

SMART TRAINER / TRAINER PRO

USER'S MANUAL

CONTENT

SECTION 1 INTRODUCTION	3 - 10
SMART TRAINING PROGRAM	3
FITNESS INDEX	5
TRAINING TIP	6
THE RECEIVER WATCH	7
- Control Button on The Receiver Watch	8
THE HEART RATE CHEST BELT	9
EFFECTIVE RANGE	10
SECTION 2 GENERAL OPERATION	10 - 11
THE BACKLIGHT	10
OPERATING MODES	10
HOW TO SET THE REAL TIME CLOCK	11
HOW TO USE THE ALARM CLOCK.....	11
HOW TO USE THE SECOND ZONE TIME.....	11
SECTION 3 HEART RATE MONITORING	11 - 16
USER PROFILE	11
- Activity Score	12
DISPLAY OF FITNESS INDEX	12
BEFORE STARTING THE SMART TRAINING PROGRAM	12
STARTING THE SMART TRAINING PROGRAM	13

HOW TO TRAIN WITH STOPWATCH	14
HOW TO RECALL TRAINING DATA	15
- To Recall The Calories and % Fat Burn	15
- To Recall The LAP Memory (For Trainer Pro only)	16
SECTION 4 ADDITIONAL INFORMATION	16 - 20
OUTDOORS SPORTS	16
BATTERY INFORMATION	16
PRECAUTIONS	18
SPECIFICATIONS	18
MAINTENANCE	19
CAUTION	19
REFERENCES	20

**Read this instruction manual thoroughly before
operating the unit.**

SECTION 1 INTRODUCTION

Congratulations on your purchasing the Smart Trainer / Trainer Pro. The Smart Trainer / Trainer Pro is a feature-packed precision device. Apart from monitoring your heart rate and calorie and fat consumption while training, it is capable of deriving the optimum training program for you basing on your target activity score.

The products come with a heart rate chest belt and a receiver watch complete with the functions of a real-time clock, stopwatch and back light.

SMART TRAINING PROGRAM

It is important you know your maximum heart rate (MHR), training zone, upper heart rate limit and lower heart rate limit before you begin. They help you achieve the maximum health benefits out of your workout. Your Smart Trainer / Trainer Pro was equipped with a SMART TRAINING PROGRAM that your own MHR could be determined so that your own upper and lower limit was set automatically throughout the training process.

Or you can set your own upper and lower limit using the following as a reference guide.

You may estimate your MHR using the following formula:

Men $220 - \text{age} = \text{MHR}$

Women $230 - \text{age} = \text{MHR}$

There are generally three training zones. They are health benefited and related to your MHR as follows:

50%	Moderate Activity
60%	Weight Management
70%	Aerobic Zone
80%	Anaerobic Threshold Zone
90%	Red Line Zone (maximum capacity)
100%	

The upper and lower heart rate limits are calculated by multiplying your MHR by the percentages of the selected training zone.

For **example:**

For a 40-year-old man to train for health maintenance,

His Upper Heart Rate Limit $(220 - 40) \times 70\% = 126$
(beats per minute)

His Lower Heart Rate Limit $(220 - 40) \times 60\% = 108$
(beats per minute)

For a 30-year-old woman to train for aerobic exercise,

Her Upper Heart Rate Limit $(230 - 30) \times 80\% = 160$
(beats per minute)

Her Lower Heart Rate Limit $(230 - 30) \times 70\% = 140$
(beats per minute)

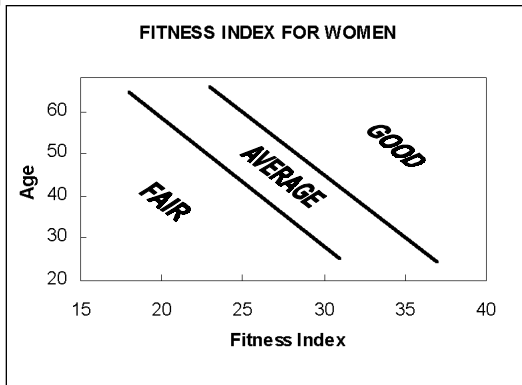
The SMART TRAINING PROGRAM will guide you through the warm up exercise to the end of the training exercise. Throughout the whole training process you may check the calories consumed and % of fat burn (from which it could show the percentage of calories came from burning fat).

FITNESS INDEX

Your Smart Trainer / Trainer Pro will generate a fitness index based on your aerobic fitness, or your capacity to engage any forms of aerobic exercise, 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.

Generally, the fitness range lies between 13 to 53 depend on ages. The higher the index, the fitter you are. (Refer to the following diagram for reference.)





TRAINING TIPS

- Identify your training goal, be it to loose weight, keep fit, improve health or compete with a friend.
- Select a training activity you enjoy. Varying your exercises can make your training more interesting.
- Start slowly.
- Exercise regularly. Twenty to 30 minutes each and three to four times a week for a healthier cardiovascular system.
- Gradually steps up your training zone as you become fitter.
- Always allow at least five minutes before and after training within your exercise zone for warm-up and cool-down.

- The health maintenance zone has the lowest training intensity. It is good for beginners and those who want to strengthen their cardiovascular systems.
- The aerobic exercise zone increases strength and endurance. It works within the body's oxygen intake capability, burns more calories and can last longer.
- The anaerobic exercise zone generates speed and power. It works at or above the body's oxygen intake capability, builds more muscle and cannot be maintained for a long time.
- Measure your pulse after training. Then repeat the procedure again after three minutes. If it does not return to its normal resting pulse, you might have trained too hard.
- Always check with your doctor before starting a vigorous training program

THE RECEIVER WATCH

You can wear it on your wrist or strap it to your bike or exercise machine.

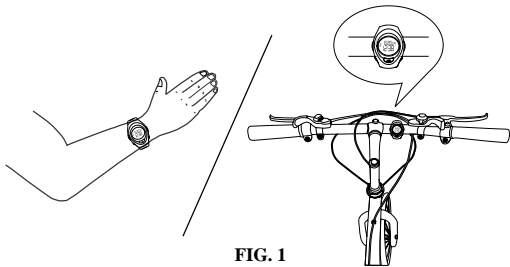


FIG. 1

Control Button On The Receiver Watch



Smart Trainer



Trainer Pro

1. [LIGHT] BUTTON

Turns on the EL back light for five seconds

2. [MODE] BUTTON

Changes the operating mode

3. [MEM/LAP] BUTTON

Displays training records or marks a lap in stopwatch mode
(The lap function is only available for Trainer Pro only)

4. [ST/SP/+] BUTTON

Monitors the training program and the stopwatch or changes a value in setting mode

5. [SET] BUTTON

Holds to enter the setting mode or changes a value in setting mode or displays the calorie and fat consumption in training

THE HEART RATE CHEST BELT

The heart rate chest belt is used to count your heartbeat and transmit the data to the receiver watch. To put it on,

1. Wet the conductive pads on the underside of the heart rate chest belt with few drops of water or a conductive gel to ensure a solid contact.
2. Strap the heart rate chest belt across the chest. Adjust the strap until the heart rate chest belt sits snugly below the pectoral muscles for an accurate heart rate signal.

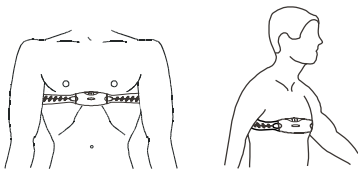


FIG. 2

HINTS:

- The position of the heart rate chest belt affects its performance. Move the heart rate chest belt along the strap for the best transmission. Avoid areas with dense chest hair.
- In dry, cold climates, it takes the heart rate chest belt a while to function steadily. This is normal as sweat could improve the contact with the skin.

EFFECTIVE RANGE

The heart rate chest belt and receiver watch will start transmitting and receiving signals once batteries are in place. Both units should be worn or mounted within an effective distance of 62.5 centimeters (25 inches). If the signals have become unsteady,

- Shorten the distance between the heart rate chest belt and receiver watch.
- Re-adjust the position of the heart rate chest belt.
- Check the batteries. Replace them when necessary.

SECTION 2 GENERAL OPERATION

THE BACK LIGHT

Press **LIGHT** to turn on the back light for five seconds.

OPERATING MODES

The receiver watch has six operating modes for real-time, alarm time, second zone time, user profile, SMART TRAINING PROGRAM and stopwatch.

Refer to **FIG. 3** to toggle between the operating mode.

HOW TO SET THE REAL-TIME CLOCK

Refer to **FIG. 4** to set the real time clock.

Note:

The Smart Trainer / Trainer Pro comes with 50 years auto calendar. It is no need to set the days-of-the-week nor the dates every month.

HOW TO USE THE ALARM CLOCK

Refer to **FIG. 5** to set the alarm clock.

To activate or deactivate the alarm, press **SET** while the alarm time is displayed. The alarm indicator will appear when the function is activated (**FIG. 5a**).

When the alarm clock is activated, it will turn on at the set time every day. Press any button to stop the alarm for the day. The alarm clock is still active and will turn on again the following day.

HOW TO USE THE SECOND ZONE TIME

The second zone time is useful in keeping track of another time zone. The time zone is set using the same procedure as the real-time clock (**FIG. 4a**).

SECTION 3 HEART RATE MONITORING

USER PROFILE

You have to first enter your user profile to benefit from the SMART TRAINING PROGRAM and fully utilize the Smart Trainer / Trainer Pro functions.

Refer to **FIG. 6** to enter your user profile (gender, age, weight, height & activity score)

Activity Score

It represents your general physical activity.

If you do not usually participate in programmed recreation sports or exercise, your score is 0 (low).

If you participate two or three times a week for a total of around one hour in recreation or working requiring modest physical activity, such as golf, horseback riding, callisthenics, gymnastics, table tennis, bowling, weight lifting, yard work etc., your score is 1 (medium).

If you actively and regularly participate in heavy physical exercise, such as running, jogging, swimming, cycling, bowing, skipping rope, running in place or engaging in vigorous aerobic activity type exercise such as tennis, basket ball or handball, your score is 2 (high).

DISPLAY OF FITNESS INDEX

Your fitness index will be displayed just after the user profile is entered.

Or you can display your fitness index by pressing **MEM** while the user profile mode is displayed (all data in the user profile should be entered first). (**FIG. 6a**)

BEFORE STARTING THE SMART TRAINING PROGRAM

Once you have entered all the parameters for your user profile, you need to set the target activity and exercise time for your training.

Refer to **FIG. 7** for the procedure.

Note:

1. Make sure you fill in the target activity level and all the parameters in your user profile. Otherwise, the calorie count and fat consumption rate will not be available in training.
2. You can leave out the heart rate limits as desired. The SMART TRAINING PROGRAM will automatically select the optimal figures according to the parameters input.
3. Should you choose to enter the heart rate limits, be sure the lower limit does not exceed the higher limit.
4. A flashing ▼ or ▲ will appear if the lower or upper limit is exceeded (**FIG. 8**). When the heart rate limit alert is activated, a beeping warning signal will be heard whenever lower or upper limit is exceeded.

STARTING THE SMART TRAINING PROGRAM

Once all is done, press **ST/SP/+** to activate the smart training program (**FIG. 9**). To display the calorie consumed and % fat burn, press **SET** at any time once the SMART TRAINING PROGRAM is started (**FIG. 12a**).

The SMART TRAINING PROGRAM starts with an automatic 5 minute warm-up session. This prepares you for the training ahead. Your current heart rate will be displayed.

Three short beeps mark the end of the warm-up session. You might skip the warm-up and start your exercise directly. To do so follow the procedure as shown in **FIG. 9a**. You may hear three short beeps once again the preset exercise time is reached.

Note:

1. SMART TRAINING PROGRAM could be stopped at any time during the exercise. It cannot be resumed. Once it is stopped, it could be only restarted for another training section. **(FIG. 9b)**
2. You can also let the SMART TRAINING PROGRAM running in the background while using other functions except the stopwatch function. The TIMER indicator will flash to indicate the SMART TRAINING PROGRAM is still active. **(FIG. 9c)**
3. The SMART TRAINING PROGRAM and stopwatch can be operated one at a time only.

HOW TO TRAIN WITH THE STOPWATCH

Before starting the stopwatch you need to set the target activity. **(FIG. 10)**

After finish setting the target activity, you may start exercise with the stopwatch. **(FIG. 11)**

When the stop watch has stopped running, press **MEM** to display the following data in sequence **(FIG. 11a)**:

- The stretch of exercising time within the training zone.
- Total exercising time and average heart rate.
- Calorie consumed and % fat burning.

Note:

1. THE LAP COUNTER FUNCTION IS ONLY AVAILABLE FOR TRAINER PRO ONLY. (IT WILL NOT BE AVAILABLE IN SMART TRAINER MODEL.)
2. Make sure you fill in all the parameters. Otherwise, the calorie count and % fat burning will not be available in training.
3. You can leave out the heart rate limits as desired. The SMART TRAINING PROGRAM will automatically select the optimal figures according to the parameter inputs.

4. Should you choose to enter the heart rate limits, be sure the lower limit does not exceed the higher limit.
5. A flashing ▼ or ▲ will appear if the lower or upper limit is exceeded (**FIG. 8**). When the heart rate limit alert is activated, a two-beep warning signal will be heard whenever lower or upper limit is exceeded
6. You can also let the stopwatch running in the background while using other functions except the SMART TRAINING PROGRAM. The STW indicator will flash to indicate the stopwatch is still active. (**FIG. 11b**)
7. The SMART TRAINING PROGRAM and stopwatch can be operated one at a time only.

HOW TO RECALL TRAINING DATA

To recall the Calories and % Fat Burn

You may check the calories consumed and %fat burning during the exercise or after the exercise.

In the SMART TRAINER PROGRAM refers to **FIG. 12a** and **FIG. 12** to recall the calories consumed and % fat burning during exercise and after exercise respectively.

In the stop watch mode refers to **FIG. 11c** to recall the calories consumed and % fat burning during exercise. To recall the calories consumed and % fat burning after exercise refer to **FIG. 11a**.

Note:

THE LAP COUNTER FUNCTION IS ONLY AVAILABLE FOR TRAINER PRO ONLY. (IT WILL NOT BE AVAILABLE IN SMART TRAINER MODEL.)

To recall the LAP memory (For Trainer Pro only)

The following information will be stored in the LAP memory:

- The stretch of exercising time within the training zone.
- Total exercising time and average heart rate.
- Calorie consumed and % fat burning.

You may store up to 44 lap memories into the Trainer Pro. These 44 lap memories will share a total 99:59:59 memory record. Refer to **FIG. 13** to recall various lap memory record.

SECTION 4 ADDITIONAL INFORMATION

OUTDOORS SPORT

The watch is 3 bar water resistance and should not be used for diving nor skin diving.

Note:

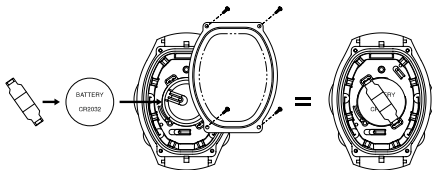
Set the unit before exposing it to excessive water. Activating the keys while in the water or during heavy rainstorms may cause water to enter the unit.

BATTERY INFORMATION

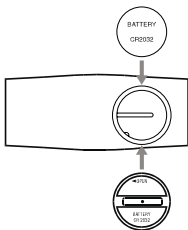
The Smart Trainer / Trainer Pro uses a CR2032 lithium battery for the receiver watch and a CR2032 for the heart rate chest belt. Both are included with the unit.

When the battery of the receiver watch is running low, the low battery indicator will light up. As for the heart rate chest belt, it stops transmitting signals when the battery is dry.

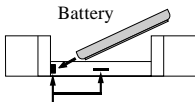
To change the battery, refer to the following diagram,



WATCH



CHEST BELT - TOP VIEW



Battery contact plate

CHEST BELT - SIDE VIEW

PRECAUTIONS

- Read the user's manual thoroughly.
 - Gently clean the unit thoroughly after each training session.
 - Do not subject the unit to excessive force, shock, dust and temperature.
 - Do not tamper with the unit's internal components.
 - Do not mix fresh and old batteries, or batteries of different specifications.
-

SPECIFICATIONS

Model	: SMART TRAINER (HR308) / TRAINER PRO (HR318)
Time	: 12hr /24hr
Date	: DD-MM or MM-DD and days-of-the-week
Year	: 2001 - 2050 (auto-calendar)
Zone time	: (+)12 - (-)12 hour
Stop watch	: 00:00:00-99:59:59 (hr:min:sec)
Lap counter (Trainer Pro only)	: 44 laps share 99:59:59 recording time
Alarm	: daily alarm, heart rate zone alert alarm
Measuring range	: 30 - 240 bpm
Heart rate zone limit	: 30 - 240 bpm
Smart Training Program timer	: 00:30 - 99:54 (hr:min)

Calories calculation	: 0 - 9,999 kcal
% fat burning calculation	: 0 - 99%
Receiver watch power	: 1 x CR2032
Heart rate chest belt power	: 1 x CR2032
Operation temperature	: 5°C - 40°C (41°F - 104°F)
Storage temperature	: -20°C - 70°C (-4°F - 158°F)
Water resistance	: not actuating keys to 30m

MAINTENANCE



1. Do not clean the unit with abrasive or corrosive materials. Abrasive cleaning agents may scratch the plastic parts and corrode the electronic circuit.
2. Do not subject the unit to excessive: force, shock, dust, temperature, or humidity. Such treatment may result in malfunction, a shorter electronic life span, damaged batteries, or distorted parts.
3. Do not tamper with the unit's internal components. Doing so will terminate the unit's warranty and may cause damage. The unit contains no user-serviceable parts.

CAUTION

- The content of this manual is subject to change without further notice.
- Due to printing limitation, 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.

REFERENCE

1. J. Wiley, Exercise psychology: the influence of physical exercise on psychological processes / edited by Peter Seraganian. New York: 1993.
2. Stanley P. Brown, Introduction to exercise science, Philadelphia, PA, 2001
3. Richard W. Bowers, Edward L. Fox, Sports physiology, Dubuque, Iowa: Wm. C. Brown Publishers, 1992. 3rd ed.
4. Brian J. Sharkey, Fitness and health, Champaign, IL: Human Kinetics, 1997. 4th ed.
5. John F. Alexander, C.I.C. Symposium on Physiology of Fitness and Exercise (1971: University of Minnesota) Chicago: Athletic Institute, 1972.
6. David C. Nieman, Exercise testing and prescription: a health-related approach, Mountain View, Calif.: Mayfield Pub., 1999, 4th ed.
7. Robert M. Ross, Andrew S. Jackson: Exercise concepts, calculations, and computer applications. Carmel, Ind.: Benchmark Press, 1990.
8. Brian J. Sharkey, Physiology of fitness: prescribing exercise for fitness, weight control, and health Publisher Champaign, Ill.: Human Kinetics Publishers, 1979.

LEGEND	: <i>ITALIC</i>	- PRESS
	<i>ITALIC</i>	- PRESS & HOLD FOR 2 SEC.
		- FLASHING
		- FAST ADVANCE

REFERENCE TO FIG. 3

- A.** CLOCK MODE
- B.** ALARM MODE
- C.** ZONE TIMER MODE
- D.** USER PROFILE
- E.** SMART TRAINING PROGRAM
- F.** STOP WATCH MODE
- G.** CLOCK MODE