

OMRON®

INSTRUCTION MANUAL

Heart Rate Monitor

Model: **HR-310**



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INTRODUCTION

Thank you for purchasing the OMRON® HR-310 Heart Rate Monitor.

Fill-in for future reference

DATE PURCHASED: _____

- **Staple your purchase receipt here**
- **Register your product online at www.register-omron.com**

The heart rate monitor can help ensure you receive the maximum benefit from your exercise program. You can increase the effectiveness of your exercise program by monitoring and quantifying your results every step of the way.

Your HR-310 Heart Rate Monitor comes with the following components:

- Heart Rate Monitor Watch
- Chest Belt
- Chest Belt Strap
- 2 Lithium CR2032 Batteries
(1 Monitor Watch, 1 Chest Belt - installed)
- Instruction Manual

SAVE THESE INSTRUCTIONS

IMPORTANT SAFETY INFORMATION

To assure the correct use of the product basic safety measures should always be followed including the warnings and cautions listed in this instruction manual.

SAFETY SYMBOLS USED IN THIS INSTRUCTION MANUAL



Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury to the user or patient or damage to the equipment or other property.

OPERATING THE DEVICE

- ⚠ Do not bend or stretch the transmitter part of the chest belt.
- ⚠ Do not scratch hard objects against the LCD display as this may cause damage.
- ⚠ When using this unit near any electronic devices, keep the devices at least 8 inches (20 cm) away from the unit in order to avoid the possibility of display errors occurring.
- ⚠ Do not throw the batteries into the fire. The batteries may explode.
- ⚠ Do not use batteries not specified for this unit. Do not insert the batteries with the polarities in the wrong direction.
- ⚠ Do not touch the exposed electronic circuitry, as there is a danger of electric shock.
- ⚠ Check all major functions if the device has not been used for a long time. Maintain regular internal testing and cleaning of your device.
- ⚠ Dispose of the device, batteries and components according to applicable local regulations. Unlawful disposal may cause environmental pollution.
- ⚠ 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.

IMPORTANT SAFETY INFORMATION

CARE AND MAINTENANCE

- ▲ Use a soft, slightly moistened cloth. Do not use abrasive or corrosive cleaning agents, as these may cause damage. Use lukewarm 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 disassemble or modify the unit. Changes or modifications not approved by Omron Healthcare will void the user warranty.
- ▲ Do not subject the unit to strong shocks, such as dropping the unit on the floor.
- ▲ Do not submerge the unit or any of the components in water.



NOTES:

- This product is not to be used for diagnostic purposes or to prescribe medication.
- Consult your doctor before beginning any exercise program.
- The technical specifications for this product and the contents of the user manual are subject to change without notice.
- Features and accessories will not be available in all countries. For more information, please visit our web site at www.omronhealthcare.com.

KNOW YOUR UNIT

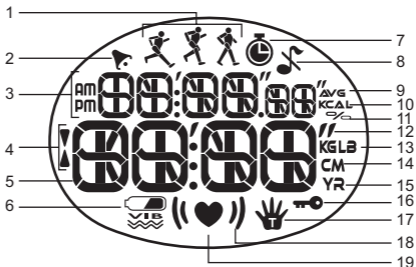
Main Unit



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

KNOW YOUR UNIT

LCD



1. walking / jogging / running activity level
2. : Alarm is set; flashes when alarm is active
3. **AM / PM**: 12-hour clock
4. / : flashes when surpassed heart rate limit
5. Time / heart rate
6. : Indicates battery power is low
7. : Stopwatch is shown or running
8. : Keypad tone is turned off
9. **AVG**: Average heart rate reading
10. **KCAL**: Calorie unit
11. **%** : Percentage heart rate reading
12. **/ / //** : Imperial height units (feet and inches)
13. **KGLB**: Body weight unit
14. **CM**: Metric height unit (centimeters)
15. **YR**: Year of user's birth
16. : Keypad lock is turned on
17. : Tap on lens function is active
18. : Heart rate is outside the set limits
19. : Flashes when receiving heart rate signal

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.

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.

GETTING STARTED

MODE	BANNER	MAIN MODE
CLOCK	TIME	
STOPWATCH	CHRONO	
USER PROFILE	USER DATA	
HEART RATE LIMIT	LIMIT HR	

CLOCK / ALARM / KEYPAD TONE / TAP ON LENS

CLOCK

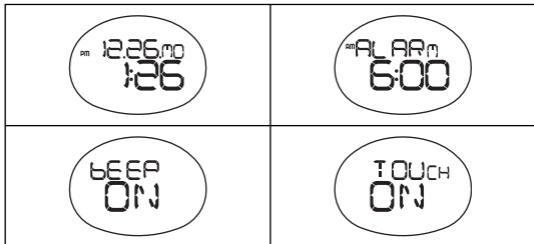
To set the clock:

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. 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.



CLOCK / ALARM / KEYPAD TONE / TAP ON LENS

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. 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.

CLOCK / ALARM / KEYPAD TONE / TAP ON LENS

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

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

- Clock (TIME)
- Instant percentage heart rate, i.e., how hard the heart is working (%HR)
- Stopwatch and current heart rate (STW HR)
- Average heart rate (Avg HR)
- Calories burned (kCAL)
- Stopwatch (CHRONO)

To set the tap on lens preset mode:

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** twice to confirm.



CLOCK / ALARM / KEYPAD TONE / TAP ON LENS

To use the tap on lens:

Simply tap with fingernail on the lens and your preset mode will display for 10 seconds before returning to the previous screen.

👉 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 limit mode.

NOTE: To enter the user data setting mode, the stopwatch must be stopped.



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. The setting sequence is: Target activity (Walk, Jog or Run), lower heart rate limit, upper heart rate limit and alert ON / OFF.

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, your upper / lower heart rate will automatically be updated.

HEART RATE LIMITS / ALERT

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



HEART RATE LIMITS / ALERT



To manually calculate your own heart rate limits:

MHR	$MHR = 220 - \text{age}$
LOWER LIMIT	$MHR \times \text{lower target activity \%}$ E.g. Target activity is WALK: $\text{Lower limit} = MHR \times 65\%$
UPPER LIMIT	$MHR \times \text{upper target activity \%}$ E.g. Target activity is WALK: $\text{Upper limit} = MHR \times 78\%$

HEART RATE ALERT

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

ICON	DESCRIPTION
	Heart rate sound alert is OFF
	Heart rate sound alert is ON • 1 beep = you have gone below your lower zone limit • 2 beeps = you have gone above your upper zone limit

 or  flash when you have surpassed your heart rate limit.

NOTES:

- Sound alert will only be activated if alert setting is ON and during exercise (when stopwatch is running).
- 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.

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. 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.

USER DATA

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.

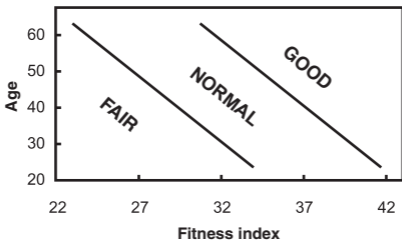
FITNESS INDEX

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 (VO₂ 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.

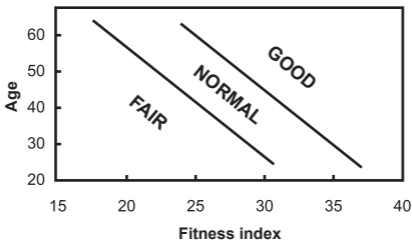
USER DATA

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

FITNESS INDEX FOR MEN



FITNESS INDEX FOR WOMEN

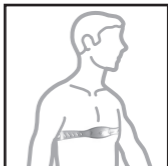


WEARING THE CHEST BELT

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 about 5 minutes, the heart rate mode will quit.

WEARING THE CHEST BELT

TRANSMISSION SIGNAL

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

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:

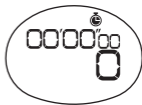
- Shorten the distance between the chest belt and watch.
- Re-adjust the position of the chest belt.
- Check the conductive pads are moist enough to ensure solid contact.
- Check the batteries. If they are low the range may be less.
- When two or more people use the units nearby at the same time, ensure there is more than 45 inches (112.5 cm) between them.

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.

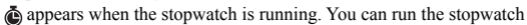

STOPWATCH

To use the stopwatch:

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



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.

To reset the stopwatch:





1. Press **MODE** to navigate to stopwatch mode.
The stopwatch and time appear on the display.
2. To reset the stopwatch, press and hold SET.



STOPWATCH

VIEW DATA AND CURRENT HEART RATE 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:

$$\frac{\text{HR}}{\text{MHR}} \times 100\%$$


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 watch uses a CR2032 3V battery, which has already been installed.
The battery warnings are:

	DESCRIPTION
Continuous flashing	The watch battery is low
Intermittent flashing	The watch battery is too low to run the backlight

* The batteries typically last one year.

To assure the water resistance take the watch to a local jewelry store for battery replacement. Improper replacement will void the warranty.

IMPORTANT:

Remember to set the profiles after every battery replacement or reset.

BATTERIES

The chest belt uses a CR2032 3V battery, which has already been installed. If the heart rate signals become unsteady or stop your chest belt battery may need replacing.






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.



USE IN THE WATER

The watch is water-resistant up to 164 feet. 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 164Feet/ 50M	OK	OK	OK	NO	NO
Chest Belt	OK	NO	NO	NO	NO

IMPORTANT:

- Ensure the buttons and battery compartment are secured and intact before exposing the watch to excessive water.
- Avoid pressing the buttons while in the water or during heavy rainstorms, as this may cause water to enter the watch, leading to malfunction.

SPECIFICATIONS

Model	HR-310 (HBE-310-Z)	
Power Supply	Monitor watch:	3 VDC (1 lithium battery CR2032)
	Chest belt:	3 VDC (1 lithium battery CR2032)
Clock	Time format:	12 hr / 24 hr
	Date format:	D.M. / M.D.
	Year:	2005-2054 (auto-calendar)
	Alarm:	Daily
Stopwatch	Count-up timer:	From 00'00"00 (min' sec" 100th sec) to 99:59'59" (hr: min' sec")
Performance Tracking	Heart rate (HR) alert:	Sound / visual
	HR measuring range:	30-240 bpm (beats per minute)
	Lower HR settable range:	30-220 bpm (beats per minute)
	Upper HR settable range:	80-240 bpm (beats per minute)
	Calories calculation:	0-9,999kcal
Transmission	Range:	25 inches (62.5 cm) – may decrease with low battery
Water Resistant	Monitor watch:	164 feet (50 meters) not actuating keys
	Chest belt:	Splash proof
Operating Environment	temperature:	32°F to 104°F (0°C to 40°C)
	humidity:	30 to 85% RH
Battery Life	Monitor watch:	Approx. 1 year (when used for measuring 30 minutes a day)
	Chest Belt:	Approx. 1.5 years (when used for measuring 30 minutes a day)
Contents	Heart Rate Monitor Watch, Chest Belt, Chest Belt Strap, 2 Lithium CR2032 Batteries (installed) and Instruction Manual	

- Specifications are subject to change without notice.

FCC STATEMENT

NOTE:

POTENTIAL FOR RADIO/TELEVISION INTERFERENCE (for U.S.A. only)

This product has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation. The product generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If the product does cause harmful interference to radio or television reception, which can be determined by turning the product on and off, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the product and the receiver.
- Connect the product into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

POTENTIAL FOR RADIO/TELEVISION INTERFERENCE (for Canada only)

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus as set out in the interference-causing equipment standard entitled "Digital Apparatus", ICES-003 of the Canadian Department of Communications.

Cet appareil numérique respecte les limites de bruits radioélectriques applicables aux appareils numériques de Classe B prescrites dans la norme sur le matériel brouilleur: "Appareils Numériques", ICES-003 édictée par le ministre des communications.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

LIMITED WARRANTY

Your OMRON® HR-310 Heart Rate Monitor, excluding the batteries, is warranted to be free from defects in materials and workmanship appearing within 1 year from the date of purchase, when used in accordance with the instructions provided with the unit. The above warranties extend only to the original retail purchaser.

We will, at our option, repair or replace without charge any monitor covered by the above warranties. Repair or replacement is our only responsibility and your only remedy under the above warranties.

To obtain warranty service contact Omron Healthcare's Customer Service by calling **1-800-634-4350** for the address of the repair location and the return shipping and handling fee. Information for warranty service is available on our website at www.omronhealthcare.com.

Enclose the Proof of Purchase. Include a letter, with your name, address, phone number, and description of the specific problem. Pack the product carefully to prevent damage in transit. Because of possible loss in transit, we recommend insuring the product with return receipt requested.

THE FOREGOING IS THE SOLE WARRANTY PROVIDED BY OMRON IN CONNECTION WITH THIS PRODUCT, AND OMRON HEREBY DISCLAIMS ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. IMPLIED WARRANTIES AND OTHER TERMS THAT MAY BE IMPOSED BY LAW, IF ANY, ARE LIMITED IN DURATION TO THE PERIOD OF THE ABOVE EXPRESS WARRANTY.

OMRON SHALL NOT BE LIABLE FOR LOSS OF USE OR ANY OTHER SPECIAL, INCIDENTAL, CONSEQUENTIAL OR INDIRECT COSTS, EXPENSES OR DAMAGES.

This warranty provides you with specific legal rights, and you may have other rights that vary by jurisdiction. Because of special local requirements, some of the above limitations and exclusions may not apply to you.

FOR CUSTOMER SERVICE

Visit our web site at:

www.omronhealthcare.com

Call toll free:

1-800-634-4350

NOTES

NOTES

Omron Healthcare, Inc.

1925 West Field Court
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www.omronhealthcare.com

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