

*Smart Sport*TM

**COMBO HEART RATE
MONITOR & WATCH**

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INTRODUCTION

HOW TO USE THIS MANUAL

This heart rate monitor has many unique features and functions. Before using it in the field, please read all sections of the manual carefully to become completely familiar with its operation.

The manual is divided into sections outlining how to program and operate the monitor. An illustration of the display screen that represents the starting point or other important screens are shown next to the instructions. The corresponding keys are shown as **PRESS & HOLD** or **PRESS**.

This heart rate monitor is a sensitive, technical piece of equipment. It will last for many years with proper care and maintenance, but improper handling can cause the various sensors to be damaged and to stop functioning.

Proper setup and operation will greatly enhance the monitor's usefulness and your enjoyment.

WARNINGS & CAUTIONS

WARNING: Before starting any exercise program or performing any vigorous physical activity, we strongly suggest you visit your doctor for a complete physical and to discuss your plans.

CAUTION: Your watch is designed to be water resistant to a static pressure of 5 ATM and can be worn while showering and light swimming. However, we recommend that extensive use of the unit in the water be avoided whenever possible. Care should be taken not to press any keys while the unit is submerged as this can force moisture past the key seals and damage the unit.

CAUTION: Avoid rough usage or severe impacts to your watch.

DO NOT use hand cream or lotion as it will insulate the signal between the skin and sensor contacts.

DO NOT use the fingertips where the skin is dry and thick. For those with extremely dry skin, moisten fingers and wrist with tap water or a conductive gel.

CLEAN the Back Cover occasionally by using a damp cloth. Then wipe dry to remove any residual grease or film.

CLEAN your skin and fingers with soap and water for a better signal transmission.

AVOID doing awkward motions during measurement. It may create inaccurate heart rate readings.

WATCH FUNCTIONS

TIME

- Time/Day/Date/Month
- 12- or 24-hour format
- Daily Alarm

HEART RATE

- Finger-Touch or Chest Strap Transmitter HR acquisition
- 4 user-selected HR Zones
- 3 user-selected Activity Levels
- HR Zone Alert
- Calorie Burn Measurement
- Fat Burn Measurement
- HR Zone Memory Recall

CHRONOGRAPH

- 1/100 second resolution
- 9 hours, 59 minutes, 59.99 seconds
- 25 laps
- Lap/Split Memory Recall

TIMER

- 1-second resolution
- Range: 9 hours, 59 minutes, 59 seconds
- Audible alarm

OTHER

- EL Backlight System

KEYS AND THEIR FUNCTIONS

HEART RATE SENSOR

**IMAGES MAY VARY FROM
ACTUAL WATCH*

EL (LIGHT) KEY

START/STOP KEY

(S/S)

MODE KEY

RESET KEY

(R)



MODE KEY

- Scroll through operating modes
- **PRESS & HOLD:** Enter/Exit the programming sequence
- Set values being adjusted in programming sequence

START/STOP KEY (S/S)

- Access Alarm in Time mode
- Turn Alarm ON or OFF in Alarm mode
- Start/Stop Countdown Timer
- Start/Stop Chronograph
- Start new Lap in Heart Rate/Chronograph mode
- Increase setting values being adjusted in programming sequence

RESET KEY (R)

- **PRESS & HOLD:** Reset Chronograph or Countdown Timer
- Decrease setting values being adjusted in programming sequence
- Scroll through sub modes in Heart Rate/Chronograph Mode

EL (LIGHT) KEY

- Activate EL (backlight) system

HEART RATE SENSOR

- Acquire Finger Touch Heart Rate

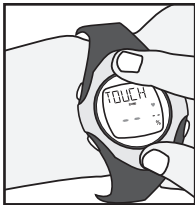
QUICK START FOR ON-DEMAND HEART RATE

Heart rate may be acquired from any operating mode (except in Programming Sequences).

1. Fasten the watch snugly around your wrist.
2. **TOUCH & HOLD** the **HEART RATE SENSOR** with your thumb and index finger.

IMPORTANT: *If the Heart Rate Sensor is accidentally touched, or exposed to excessive water/moisture (i.e. being submerged in a pool), the watch will automatically attempt to acquire a heart rate. Since water acts as a natural conductor, it can accidentally trigger the heart rate feature.*

TIP: *You may exit the Heart Rate acquire mode at any time by pressing any key (except the **EL** key).*



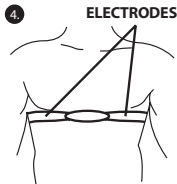
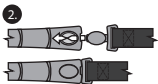
3. When heart rate is displayed, **RELEASE SENSORS**. Heart Rate will display in beats per minute (BPM) along with your % of maximum heart rate. It will display for about 6 seconds.

TIP: *It is possible to acquire your heart rate by touching any part of the metal heart rate sensor.*

QUICK START FOR CONTINUOUS HEART RATE

The Chest Strap Transmitter provides constant heart rate display throughout the duration of your workout. To ensure a proper heart rate reading, the chest transmitter must be properly adjusted:

1. Fasten the watch snugly around your wrist.
2. Connect the elastic belt to the transmitter unit and secure around your chest (See below).
3. Adjust the strap so that the transmitter fits snug (but not constricting) below the pectoral muscles (See below).
4. Position the electrodes, as shown in the drawing (See below).
5. **PRESS** the **MODE** key to advance to Heart Rate/Chronograph mode. The watch will automatically search for a heart rate signal in about 8 seconds.
6. Heart rate will display in beats per minute (BPM) along with your % of maximum heart rate.



TIP: In dry and cold climates it may take a few minutes for a layer of perspiration to form between the chest strap and the skin. Moistening the electrodes with water or ECG conductive gel can speed up this process.

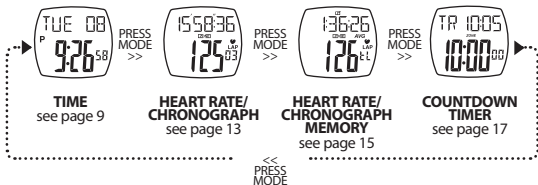
MAIN OPERATING MODES

There are 4 main operating modes:

- Time
- Heart Rate/Chronograph
- Heart Rate/Chronograph Memory
- Countdown Timer.

Scroll through modes by **PRESSING** the **MODE** key.

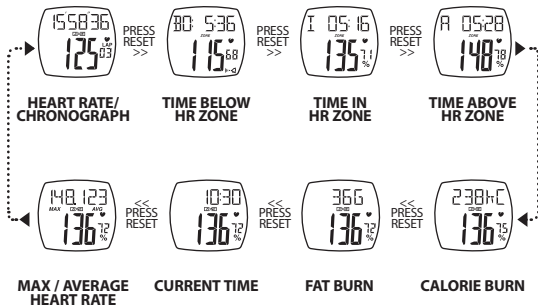
TIP: You may access Alarm mode by **PRESSING & HOLDING** the **START/STOP** key in Time Mode



Acquire Finger Touch Heart Rate by **TOUCHING & HOLDING** the **HEART RATE SENSOR** in any operating mode. The monitor also has 8 Heart Rate sub modes (see following page).

MAIN OPERATING MODES

The monitor has 8 Heart Rate sub modes. Scroll through sub modes by **PRESSING** the **RESET** key in Heart Rate/Chronograph mode.



HEART RATE DISPLAY

Once your heart rate is acquired, it will display in beats per minute (BPM) along with your % of maximum heart rate. If heart rate is being acquired through Finger Touch, a one-time reading will be displayed. If the Chest Strap Transmitter is used, a continuous reading will be displayed.

TIME AND DATE SETUP

1. In Time mode, **PRESS & HOLD** the **MODE** key to enter the programming sequence. The variable being adjusted will flash on and off.
2. Reset Seconds to zero (00) by **PRESSING** the **START/STOP (S/S)** or **RESET (R)** key. Advance to Set Minutes by **PRESSING** the **MODE** key.
3. Adjust Minutes by **PRESSING START/STOP** (to increase) or **RESET** (to decrease). Set Minutes and advance to Set Hour by **PRESSING** the **MODE** key.
4. Adjust Hour by **PRESSING S/S** or **R**. Set Hour and advance to Set Year by **PRESSING** the **MODE** key.
5. Adjust Year by **PRESSING S/S** or **R**. Set by **PRESSING** the **MODE** key.
6. Adjust Month by **PRESSING S/S** or **R**. Set by **PRESSING** the **MODE** key.
7. Adjust Day by **PRESSING S/S** or **R**. Set by **PRESSING** the **MODE** key.
8. Adjust 12/24-hour format by **PRESSING S/S** or **R**. Set Format by **PRESSING** the **MODE** key.
9. Turn Hourly Chime ON or OFF by **PRESSING S/S** or **R**. Set by **PRESSING** the **MODE** key.
10. Turn Key Beep ON or OFF by **PRESSING S/S** or **R**. Set by **PRESSING** the **MODE** key.

KEY SEQUENCE:



ADJUST:
S/S or R



SET: **MODE**

CONTINUED ON NEXT PAGE

USER PROFILE SETUP

This monitor uses information based on your User Profile to estimate your maximum heart rate and to calculate other heart rate information. This information must be programmed in the Programming Sequence to ensure accuracy of the watch's advanced functions.

11. Select Gender (M=male, F=female) by **PRESSING** the **START/STOP (S/S)** or **RESET (R)** key. Set Gender by **PRESSING** the **MODE** key.
12. Adjust Year of Birth by **PRESSING** the **S/S** or **R** key. Set by **PRESSING** the **MODE** key.
13. Select Height Units (IN=inches, CM=centimeters) by **PRESSING** the **S/S** or **R** key. Set by **PRESSING** the **MODE** key.
14. Adjust Height by **PRESSING** the **S/S** or **R** key. Set by **PRESSING** the **MODE** key.
15. Select Weight Units (LB=pounds, KG=kilograms) by **PRESSING** the **S/S** or **R** key. Set by **PRESSING** the **MODE** key.
16. Adjust Weight by **PRESSING** the **S/S** or **R** key. Set by **PRESSING** the **MODE** key.
17. **PRESS & HOLD** the **MODE** key to exit the Programming Sequence & resume Operating mode.

KEY SEQUENCE:



ADJUST:
S/S or R



SET: MODE

TARGET HEART RATE ZONE

The monitor allows you to select from 3 preset Target Heart Rate Zones (AEROBIC, FAT BURN and HEALTH) and 1 user-defined Target Zone. The monitor tracks time IN, ABOVE and BELOW Target Zone during exercise and has an audible alert that can be turned ON or OFF.

Health Zone – Range: 50% - 65% of maximum heart rate.
For fitness beginners on a low to moderate intensity program. Exercising in this zone reduces blood pressure and cholesterol.

Fat Burning Zone – Range: 65% - 75% of maximum heart rate.
Nearly all the calories burned are recruited from fats. Exercising in this zone strengthens the cardiovascular system.

Aerobic Zone – Range: 75% - 85% of maximum heart rate.
Reaching this zone requires more intense aerobic activity and burns maximum calories from fat and carbohydrates. Increased metabolism and elevated caloric burn are the primary benefits.

TARGET HEART RATE ZONE SETUP

The monitor automatically calculates your Maximum Heart Rate from your User Profile settings and uses this information to display Heart Rate Zones. You can also manually adjust the Zone Limits to those of your own preference.

1. In Heart Rate/Chronograph mode, **PRESS & HOLD** the **MODE** key to enter the Programming Sequence.
2. Select Target Zone (HEALTH, FAT-B=Fat Burn, AROBIC=Ærobic, USR=User Defined) by **PRESSING** the **START/STOP (S/S)** or **RESET (R)** key. Set Target Zone by **PRESSING** the **MODE** key.
3. Select Zone Alarms ON or OFF by **PRESSING** the **S/S** or **R** key. Set Zone Alarms by **PRESSING** the **MODE** key.
TIP: Zone Alarm is an audible signal that sounds when you are above or below your selected Target Heart Rate Zone.
4. Adjust Target Zone Lower Limit (ZONE-L in display) by **PRESSING S/S** or **R** key. Set by **PRESSING** the **MODE** key.
5. Adjust Target Zone Upper Limit (ZONE-U in display) by **PRESSING S/S** or **R** key. Set by **PRESSING** the **MODE** key.
6. Select Activity Level (ACt in display) (estimated personal activity level: high = very active, etc.) by **PRESSING S/S** or **R** key. Set by **PRESSING** the **MODE** key.
7. **PRESS & HOLD** the **MODE** key to exit the Programming Sequence and return to Heart Rate/Chronograph mode.

KEY SEQUENCE:



ADJUST: S/S or R

SET: MODE

HEART RATE/CHRONOGRAPH MODE

The monitor is equipped with a 10-hour, 25-lap Chronograph. Resolution is 1/100 second for the first 59 minutes and 59.99 seconds; it is 1 second resolution after that. This is the primary Heart Rate mode, which displays all current heart rate information and tracks heart rate data for memory recall.

To operate the Chronograph:

1. **PRESS** the **START/STOP (S/S)** key to **START** timing.
2. To time a lap, **PRESS** the **S/S** key. Lap time will display for about 5 seconds and timing will resume.
3. To **STOP** timing, **PRESS & HOLD** the **S/S** key for 2 seconds.
4. To **RESET** the Chronograph, **PRESS & HOLD** the **RESET (R)** key.

IMPORTANT: To view heart rate data in Memory, **DO NOT RESET THE CHRONOGRAPH.**

KEY SEQUENCE:






START TIMING/
TIME A LAP:
PRESS S/S








RESET:
PRESS & HOLD R


HEART RATE/CHRONOGRAPH ICON DESCRIPTIONS

Chronograph elapsed time is displayed in the upper display line. Heart Rate information is displayed in the lower display line. The following table shows the watch's display icons and their meanings:


symbol	what it means
	Heart Rate is below selected Target Zone
	Heart Rate is above selected Target Zone
	Heart Rate is in selected Target Zone
MAX	Maximum Heart Rate for workout
AVG	Average Heart Rate for workout

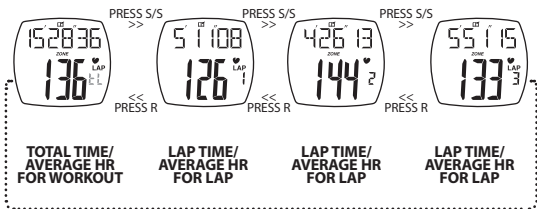
symbol	what it means
	Heart Rate is being detected
	Heart Rate as a percentage of calculated Maximum Heart Rate
	Hourly Chime is activated
	Daily Alarm is activated
	Low Battery warning

HEART RATE/CHRONOGRAPH MEMORY MODE

The monitor features a Memory mode for viewing detailed lap feedback from your last workout. In this mode, you will see the () icon at the top of the screen.

IMPORTANT: *The Chronograph must NOT be reset to view exercise data.*

1. Scroll to Memory Mode by **PRESSING** the **MODE** key.
2. First screen displays information for your total workout – total time for workout, average heart rate for workout and total number of laps ().
3. Scroll through individual lap data (lap time and average heart rate for lap) by **PRESSING** the **START/STOP (S/S)** or **RESET (R)** key.



DAILY ALARM SETUP

The monitor features a Daily Alarm. The alarm will sound for 60 seconds and can be stopped by **PRESSING ANY KEY**.

1. To access Daily Alarm, **PRESS & HOLD** the **START/STOP (S/S)** key in Time mode.
2. Turn Alarm ON or Off by **PRESSING** the **START/STOP (S/S)** or **RESET (R)** key. Set by **PRESSING** the **MODE** key.
3. Adjust Hour by **PRESSING** the **S/S** or **R** key. Set by **PRESSING** the **MODE** key.
4. Adjust Minutes by **PRESSING** the **S/S** or **R** key. Set by **PRESSING** the **MODE** key.
5. **PRESS & HOLD** the **MODE** key to exit the Programming Sequence and return to Time mode.

KEY SEQUENCE:



ADJUST:
S/S or R



SET: MODE

COUNTDOWN TIMER SETUP

The monitor is equipped with a 10-hour Countdown Timer. The Timer functions independently from the watch's other timing features. To set Timer:

1. **PRESS & HOLD** the **MODE** key in Countdown Timer mode.
2. Adjust Hours by **PRESSING** the **START/STOP (S/S)** or **RESET (R)** key. Set by **PRESSING** the **MODE** key.
3. Adjust Minutes by **PRESSING** the **S/S** or **R** key. Set by **PRESSING** the **MODE** key.
4. Adjust Seconds by **PRESSING** the **S/S** or **R** key. Set by **PRESSING** the **MODE** key.
5. **PRESS & HOLD** the **MODE** key to exit the Programming Sequence and return to Timer mode.

KEY SEQUENCE:



ADJUST:
S/S or R



SET: **MODE**

COUNTDOWN TIMER OPERATION

To operate the Timer:

1. To START timing, **PRESS** the **START/STOP (S/S)** key.
2. To STOP timing, **PRESS** the **S/S** key.
3. To RESET the Timer, **PRESS & HOLD** the **RESET (R)** key.

KEY SEQUENCE:



START/STOP:
PRESS S/S



RESET:
PRESS & HOLD R

BACKLIGHT (EL) SYSTEM

The monitor is equipped with an electroluminescent (EL) Backlight System for viewing the display in low light conditions.

To operate the Backlight System:

1. **PRESS** the **EL** key in any mode.

NOTE: excessive use of Backlight System may significantly reduce battery life.

REPLACING THE BATTERY

REPLACING THE WATCH BATTERY

Battery type: one (1) **CR2032** lithium battery.

Battery replacement will be required from time to time, and should occur when:

1. The display fades in part or completely
2. The heart rate function will not activate
3. Backlight System does not operate

In order to ensure the water resistance will be retained after battery replacement, it is recommended you take it to a watch repair service center or certified jeweler.

REPLACING THE BATTERY

REPLACING THE CHEST TRANSMITTER BATTERY

This monitor features a wireless heart rate transmitter, powered by one (1) **CR2032** 3v Lithium battery. Under normal conditions you can expect to get approximately 300-400 hours of heart rate transmitter use with a new battery. To replace the battery:

1. Using a coin, turn the battery door counter clockwise until the door comes free of the transmitter.
2. Take care not to damage the O-ring seal for the battery compartment and carefully remove the old battery.
3. Place a new battery in the battery compartment with the positive (+) side toward the battery door.
4. Place the battery door over the opening and tighten it down by using a coin and turning in a clockwise direction.
5. If the O-ring has been damaged, replace it before reinstalling the battery door. Most jewelers and watch shops should have replacement O-ring seals.



IMPORTANT: To ensure the unit remains fully water resistant, extreme care should be taken when replacing the battery. Failure to properly replace the battery and correctly seal the unit may cause the unit to become damaged and may void the warranty.



TROUBLESHOOTING

POTENTIAL CAUSES FOR NO HEART RATE READING OR LONG RESPONSE TIME:

CAUSE: Dry skin

SOLUTION: Apply conductive gel or tap water thoroughly to chest area (for Chest-Strap measurement) or finger/wrist (for Finger-Touch measurement).

CAUSE: Chest strap/watch is not contacting with skin

SOLUTION: Make sure the chest strap is secured firmly just below the breast plate (see page 6) and the watch is fastened securely on wrist.

CAUSE: Muscle “noise” caused by pressing on the sensor too hard

SOLUTION: Press gently with enough pressure to activate the heart rate measure. Also, try using the soft, flat pads of your fingers and not the tips.

CAUSE: Watch was exposed to excessive water/moisture, such as being in a pool or the shower.

SOLUTION: Dry the watch before attempting to acquire a heart rate.

CAUSE: A thin layer of body grease insulates the ECG signal preventing the Chest Strap or Watch from detecting ECG heart rate

SOLUTION: Wipe chest/wrist and the back of Chest Strap/Watch with a tissue or soft towel.

CAUSE: Hairy Skin

SOLUTION: Apply conductive gel to chest area or wrist. It may be necessary to shave the area of the chest beneath the transmitter

CAUSE: Low Battery

SOLUTION: Replace the battery in watch/transmitter and try again.

CAUSE: Electrical field interference from RF devices such as overhead power lines, electrical noise, etc.

SOLUTION: Leave the area where RF sources potentially exist.

RANGES & SPECIFICATIONS

TIME

- AM, PM, hour, minute, second
- 12/24 hour format
- Calendar: month, date, day display with auto leap year adjustment

ALARM

- Daily alarm
- Alarm duration: 30 seconds

CHRONOGRAPH

- Resolution: 1/100 second
- Measuring range: 9 hours, 59 minutes, 59.99 seconds
- 25 Lap
- Split times display

HEART RATE

- Range: 40-240 beats per minute
- 4 Heart Rate Target Zones
- Height setting range: 11" - 8' 4" (28 - 254cm)
- Weight setting range: 22 - 484 lbs (10-220 kg)
- Calorie Tracking Range: 0-9999
- Fat Burn range: 0 - 9999 g

COUNTDOWN TIMER

- Resolution: 1 second
- Measuring Range: 9 hours, 59 minutes, 59 seconds

OTHER

- Electroluminescent (EL) backlight
- Water resistant up to 50 meters
- Battery: CR 2032

WARRANTY

Your watch is warranted for a period of **one (1) year** from the date of purchase from an authorized retailer.

If defective, return the watch with the original receipt, or copy, to your original retailer or to Salutron, Inc. for a replacement watch.

This warranty covers defects in materials and workmanship only. It does not cover the battery, damage due to abuse or misuse, accidents, or any commercial use.

The warranty stated above is the only warranty applicable to this product. All other warranties, expressed or implied, including all implied warranties of merchantability or fitness for a particular purpose, are hereby disclaimed. No verbal or written information given by Salutron, Inc., its agents or employees shall create a guarantee or in any way increase the scope of this warranty.

Repair or replacement as provided under this warranty is the exclusive remedy of the consumer. Salutron, Inc. shall not be liable for incidental or consequential damages resulting from the use of this product or arising out of any breach of any express or implied warranty on this product. Except to the extent prohibited by law, any implied warranty of merchantability or fitness for a particular purpose on this product is limited to the applicable warranty period set forth above. Consumer rights may vary from state to state.

PATENTS

The watch and **S-Pulse™** technology are a result of, and protected by, the following **Salutron, Inc.** patents:

US: 5,738,104 & 5,876,350

Europe: EPO 0861045B1

CARE & MAINTENANCE

- **DO NOT** operate the buttons in or under water as this may force water past the seals.
- **NEVER** attempt to disassemble or service your unit.
- **DO NOT** expose the unit to extreme heat, shocks, magnetic fields, electrical noise, strong vibration or long-term exposure to direct sunlight.
- **DO NOT** drop or step on the watch.
- **TO CLEAN THE UNIT:** wipe with a lightly moistened cloth. Apply mild soap to the area if there are stubborn stains or marks.
- **DO NOT** expose the unit to strong chemicals such as gasoline, cleaning solvents, acetone, alcohol or insect repellents, as they may damage the unit's seal, case and/or finish.
- **STORE** the unit in a dry place when not in use.

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