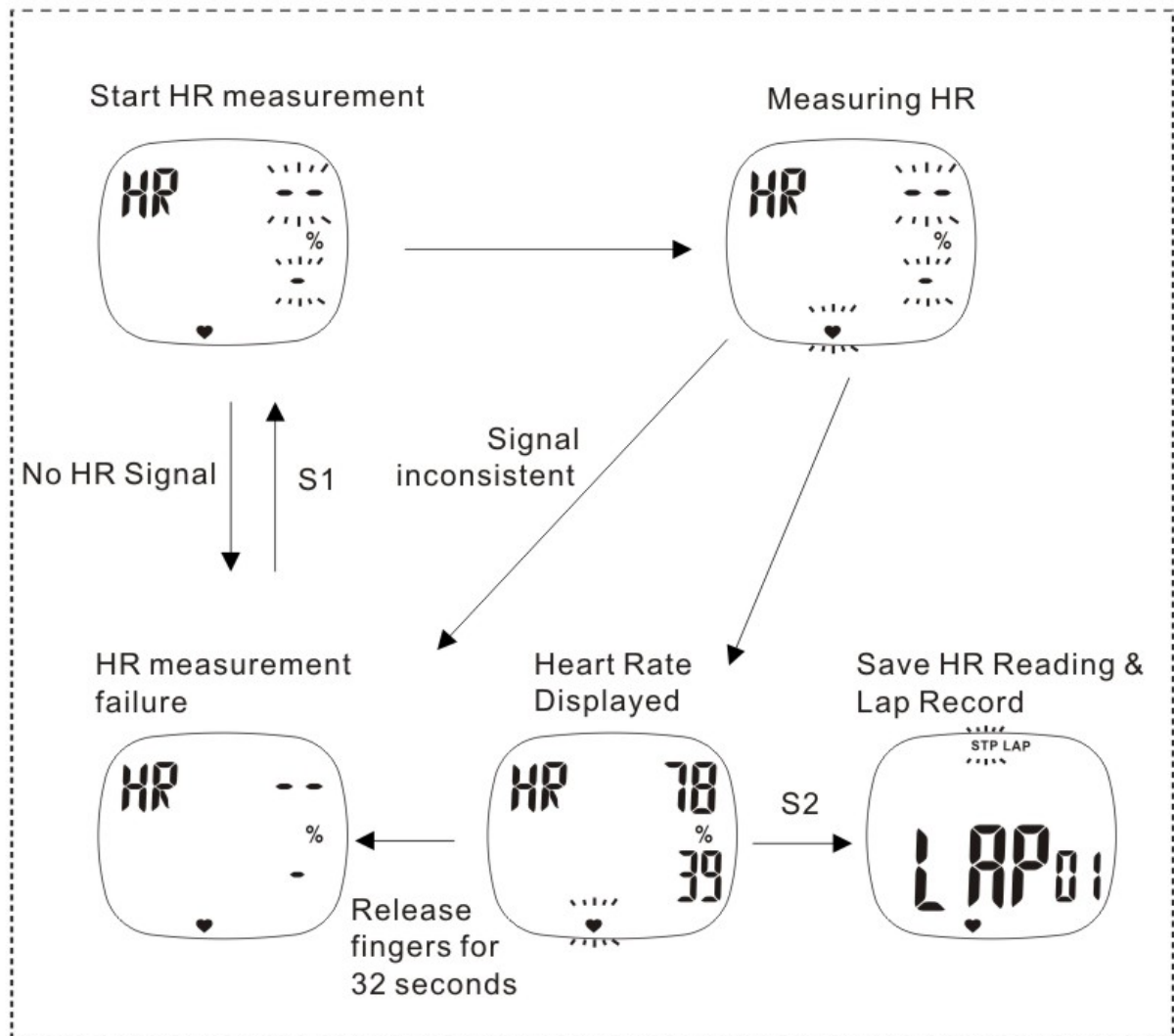


Fig. 6 Heart Rate Measurement

### 4.1.2 Exercise Mode

Please input your personal information before doing exercise and measuring heart rate. When start to exercise, turn ON stopwatch to start running, and then enter HRM mode. The result of heart rate measurement will be used to calculate calorie consumption and fat burnt. After get your heart rate reading, press S2 to save current lap record and heart rate reading. It can record 16 groups of data at the most. The calculation of calorie consumption and fat burnt won't be influenced if you don't save the data. Stop the stopwatch if you don't want to get your heart rate measured.

### 4.2 Stopwatch Mode

Under stopwatch mode, press S1 to start/ stop the stopwatch. Press S2 to save current Lap and start a new Lap. (Fig. 7)

When Lap is full (maximum: 16 laps), S2 button gives no response when short press.

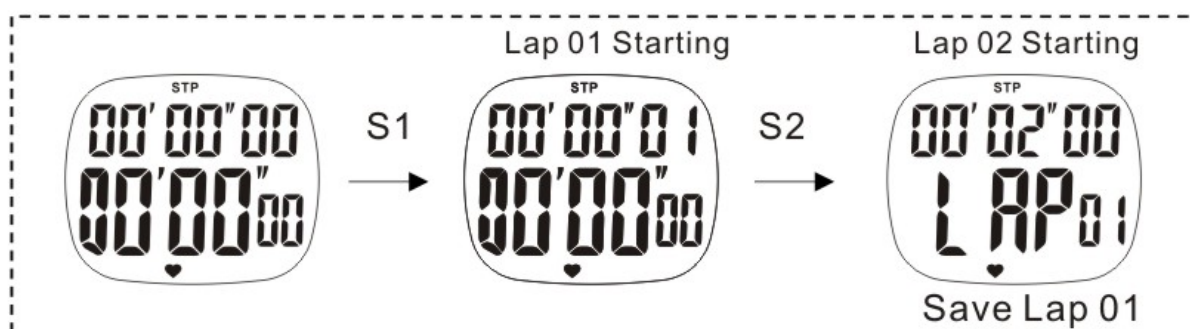


Fig. 7 Operation for Stopwatch Mode

When the stopwatch stops, press and hold S2 for 2 seconds to delete all the lap data and heart rate data, and the second digit will return to zero. Meanwhile, **the record of calorie consumption and fat burnt will also return to zero.**

When the stopwatch is running, if switch to other mode, the stopwatch will still keep running with “STP” flashing on the top.

#### **4.3 Recall Mode**

**If the stopwatch is running, skip Recall Mode when press S3 to switch modes.**

Under Recall Mode, press S1 to display next lap data. Press and hold S2 for 2 seconds to delete all the lap data and heart rate data, and the second digit will return to zero.

Operation for Recall Mode is shown in Fig. 8.

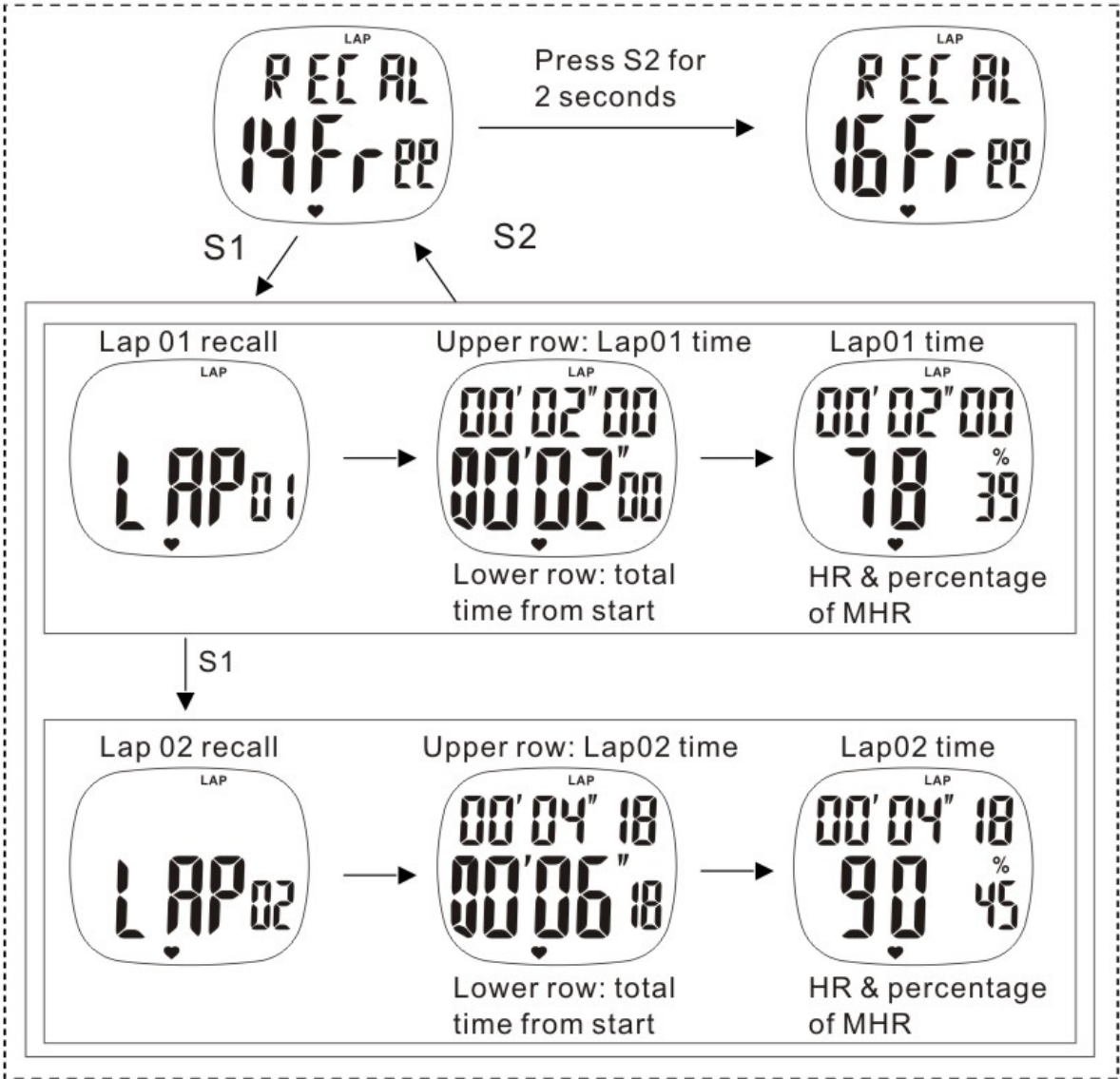


Fig. 8 Operation for Recall Mode



#### 4.4 Calorie Mode

Short press S1 to switch modes among calorie consumption (kcal), fat burnt (kg) & fat burnt (lbs).

Press and hold S2 to display BMI.

**Data under Calorie Mode is related to stopwatch and heart rate data.**

**Please start stopwatch first and keep measuring heart rate to get more accurate calorie calculating result.**

Operation for Calorie Mode is shown in Fig. 9.

#### 4.5 Personal Information Setting

Under Calorie Mode, long press S4 for 2 seconds to enter personal information setting mode.

Press MODE (S3) to switch among below settings:

F/M → AGE → KG → HG → TG → EM → HI → Lo
---

Press S1 to advance digit and hold the button for fast advance.

Press S2 to decrease digit and hold the button for fast decrease.

When setting gender, either S1 or S2 can be pressed to switch between F/M (female or male).

Personal Information Setting is shown in Fig. 10.

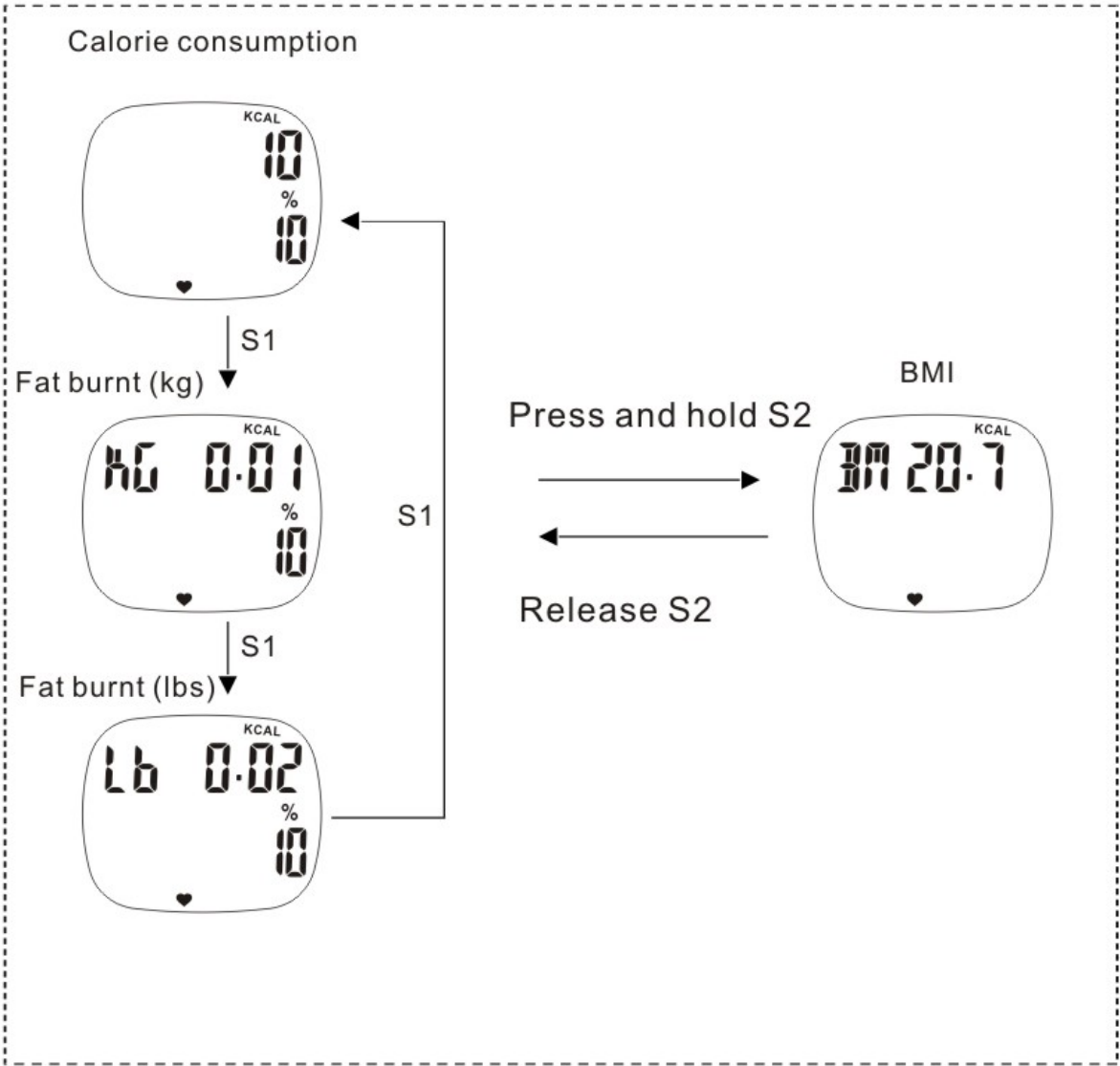


Fig. 9 Operation for Calorie Mode

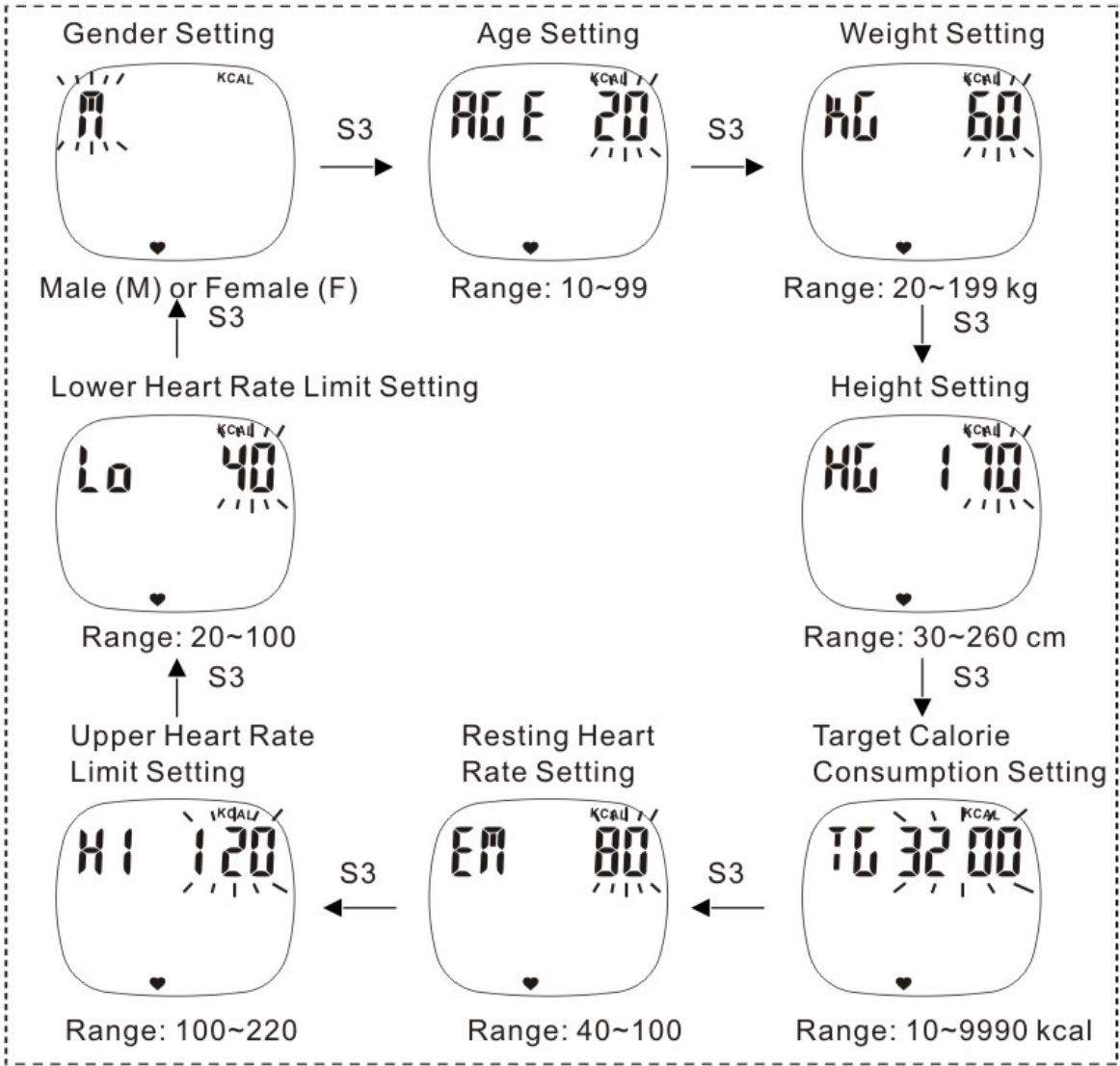


Fig. 10 Personal Information Setting

When setting weight, the unit of weight is the same as that of fat burnt. If the unit for fat burnt is KG, then the unit for weight is also KG. If the unit for fat burnt is LBS, then the unit for weight is also LBS. Default unit is KG.

If the tested heart rate exceeds the limit settings, the watch will beep and display will flash to give you audio and visual alert. You can adjust exercise intensity accordingly to optimize the workout effect.

**When the stopwatch is running, user cannot set the personal information.**

## 5. Alarm Function and Operation

### 5.1 Alarm Operation

Short press S1 to switch alarm frequency (Fig. 11).

OFF → ONCE → MO~Fr → MO~SA → ALL
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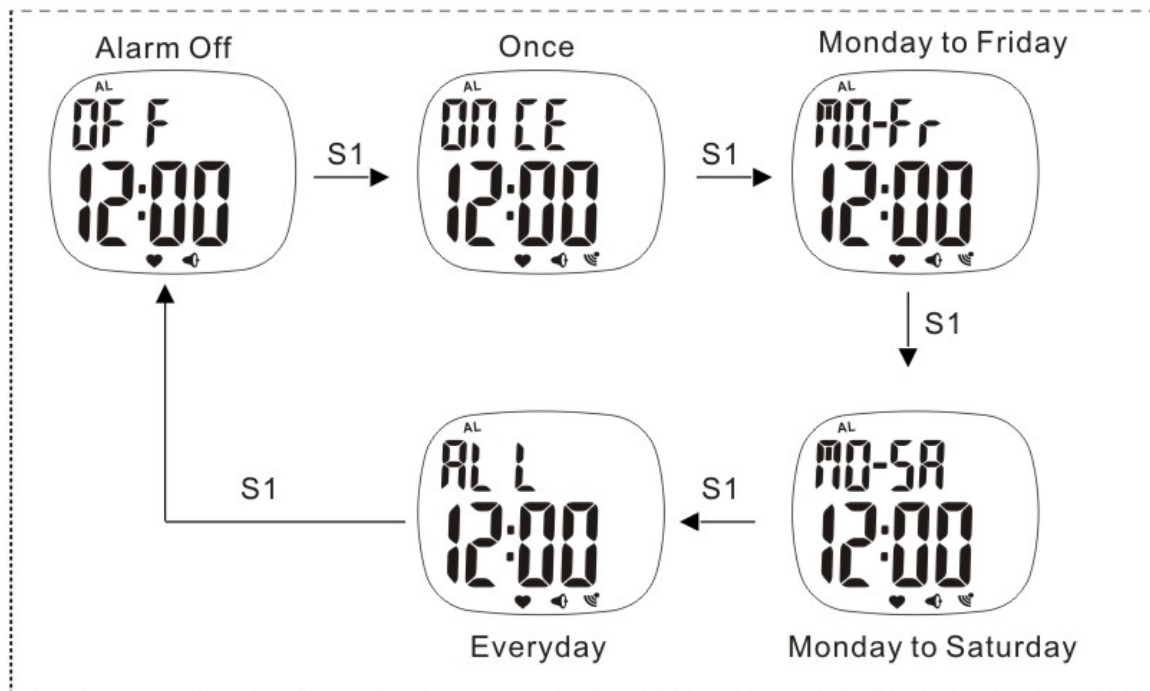


Fig. 11 Alarm Operation

When the alarm rings, press any button to stop.

## 5.2 Alarm Setting

Press and hold S4 for 2 seconds to enter alarm setting mode.  
 Press S3 to switch between hour and minute setting for alarm.  
 Press S1 to advance digit and hold the button for fast advance.  
 Press S2 to decrease digit and hold the button for fast decrease.  
 Press S4 to save new settings and exit setting mode.  
 Alarm setting is shown in Fig. 12.

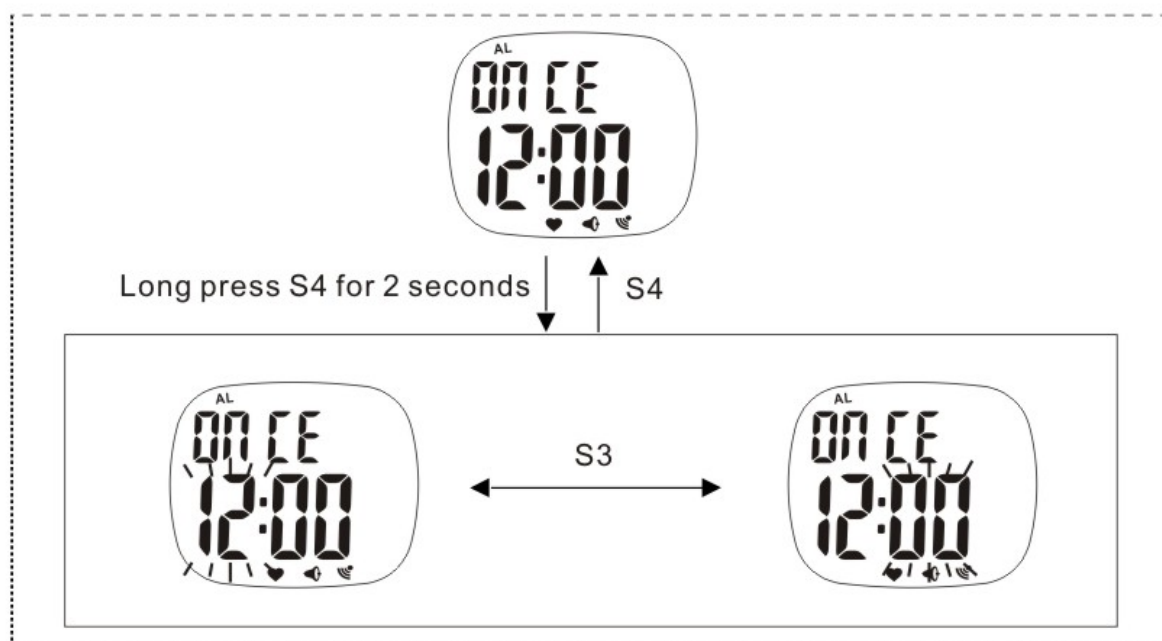


Fig. 12 Alarm Setting

## 6. Countdown Timer Function and Operation

### 6.1 Countdown Timer Operation

Short press S1 to start/ stop countdown timer. When the countdown is stopped, short press S2 and the countdown time will automatically restore to the last setting.

When countdown is finished, the countdown time will automatically restore to the last setting. Press any button to stop the alarm.

### 6.2 Countdown Timer Setting

Press and hold S4 for 2 seconds to enter setting mode. Press S3

to switch among hour/minute/second setting for countdown timer.  
 Press S1 to advance digit and hold the button for fast advance.  
 Press S2 to decrease digit and hold the button for fast decrease.  
 Press S4 to save new settings and exit setting mode.  
 Countdown Timer Setting is shown in Fig. 13.

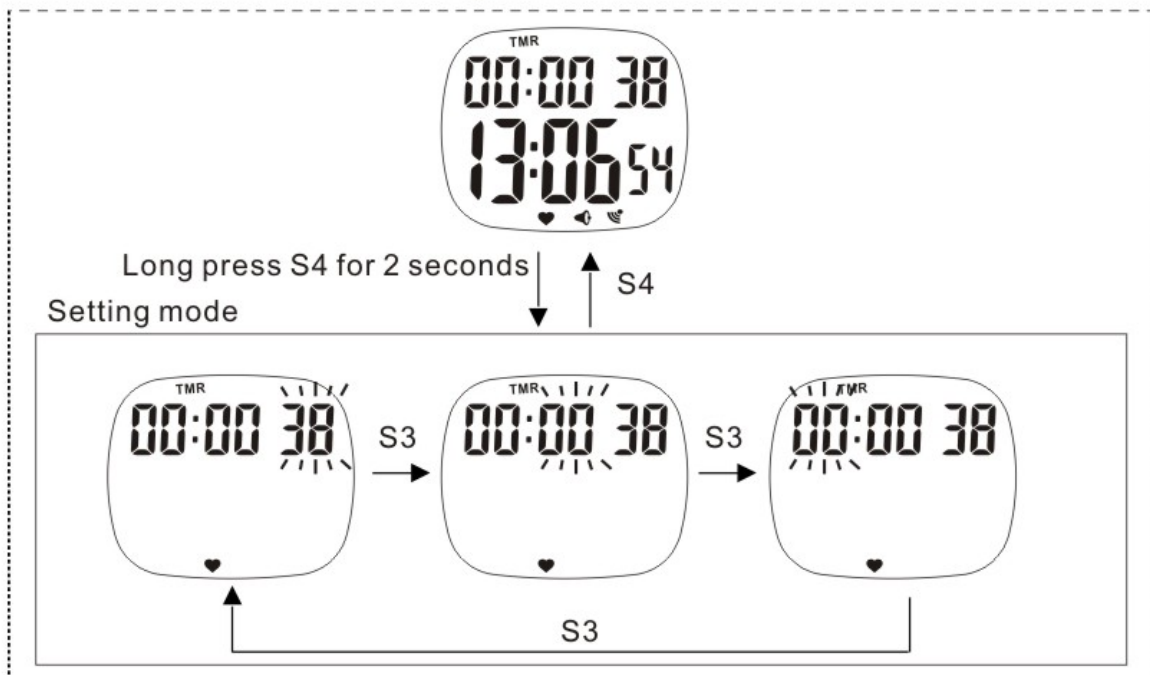


Fig. 13 Timer Setting

When countdown timer is running, if switch to other mode, countdown will still keep running with "TMR" flashing on the top.

## 7. Appendix

### 7.1 Relationship between Percentage of MHR and Fat Burnt

Generally, individual heart rate varies person to person. The minimal heart rate for a normal person is resting heart rate (RHR), which is about a person's heart rate in the morning: awake but still lying down with no physical exertion. The maximal safe heart rate for an individual is maximum heart rate (MHR), which is based on one's age. Percentage of MHR relates to one's MHR.

The higher the percentage of MHR, the more calorie consumed. Those calories are from sugar and fat. The relationship between percentage of MHR and calorie consumption is shown in below form.

Percentage of MHR	Exercise Intensity	Exercise Effect	Fat and Sugar burnt
<50%	Rest or moderate exercise (eg. walking)		Low calorie expenditure and mainly sugar burnt
50%~60%	Jogging. Breathing is regular.	Warm-up aerobic exercise; stress relief	Fat burnt increases and less sugar burnt
60%~70%	Running at a comfortable speed. Breathing becomes deeper. You can carry on a conversation.	Cardiovascular exercise; the speed you drop back to after running at a fast speed; weight loss	Maximum fat burnt and less sugar burnt



70%~80%	Running at a moderate speed. You can only talk in short phrases.	Improve aerobic capacity. The best zone for improving cardiovascular and respiratory systems	Less fat but more sugar burnt
80%~90%	Running at a fast speed. Breathing is heavy.	Improve anaerobic capacity; develop speed.	Seldom fat but maximum sugar burnt
90%~100%	Sprinting. Breathing is labored. Most people can only stay in this zone for short periods.	Improve anaerobic exercise performance and your tolerance; develop muscles.	Maximum sugar burnt and almost no fat burnt

## 7.2 BMI

The body mass index (BMI) is a statistical measure of body weight based on a person's weight and height. BMI provides a reliable indicator of body fatness for most people, which allows for the comparison of individuals of different heights in terms of their weight. BMI is widely used to identify weight problems within a population, usually whether individuals are normal, overweight or obese.

However, please remember that BMI is only a guide and other issues such as body type and shape have a bearing as well. Therefore, it does not accurately apply to juveniles, athletes, elderly populations, pregnant women or those who are doing weight training. If you think your BMI is incorrect, please consult your doctor and do body fat test.

BMI for adults (just a guide):

BMI range kg/m <sup>2</sup>	Category
Less than 18	Underweight
18.5~24.9	Normal
22~24	Fitness
Over 25	Overweight

