

**SMARTHEART****Heart Rate Monitor**  
with Vibration Alert and Tap On Lens**Model: SE102****Heart Rate Monitor**  
with Tap On Lens**Model: SE102L****USER MANUAL****CONTENTS**

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## INTRODUCTION

Thank you for selecting the Oregon Scientific™ **Heart Rate Monitor \*SE102 & SE102L**

\* SE102 = Heart Rate Monitor with Tap on Lens (TOL) and Vibration Alert

SE102L = Heart Rate Monitor with Tap on Lens (TOL)  
(TOL- patent pending)

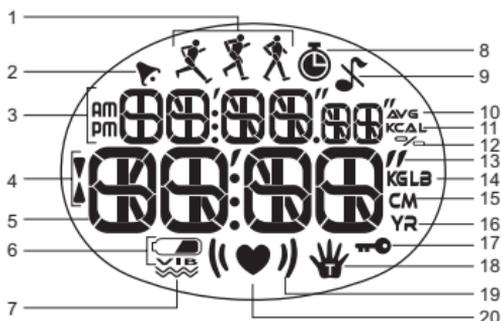
**NOTE** Please keep this manual handy as you use your new product. It contains practical step-by-step instructions, as well as technical specifications and warnings you should know about.



**KEY FEATURES****FRONT VIEW**

1. **Tap on lens screen (patent pending):** Tap on it to view a display mode
2. **HR:** Enter HR mode; toggle heart rate displays
3. **MODE:** Switch to another display mode
4. **ST / SP / +:** Start / stop stopwatch; change setting
5. **☹ / 🔒:** Turn on backlight; lock / unlock keypad
6. **SET:** Enter setting mode; clock setting displays

## LCD



1. walking / jogging / running activity level
2. : Alarm is set; flashes when alarm is active
3. **AM / PM**: 12-hour clock
4. : Upper / lower heart rate limit
5. Time / heart rate
6. : Low Battery / Vibration alert battery is low
7. : Heart rate alert is set to Vibrate
8. : Stopwatch is shown or running
9. : Keypad tone is turned off
10. **AVG**: Average heart rate reading
11. **KCAL**: Calorie unit
12. **%** : Percentage heart rate reading
13. **// //** : Imperial height units (feet and inches)
14. **KGLB**: Body weight unit

15. **CM**: Metric height unit (centimeters)
16. **YR**: Year of user's birth
17.  : Keypad lock is turned on
18.  : Tap on lens function is active
19.  : Heart rate has exceeded the set limit
20.  : Flashes when receiving heart rate signal

\* for SE102 only

## GETTING STARTED

**IMPORTANT** To effectively use the watch when exercising i.e. to calculate your calories burned and fitness index, you **MUST** set the heart rate limits and user data as shown in the relevant sections.

## TURNING ON THE WATCH (1ST TIME USE ONLY)

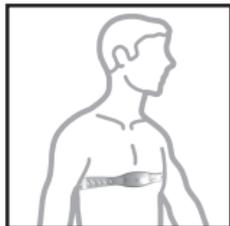
Press any key for 2 seconds to activate the LCD screen.

## WEARING THE CHEST BELT

### Chest belt

The chest belt counts your heartbeat and transmits this data to the watch.

1. Wet the conductive pads on the underside of the chest belt with a few drops of water or conductive gel to ensure solid contact.



2. Strap the chest belt across your chest making sure the belt sits snugly below your pectoral muscles.

#### TIPS

- For accurate heart rate readings, make sure the chest belt is placed above your heart.
- Avoid areas with dense chest hair.
- In dry, cold climates, it may take several minutes for the chest belt to function steadily. This is normal and should improve with several minutes of exercise.

**NOTE** If the watch is kept idle without receiving a heart rate signal for 5 minutes, the heart rate mode will quit and return to clock mode.

#### TRANSMISSION SIGNAL

The chest belt and watch have a maximum transmission range of about 62.5 cm (25 inches).

ICON	DESCRIPTION
	Flashes when signal has been found
	Appears when heart rate alert is ON

In the event that you experience a weak signal or your signal is disrupted by interference in the environment:

- Shorten the distance between the chest belt and watch.
- Re-adjust the position of the chest belt.
- Check the conductive pads are moist enough to ensure solid contact.

- Check the batteries. If they are low the range may be less.

**NOTE** Signal interference in the environment can be due to electromagnetic disturbances. These may occur near high voltage power lines, traffic lights, overhead lines of electric railways, electric bus lines or trams, televisions, car motors, bike computers, some motor driven exercise equipment, cellular phones or when you walk through electric security gates. Under interference, the heart rate reading may become unstable and inaccurate.

### SWITCH OPERATION MODES

Press **MODE** to switch between the 4 operation modes. Each main mode displays a banner screen telling you which mode you are entering. After 1 second the banner screen is automatically replaced by the main mode screen.

MODE	BANNER	MAIN MODE
CLOCK		
STOPWATCH		

MODE	BANNER	MAIN MODE
USER PROFILE		
HEART RATE LIMIT		

## CLOCK / ALARM / KEYPAD TONE / TAP ON LENS

### To set the clock:

1. Press **MODE** to switch to clock mode.
2. Press and hold **SET** until the first setting flashes.
3. Press **+** to change the setting. Hold to speed through the options.
4. Press **SET** to confirm and move onto the next setting.
5. The setting sequence is: 12/24-hour format, hour, minute, year, day-month format, month and day.



**To toggle between the 4 different clock displays:**

1. Press **MODE** to navigate to clock mode.
2. Press **SET** to scroll through the different screens.

**ALARM****To set the daily alarm:**

1. Press **MODE** to navigate to clock mode.
2. Press **SET** until you reach the alarm display.
3. Press and hold **SET** until the first setting flashes.
4. Press **+** to change the setting. Hold to speed through the options.
5. Press **SET** to confirm and move onto the next setting.
6. The setting sequence is hours and minutes.



**To turn the alarm sound OFF and reset it for the next day:**

Press any key.

**To activate / deactivate the alarm:**

1. Press **MODE** to navigate to clock mode.
2. Press **SET** until you reach the alarm display.
3. Press **+** to toggle between alarm on or off.  appears when the alarm is activated.

## KEYPAD TONE

**To turn the keypad tone ON or OFF:**

1. Press **MODE** to navigate to the clock mode.
2. Press **SET** until you reach the keypad tone display.
3. Press **+** to change the setting.
4. Press **SET** to confirm.



## TAP ON LENS (TOL – PATENT PENDING)

The tap on lens feature gives you easy access to 1 of 6 preset modes:

- Clock
- Average heart rate
- Stopwatch
- % heart rate
- Current heart rate
- Calories burned

Simply tap on the lens and your preset mode will display for 5 seconds before returning to the previous screen.

**To use the tap on lens function:**

1. Press **MODE** to navigate to the clock mode.
2. Press **SET** until you reach the tap on lens display and use **+** to select **TOUCH ON**.
3. Press and hold **SET**.
4. Press **+** to select 1 of the 6 modes and **SET** to confirm.



 appears when the tap on lens feature is activated and flashes when the preset display is shown.

**HEART RATE LIMITS / ALERT****To set lower and upper heart rate limits / alert:**

1. Press **MODE** to switch to heart rate mode.
2. Press and hold **SET** until the first setting flashes.
3. Press **+** to change the setting. Hold to speed through the options.
4. Press **SET** to confirm and move onto the next setting.
5. The setting sequence is: Target activity (Walk, Jog or Run), lower heart rate limit, upper heart rate limit, alert ON / OFF, start and stop time.



**NOTE** You need to set the target activity for automatic calculation of the lower and upper heart rate limit. If you change the target activity level or age, your upper / lower heart rate will automatically be updated.

## TARGET ACTIVITY

TARGET ACTIVITY	MHR %	DESCRIPTION
WALK	65 - 78%	Health Maintenance: Low intensity training level. Good for those who want to strengthen their cardiovascular systems
JOG	65 - 85%	Aerobic Exercise: Increases strength and endurance. Works within body's oxygen intake capability, burns more calories, can be maintained for a long period of time
RUN	78 - 90%	Anaerobic: Generates speed and power. Works at or above body's oxygen intake capability, builds muscle, and cannot be maintained for a long period of time

## MAXIMUM / LOWER / UPPER HEART RATE

Before you begin any exercise program and to achieve maximum health benefits from your workout, it is important to know your:

- Maximum heart rate (MHR)
- Lower heart rate limit
- Upper heart rate limit

**To manually calculate your own heart rate limits:**

<b>MHR</b>	MHR = 220-age
<b>LOWER LIMIT</b>	MHR x lower target activity %. E.g. Target activity is WALK: Lower limit = MHR x 65%
<b>UPPER LIMIT</b>	MHR x upper target activity %. E.g. Target activity is WALK: Upper limit = MHR x 78%

**HEART RATE ALERT**

You can set the heart rate alert in the heart rate mode to the following settings:

<b>ICON</b>	<b>DESCRIPTION</b>
	* Heart rate sound and vibration alert are OFF
	Heart rate sound alert is ON <ul style="list-style-type: none"> <li>• 1 beep = you have gone below your lower zone limit</li> <li>• 2 beeps = you have gone above your upper zone limit</li> </ul>
	* Heart rate vibration alert is ON
	* Heart rate sound and vibration alert are ON

 or  flash when you have surpassed your heart rate limit.

**NOTE** If the watch is kept idle without receiving a heart rate signal for 5 minutes, the heart rate mode will quit and return to clock mode.

\* for SE102 only

## USER DATA

To access the full benefits of this product, set up your user data before you exercise. This will automatically generate a fitness index, and enable the watch to calculate the level of calories burned when exercising. This information helps you track your progress over time.

### To set the user data:

1. Press **MODE** to navigate to the user data mode.
2. Press and hold **SET** until the first setting flashes.
3. Press **+** to change the setting. Hold to speed through the options.
4. Press **SET** to confirm and move onto the next setting.
5. The setting sequence is: Activity level (ATH / HOB / LIT), gender (M / F), year of birth, month of birth, day of birth, height unit (feet or meters), height, weight unit (lbs or kg) and weight. Once data has been completed the fitness index will display as FAIR, NORMAL or GOOD.



**NOTE** You must enter your user data to enable the calorie count and fat burn features.

### To view your fitness index:

Press **MODE** until you reach the user data display.

## ACTIVITY LEVEL

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

ACTIVITY LEVEL	DESCRIPTION
LITTLE	Low - You do not usually participate in programmed recreation sports or exercise.
HOBBY	Medium - You are engaged in modest physical activity (such as golfing, horseback riding, table tennis, calisthenics, bowling, weight lifting or gymnastics) 2-3 times a week, totaling 1 hour per week.
ATHLETE	High - You actively and regularly participate in heavy physical exercise (such as running, jogging, swimming, cycling, or skipping rope) or engage in vigorous aerobic exercise (such as tennis, basketball or handball).

**NOTE** You must enter the activity level to calculate the calories burned and fitness index.

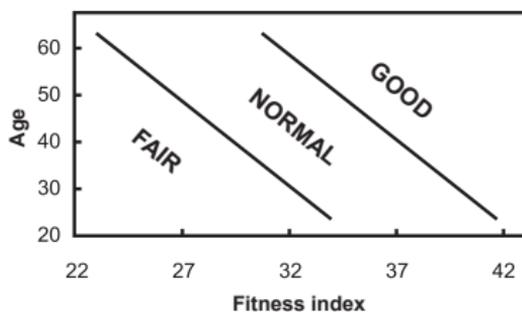
## FITNESS INDEX

The watch will generate a fitness index based on your aerobic fitness. This index is dependent and limited by the body's ability to deliver oxygen to the working muscles in training. It is often measured by maximum oxygen uptake (VO<sub>2</sub> Max), which is defined as the highest amount of oxygen that can be utilized when exercising at an increasingly demanding level.

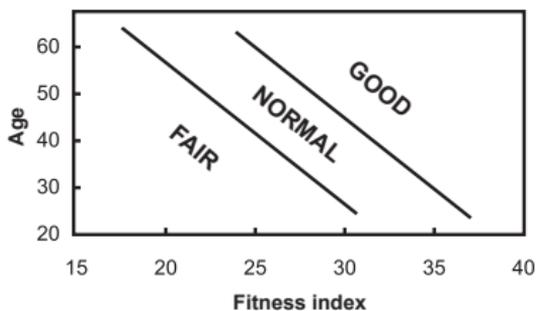
The lungs, heart, blood, circulatory system, and working muscles are all factors in determined VO2 Max. The unit of VO2 Max is ml/kg min.

See the tables below for a rough guide to what your fitness index means:

**FITNESS INDEX FOR MEN**



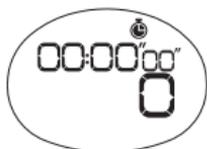
**FITNESS INDEX FOR WOMEN**



## STOPWATCH

### To use the stopwatch:

1. Press **MODE** to navigate stopwatch mode.
2. To start / stop / resume the stopwatch, press **ST / SP**.
3. To reset the stopwatch, press and hold **SET**.



If the watch heart rate function is activated and the user data has been entered, the calorie consumption will start counting when the stopwatch is running.

 appears when the stopwatch is running. You can run the stopwatch while you access other modes.  flashes until you switch back to stopwatch mode.

### VIEW DATA WHILE STOPWATCH IS RUNNING

Press **HR** to scroll through the following screen displays while the stopwatch is in use:

Percentage heart rate and current heart rate



Stopwatch and current heart rate



Average heart rate and current heart rate



Calories burned and current heart rate



## PERCENTAGE HEART RATE READING

The percentage heart rate reading is calculated from your current heart rate and MHR:  $\frac{HR}{MHR} \times 100\%$

The higher the percentage, the harder the heart is working. For example, when you reach 80-90% you should consider slowing down to a more comfortable exercise level.

## BACKLIGHT / KEYPAD LOCK

**To turn the backlight on for 3 seconds:**

Press . (Press again within the 3 seconds to extend the light for 3 more seconds.)

**To turn the keypad lock ON or OFF:**

Press and hold . appears when the keypad lock is ON.

**NOTE** The backlight does not work when the low battery icon is shown and will return to normal once the batteries are replaced.

## BATTERIES

The product uses 2 x CR2032 batteries, one for the watch and another for the chest belt. Both are already installed. The battery warnings are:

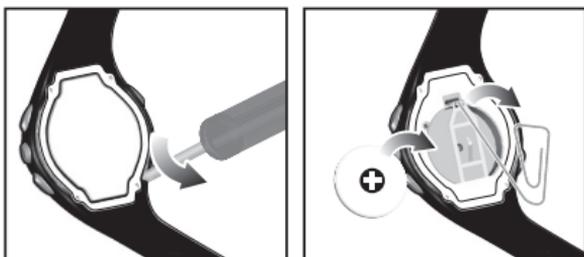
LOW BATTERY ICON	DESCRIPTION
	Continuous flashing: The watch battery is low. Intermittent flashing: The watch battery is too low to run the backlight
<b>VIB</b>	* The battery is too low to run the vibration alert
	* Both the watch and vibration battery is low

\* The batteries typically last one year. The vibration feature consumes battery life at a faster rate than the sound alarm. We highly recommend that you contact the retailer or our customer service department if you need to replace them.

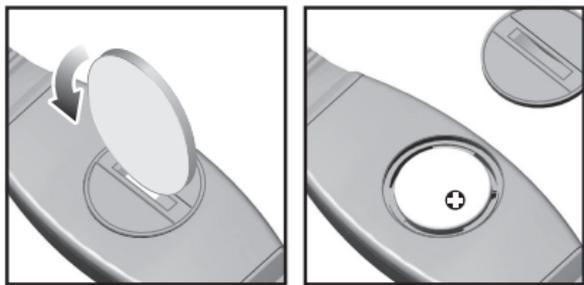
### To replace the watch battery:

1. Undo the screws and remove the back plate.
2. Using a thin blunt instrument, hook the release catch and lift the clip.
3. Replace the old battery and then the battery clip.
4. Replace the back plate and screws.

\* for SE102 only

**To replace the chest belt battery:**

1. Using a coin, twist the battery door counter-clockwise until it clicks out of place.
2. Replace the old battery and close the battery door by twisting it clockwise until it is firmly in place.

**IMPORTANT**

- Non-rechargeable and rechargeable batteries must be disposed of properly. For this purpose, special containers are provided for non-rechargeable and rechargeable battery disposal at communal collection centers.

- Batteries are extremely dangerous when swallowed! Therefore, keep batteries and the article away from infants. If a battery has been swallowed seek immediate medical advice.
- The batteries supplied must not be recharged, reactivated by any other means, dismantled, put into fire or short-circuited.

## TRAINING INFORMATION

### HOW THE HEART RATE MONITOR HELPS YOU

A heart rate monitor is the most important tool in cardiovascular health and an ideal training partner. It enables you to see and monitor results. This helps you assess your past performance, maximize your work out and adapt your future exercise program to achieve your desired goals in a safer and more effective way.

When you exercise, the chest belt picks up your heartbeat and sends it to the watch. Now you can view your heart rate and start monitoring your performance based on your heart rate readings. As you get fitter, your heart will need to do less work and the speed of your heart rate will decrease. The reason for this is as follows:

Your heart pumps blood to your lungs to obtain oxygen. Then, the oxygen rich blood will travel to your muscles. The oxygen is used as fuel and the blood leaves the muscles and returns to the lungs to begin the process again. As you get fit, your heart is able to pump more blood with every beat. As a result, your heart doesn't have to beat as often to get the necessary oxygen to your muscles.

## TRAINING TIPS

To gain the maximum benefit from your training program, and to ensure that you exercise safely, please observe the following guidelines:

- Start with a well-defined training goal, such as to lose weight, keep fit, improve health or compete in a sporting event.
- Select a training activity you enjoy, and vary your training activities to exercise different muscle groups.
- Start slowly, and then gradually step up your work out as you become fitter. Exercise regularly. To maintain a healthy cardiovascular system, 20-30 minutes three times a week is recommended.
- Always allow at least five minutes before and after exercising for warm-up and cool-down.
- Measure your pulse after training. Then repeat the procedure again after three minutes. If it does not return to its normal resting rate, you may have trained too hard.
- Always check with your doctor before starting a vigorous training program.

## WARNINGS AND CARE INSTRUCTIONS

To ensure you use your product correctly and safely, read these warnings and the entire user manual before using the product:

- Use a soft, slightly moistened cloth. Do not use abrasive or corrosive cleaning agents, as these may cause damage. Use luke warm water and mild soap to clean

the watch and chest belt thoroughly after each training session. Never use the products in hot water or store them when wet.

- Do not bend or stretch the transmitter part of the chest belt.
- Do not subject the product to excessive force, shock, dust, temperature changes, or humidity. Never expose the product to direct sunlight for extended periods. Such treatment may result in malfunction.
- Do not tamper with the internal components. Doing so will terminate the product warranty and may cause damage. The main unit contains no user-serviceable parts.
- Do not scratch hard objects against the LCD display as this may cause damage.
- Take precautions when handling all battery types.
- Remove the batteries whenever you are planning to store the product for a long period of time.
- When replacing batteries, use new batteries as specified in this user manual.
- The product is a precision instrument. Never attempt to take this device apart. Contact the retailer or our customer service department if the product requires servicing.
- Do not touch the exposed electronic circuitry, as there is a danger of electric shock.
- Do not use the chest belt in aircrafts or hospitals. The use of radio frequency products can cause malfunctions in the control devices of other equipment.
- Check all major functions if the device has not been used for a long time. Maintain regular internal testing

and cleaning of your device. Have your watch serviced by an approved service center annually.

- When disposing of this product, do so in accordance with your local waste disposal regulations.
- Due to printing limitations, the displays shown in this manual may differ from the actual display.
- The contents of this manual may not be reproduced without the permission of the manufacturer.

**NOTE** The technical specifications for this product and the contents of the user manual are subject to change without notice.

## AQUATIC AND OUTDOOR ACTIVITIES

The watch is water-resistant up to 50 meters. The chest belt is splash proof, but should not be worn for underwater activities, as the heart rate transmission cannot occur under water. Refer to the table for proper use guidelines.

					
	RAIN SPLASHES ETC	SHOWERING (WARM/ COOL WATER ONLY)	LIGHT SWIMMING / SHALLOW WATER	SHALLOW DIVING/ SURFING/ WATER SPORTS	SNORKELING / DEEP WATER DIVING
Watch 50M/164 Feet	OK	OK	OK	NO	NO
Chest Belt	OK	NO	NO	NO	NO

When using the watch for aquatic or outdoor sports activities, avoid pressing the keys with wet fingers, under water, or in heavy rain, as this may allow water to gain entry into the electrical circuitry.

## SPECIFICATIONS

TYPE	DESCRIPTION
<b>Clock</b>	
Time format	12 hr / 24 hr
Date format	DD / MM or MM / DD
Year	2005-2054 (auto-calendar)
Alarm	Daily
<b>Stopwatch</b>	
Count-up timer	From 00:00:00 (Min:Sec:100th sec) to 99:59:59 (Hr:Min:Sec)
<b>Performance tracking</b>	
Heart rate (HR) alarm	* vibrate / sound / visual
HR measuring range	30-240 bpm (beats per minute)
Lower HR settable range	30-240 bpm (beats per minute)
Upper HR settable range	80-240 bpm (beats per minute)
Calories calculation	0-9,999kcal
<b>Transmission</b>	
Range	62.5 cm (25 inches) – may decrease with low battery

**Water resistant**

Watch	50 meters (163 feet) not actuating keys
Chest belt	Splash proof

**Operating environment**

Operation temperature	5°C to 40°C (41°F to 104°F)
Storage temperature	-20°C to 70°C (-4°F to 158°F)

\* for SE102 only

**ABOUT OREGON SCIENTIFIC**

Visit our website ([www.oregonscientific.com](http://www.oregonscientific.com)) to learn more about Oregon Scientific products such as digital cameras; MP3 players; children's electronic learning products and games; projection clocks; health and fitness gear; weather stations; and digital and conference phones.

The website also includes contact information for our Customer Care department in case you need to reach us, as well as frequently asked questions and customer downloads. We hope you will find all the information you need on our website, however if you're in the US and would like to contact the Oregon Scientific Customer Care department directly, please visit: [www2.oregonscientific.com/service/default.asp](http://www2.oregonscientific.com/service/default.asp)

OR

Call 1-800-853-8883.

For international inquiries, please visit:

[www2.oregonscientific.com/about/international.asp](http://www2.oregonscientific.com/about/international.asp)



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## **EU-DECLARATION OF CONFORMITY**

Hereby, Oregon Scientific, declares that this SmartHeart Heart Rate Monitor (SE102 / SE102L) is in compliance with EMC directive 89/336/CE. A copy of the signed and dated Declaration of Conformity is available on request via our Oregon Scientific Customer Service.

