APA®
NAVIGATOR
GPS
# INSTRUCTION MANUAL
Art No: GN100F-RB-GB-APA
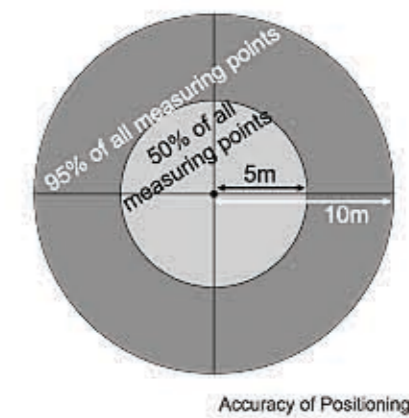
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## RANGE OF APPLICATION

The GPS device is a navigation system. By using the 24 satellite network circling the earth, the position of user can be determined. This is possible at any time and everywhere in the world.

- The GPS device is designed for use as a global positioning system.
- The GPS device serves mainly for the measurement of distances, speed, altitude and navigation by using the US-American 24 satellite network.
- The device is not usable for demanding applications such as paragliding, sky diving or soaring.
- The GPS device is not designed for private use and not suitable for commercial use.

A use different other than described in this instruction manual is not advisable and can lead to damage or injury. We assume no liability for damages resulting from improper use. Further directions and explanations can be found in the instruction manual.

### GPS Reception

To use the GPS function of your GPS device optimally, it is imperative that the following instructions are followed.
The GPS device is a global positioning system (=GPS), which mainly serves for the measurement of distances, speed, attitude and navigation by using the US-American 24 satellite network.
The United States of America operates this 24 satellite network and is responsible for its accuracy and maintenance.

Only during clear weather (clear sky) and suitable reception area - open area and clear view of the sky - can a faultless satellite reception be ensured.

Since satellite signals react very sensitively to outside influences, bad weather conditions ( such as strong snowfall) as well as a disturbed reception area (GPS device is covered by clothing or other objects, high buildings or narrow valleys and gorges prevent reception) can seriously impair the performance and accuracy of the GPS device.
The GPS reception in buildings is very reduced or impossible. Near windows, as well as in rooms with large windows and free sight of the sky, the position can be determined in certain circumstances, depending on the current position of the satellites. In closed rooms and in cellars the GPS reception is practically always impossible.

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## TECHNICAL DATA

Memory for GPS data: 350 hours
Accuracy GPS: 5 metres

The indication of the accuracy is derived from the so called 50% CEP (Circular Error Probability). This means that 50% of all measurements during very good satellite reception are within the stated radius of 5m. However this also means that half of the measured points are outside this radius.
In this case 50% of all measured points a within a circle of twice the stated radius. This means that during very good satellite reception almost all points are within a circle of 10m radius. The determined position is in the worst case practically always accurate to about 10m.
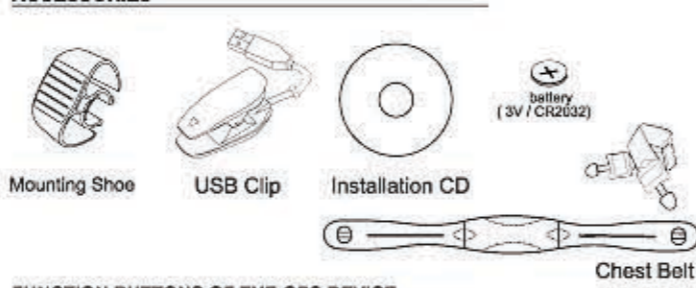


Accuracy of Positioning

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## LIGHT FUNCTION

By pressing the SATELLITE button, the display is illuminated for about 3 seconds. Please note constant illumination of the display consumes more battery, which results in a shorter lifespan of the battery.

A battery charge is necessary. If the display gets weaker or it fades totally. If the battery is weak, the low battery symbol is displayed.
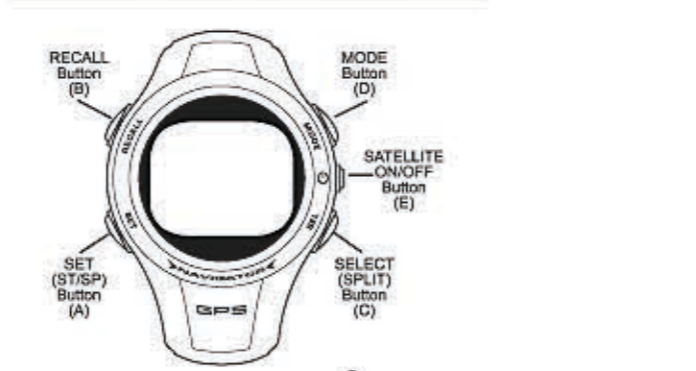
## FAQ/TROUBLESHOOTING

No Satellite Reception
We recommend placing the GPS sport computer in an open area with free view of the sky some minutes before you start your training. Please see notes as stated in "GPS Reception".

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## ACCESSORIES



Mounting Shoe    USB Clip    Installation CD    battery (3V / CR2032)    Chest Belt

## FUNCTION BUTTONS OF THE GPS DEVICE



RECALL Button (B)
MODE Button (C)
SATELLITE ON/OFF Button (E)
SET (ST/SP) Button (A)
SELECT (SPLIT) Button (G)

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## CLEANING AND MAINTENANCE

- Clean the GPS device only with a soft, moist, lint free cloth.
- Do not use solvents, acidic or gaseous cleaning agents.
- Take care not to leave any water drops on the display of the GPS device. Water can cause permanent discolorations.
- Do not expose the display to bright sunlight nor to ultraviolet radiation.
- On the display of the GPS device is a transparent protective film. You can remove this or leave it on the display to protect it from scratching.

Please take care that the GPS device has a clear view of the sky to ensure a faultless reception of the signals. Otherwise limitation of the performance and the accuracy could result. Take care that the GPS device is not covered by clothing... The reception could be distinctly reduced by this. You can read more about GPS reception in item "GPS Reception"

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## RETURN HOME

Before your journey, Start the stopwatch to start recording. When you want to turn back, use Return Home function. Press B, then press C to show home location hold A to go back to the Return Home function and start navigation. Follow the arrow to go back.

Download route from computer works on Route Navigation mode only Route record by watch can only use for return home function
If you want to use the route recorded by the watch in route navigation mode, you need to first download the route to the computer and re-install the route into the watch.
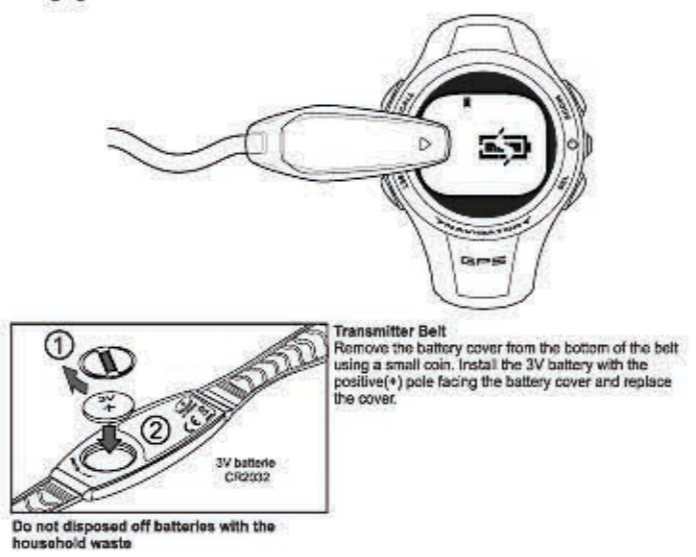
Display of Position:
When the GPS device is connected to the satellites, the latitude and longitude for every position is displayed. An N is added to the latitude (north of the equator) or S (south of the equator).
E (east of the prime meridian).
W (west of the prime meridian).

N = North = North → northern latitude
S = South = South → southern latitude
E = East = East → eastern longitude
W = West = West → western longitude

The position is displayed in the common format degrees ° minutes ' seconds ".
1 degree is subdivided into 60 minutes, one minute is 60 seconds.
Example:
N 48° 8' 41.4"
E 14° 0' 45.0"
= 48 degrees 8 minutes 41.4 seconds northern latitude
14 degrees 0 minutes 45.0 seconds eastern longitude
Note: During Route Navigation or Return Home, You must stay in Route Navigation Submode otherwise the GPS device will not keep you tracking along the route.

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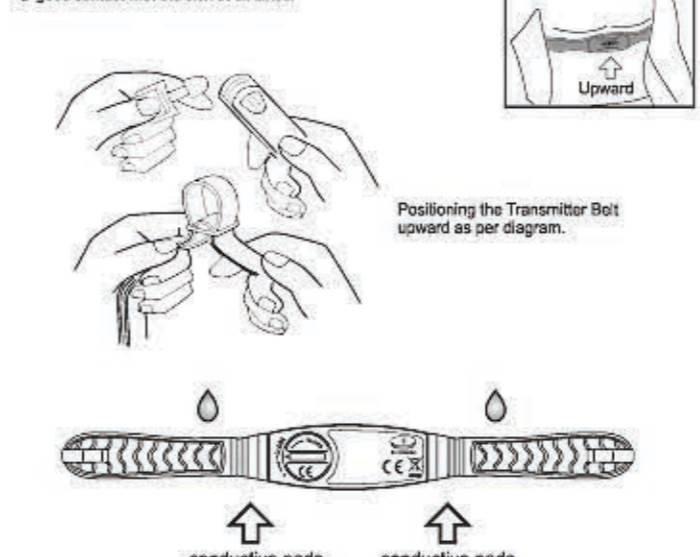---

## Compass Mode (Functions only with Satellite Signal)



Navigating through way point:
In way point navigation mode, press B to show way point data, press C to choose the desired way point.
After selection, press B to go back to way point navigation mode. The arrow in the middle shows the direction of destination, lower digit shows the distance from the destination

REMARK:
In the beginning or when the user is not moving, the arrow points forward. When user starts to move, the arrow will point to the direction of the point of interest

## ROUTE NAVIGATION



Download route from computer
(Please see appendix how to download route).
At the starting point of the route, turn GPS on.
Middle arrow shows the direction on next way point, below digit shows the distance remaining to the route destination.

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## Recharging the watch

At the back of the watch there are four contacts. Clip the connecting cable (As shown in fig.1) to the watch case with the four pins on the cable matching the four contact on the case back. Plug the cable to the computer
Charging time is about 3 hours.



Transmitter Belt
Remove the battery cover from the bottom of the belt using a small coin. Install the 3V battery with the positive(+) pole facing the battery cover and replace the cover.

3V battery CR2032

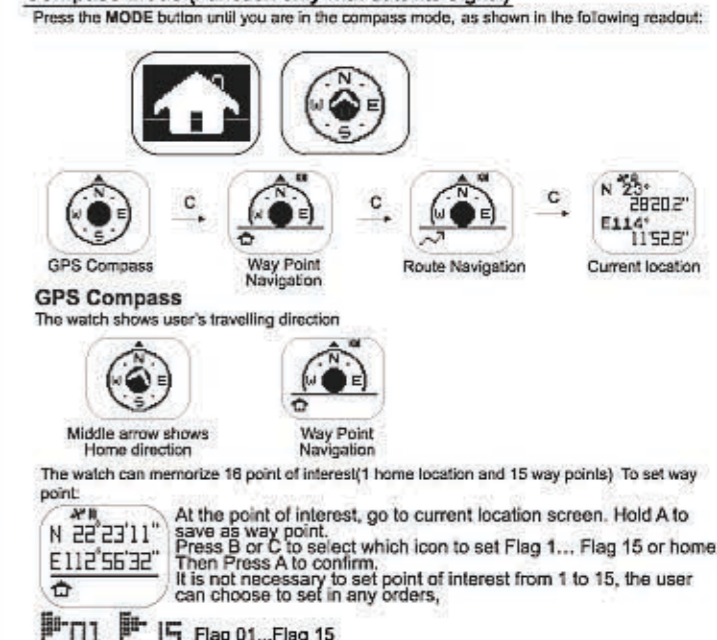Do not disposed off batteries with the household waste

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## WEARING THE TRANSMITTER BELT

Adjust the elastic belt so that it fits tightly around your chest just below the pectoral muscles. Moisten the transmitter's conductive pads with saliva or ECG-gel (available at your local chemist's) in order to ensure a good contact with the skin at all times.



Upward
Positioning the Transmitter Belt upward as per diagram.

Transmitter Belt

conductive pads    conductive pads

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## Compass Mode (Function only with Satellite Signal)

Press the MODE button until you are in the compass mode, as shown in the following readout:



GPS Compass    Way Point Navigation    Route Navigation    Current location

GPS Compass
The watch shows user's travelling direction

Middle arrow shows Home direction    Way Point Navigation

The watch can memorize 16 point of interest(1 home location and 15 way points) To set way point.

At the point of interest, go to current location screen. Hold A to save as way point.
Press 9 or C to select which icon to set Flag 1.... Flag 15 or home. Then Press A to confirm.
It is not necessary to set point of interest from 1 to 15, the user can choose to set in any orders,

Flag 01...Flag 15

Home

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## Recording Data

Notice:
Please note that the GPS and pulse data are saved in the GPS device only during on going timekeeping.
You can change to all modes during timekeeping, the recording of GPS and pulse data continues until you stop the timekeeping in the stopwatch mode or the memory is full.

1. Press the ST/SP/SET button to start timekeeping. During ongoing timekeeping the GPS and pulse data are recorded.
Maximum memory: 350 hours.
2. To stop the timekeeping and also the recording of GPS and pulse data, press the ST/SP/SET button again.
3. To continue the timekeeping and therefore also the recording of GPS and pulse data, press the ST/SP/SET button again, to stop again the ST/SP/SET button.
4. To reset the timekeeping and save the recording of the GPS and pulse data, press the SET button for about 3 seconds during ongoing timekeeping. Your run or ride is now saved as one recording in the GPS device.
5. If you start the timekeeping again the ST/SP/SET button again, a second recording is started, etc.

Deleting the Memory:
If the timekeeping is at zero, press the ST/SP/SET button about 5 seconds.

CLEAR ALL STORE DATA IN WATCH

In Stopwatch memory screen, Hold SET for 5 seconds, clears all memory

To download the saved recordings follow item Transfer of GPS data to a Computer.

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## GPS RECEPTION

Tip:
Hold the GPS still for a few minutes in an open area before you start your journey or drive in an open area with free sight of the sky and switch it on, press and hold the SATELLITE ON/ OFF for about 3 seconds.

Switch on the GPS device:
Hold the SATELLITE ON / OFF for about 3 seconds.
Switch off the GPS device:
Hold the SATELLITE ON / OFF for about 3 seconds.

The GPS device automatically starts to search for a GPS signal, visible by the blinking satellite symbol in the top left of the display.
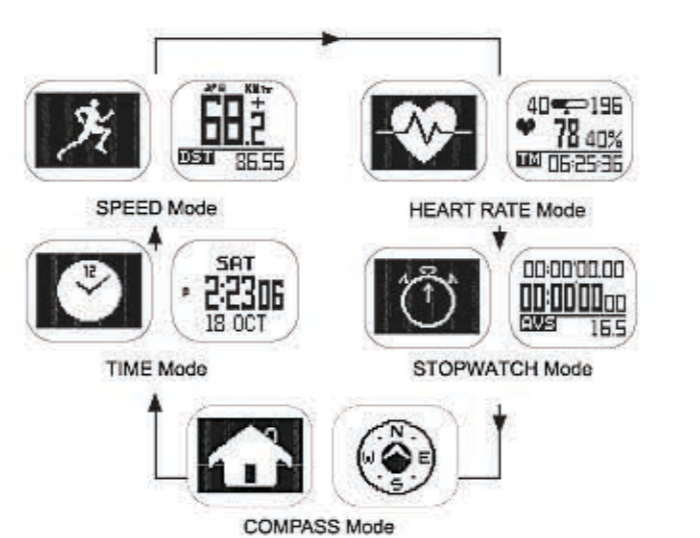
Please note that it can take up to 15 minutes from the first start in new surroundings until the first satellite reception occurs. Then the satellite symbol appears permanently on the display. The more "waves" are displayed around the satellite symbol, the better the reception:



Weak reception
Good reception
Very good reception
Best possible reception

If the GPS device has not received a Satellite signal in 30 minutes, GPS automatically switches off. By holding the SATELLITE ON/OFF button for 3 seconds, the search for GPS signal start again.

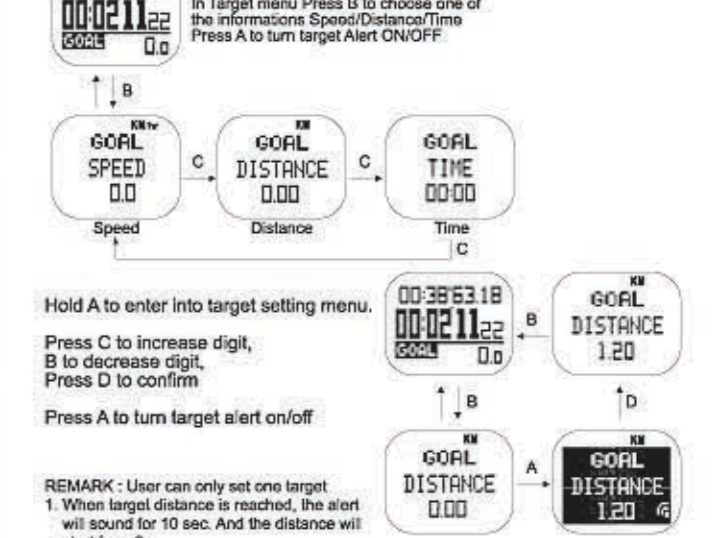- 6 -

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## TO TURN ON AND DISPLAY DIFFERENT MODE

1. Press and hold SATELLITE ON / OFF button for 3 seconds to turn on the GPS device.
2. Press MODE button to switch between different mode.



SPEED Mode    HEART RATE Mode
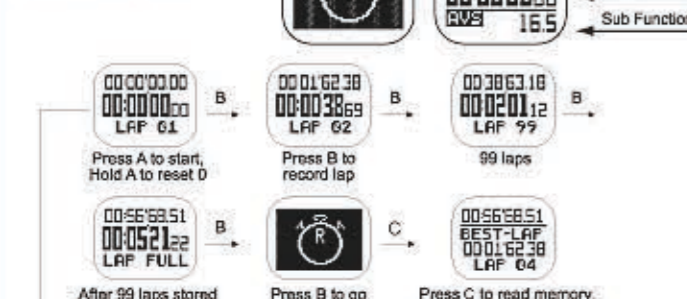TIME Mode    STOPWATCH Mode
COMPASS Mode

## SETTING TARGET

If the stop watch is running, press A to stop stopwatch to set target.

In Target menu Press B to choose one of the informations Speed/Distance/Time
Press A to turn target Alert ON/OFF

GOAL SPEED    GOAL DISTANCE    GOAL TIME

Hold A to enter into target setting menu.
Press C to increase digit,
B to decrease digit,
Press D to confirm
Press A to turn target alert on/off
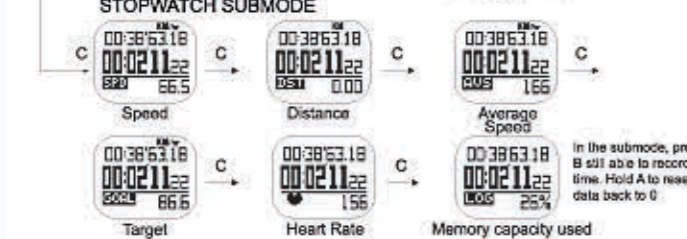
GOAL DISTANCE    GOAL DISTANCE    GOAL DISTANCE

REMARK : User can only set one target
1. When target distance is reached, the alert will sound for 10 sec. And the distance will start from 0
2. The watch will beep if target speed is not reached.
3. When target time is reached, the alert will sound for 10 sec. And the timer will start from 0

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## STOPWATCH MODE

Press the D button until you are in the stopwatch mode, as shown by the following readout:



Total Time
Lap Time
Sub Function

LAP 01    LAP 02    99 laps
Press A to start, Hold A to reset 0    Press B to record lap

LAP 03    LAP 04    After 99 laps stored LAP FULL display on screen, Press A to stop    Press B to go into memory record    Press C to read memory. Fastest lap is the first data to display, then Press C to follow by lap 1...99

STOPWATCH SUBMODE

Speed    Distance    Average Speed
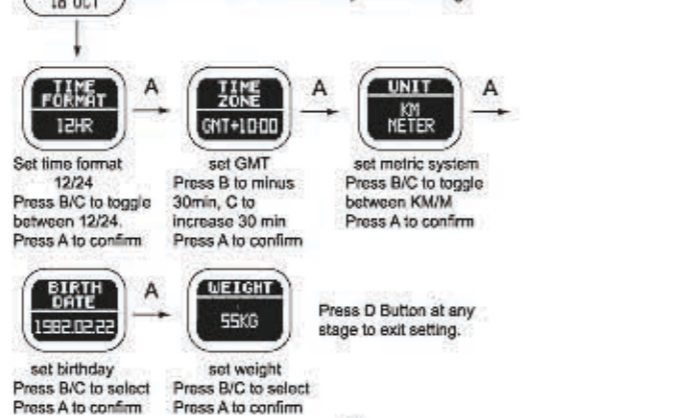Target    Heart Rate    Memory capacity used

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## TIME MODE

Time setting
After the watch is fully charged, remove the USB connector. The watch enters into time mode. During satellite reception (see item GPS Reception) time and date are set automatically. Setting the time manually is not possible.

Notice: Please note that the GPS signal sends Greenwich Mean Time (GMT), and it may be necessary to set a different time zone.
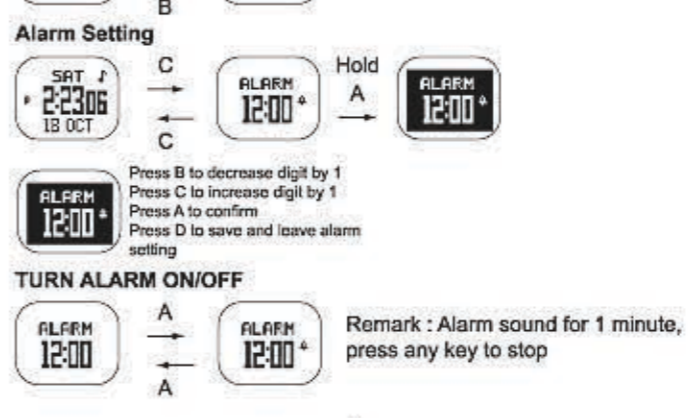
To set a different time zone, please follow.

Hold A for 3 Sec to enter time/personal setting

TIME FORMAT 12HR    TIME ZONE GMT+000    UNIT METER
Set time format 12/24    set GMT    set metric system
Press B/C to toggle between 12/24    Press B to minus 30min, C to increase 30 min    Press B/C to toggle between KM/M
Press A to confirm    Press A to confirm    Press A to confirm

BIRTH DATE    WEIGHT
set birthday    set weight
Press B/C to select    Press B/C to select    Press D Button at any stage to exit setting
Press A to confirm    Press A to confirm

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## HOURLY CHIME



Hourly Chime ON    Hourly Chime OFF

## Toggle between Date/Year Display

## Alarm Setting

ALARM 12:00    ALARM 12:00
Press B to decrease digit by 1
Press C to increase digit by 1
Press D to save and leave alarm setting
Hold A

## TURN ALARM ON/OFF

ALARM 12:00    ALARM 12:00
Remark : Alarm sound for 1 minute, press any key to stop
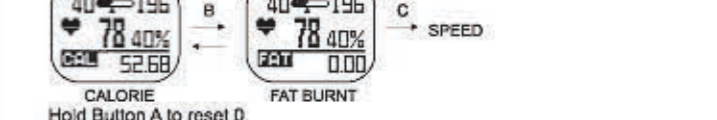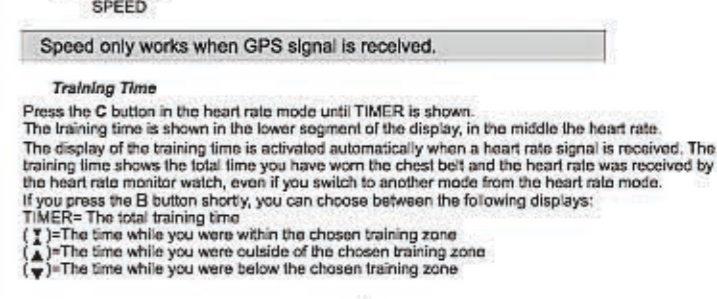
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## HEART RATE SUBMODE (CALORIE/FAT BURNT)

By pressing the RECALL button(B) you can change the readout in the lower part of the display as follows:
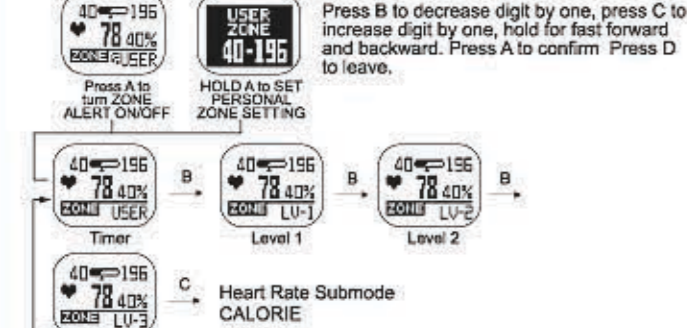
CALORIE    FAT BURNT    SPEED
Hold Button A to reset 0

### HEART RATE SUBMODE (SPEED MODE)

TIMER
SPEED
Speed only works when GPS signal is received.

Training Time
Press the C button in the heart rate mode until TIMER is shown.
The training time is shown in the lower segment of the display, in the middle the heart rate.
The display of the training time is activated automatically when a heart rate signal is received. The training times shows the total time you have worn the chest belt and the heart rate was received by the heart rate monitor watch, even if you switch to another mode from the heart rate mode.
If you press the B button shortly, you can choose between the following displays:
TIMER= The total training time
↑↑=The time while you were within the chosen training zone
↑=The time while you were outside of the chosen training zone
↓=The time while you were below the chosen training zone

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## HEART RATE SUBMODE ZONE

By pressing button B you can change the readout in the lower part of the display as follows:

Press A to confirm ALERT ON/OFF    USER    Press B to decrease digit by one, press C to increase digit by one, hold for fast forward and backward. Press A to confirm Press D to leave.
HOLD A TO SET PERSONAL ZONE SETTING

Timer    Level 1    Level 2
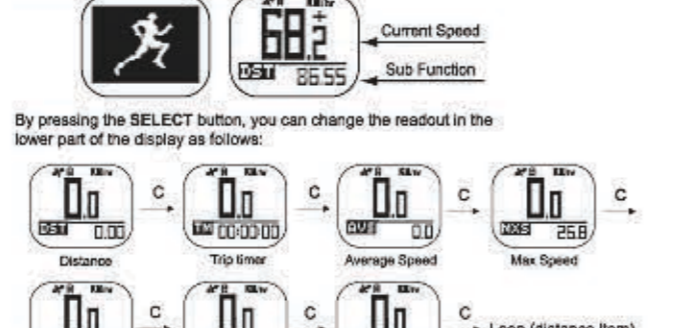Heart Rate Submode CALORIE
Level 3

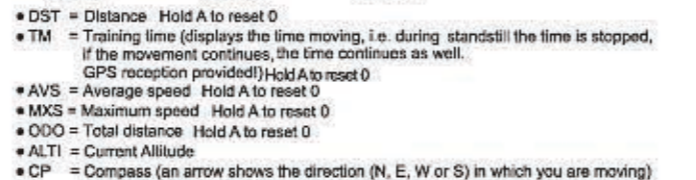## KNOW YOUR LIMITS AND DETERMINE YOUR PERSONAL EXERCISE ZONE

Exercise zones are established by setting Upper and Lower Heart Rate Limits. These limits constitute a certain percentage of your Maximum Heart Rate (MHR).

MHR = 220-(Your age)
e.g. Age: 20
MHR : 220 - 20 = 200
For instance, the current heart rate is 150, then 75% will be shown.

You may already know your MHR if you are an avid athlete or if you have already taken a Max. HeartRate test. If not, the following formula will help you to make an educated guess :

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## SPEED MODE

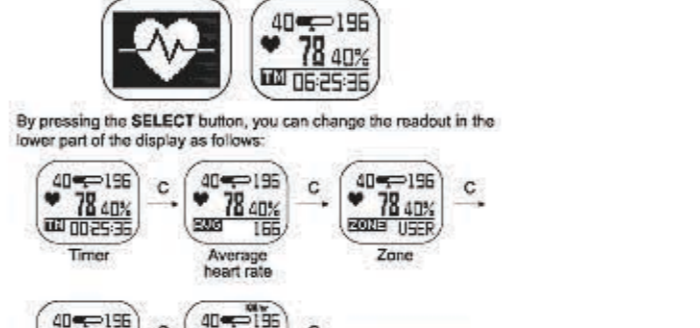Press the MODE button until you are in the speed mode, as shown in the following readout (graphics on the left).

Current Speed
Sub Function

By pressing the SELECT button, you can change the readout in the lower part of the display as follows:

Distance    Trip timer    Average Speed    Max Speed    Loop (distance item)
Odometer    Altimeter    Compass    Loop (Timer item)

- DST = Distance  Hold A to reset 0
- TM  = Training time (displays the time moving, i.e. during  standstill the time is stopped, if the movement continues, the time continues as well. GPS reception provided) Hold A to reset 0
- ODO = Total distance  Hold A to reset 0
- AVS = Average speed  Hold A to reset 0
- MXS = Maximum speed  Hold A to reset 0
- ALTI = Current Altitude
- CP  = Compass (an arrow shows the direction (N, E, W or S) in which you are moving)
        N = North    E = East    W = West    S = South

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## HEART RATE MODE

Press the MODE button until you are in the heart rate mode, as shown in the following readout (graphics on the left).

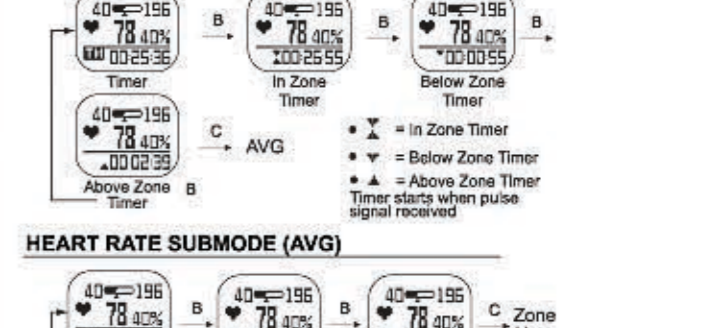By pressing the SELECT button, you can change the readout in the lower part of the display as follows:

Timer    Average heart rate    Zone
Calorie    Speed

- TM  = Training time (displays the time training with chest belt)
        Hold A to reset 0
- AVG = Average heart rate  Hold A to reset
- ZONE = Exercise zone
- CAL = Calorie Burnt Hold A to reset 0
- SPD = Current Speed

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## HEART RATE SUBMODE(TIMER)

By pressing the RECALL button(B) you can change the readout in the lower part of the display as follows:

Timer    In Zone Timer    Below Zone Timer
Above Zone Timer    AVG    ↑↑ = In Zone Timer
↓ = Below Zone Timer
↑ = Above Zone Timer
Timer starts when pulse signal received

### HEART RATE SUBMODE (AVG)

Average Heart Rate    Highest    Lowest    Zone User

Hold button A to reset data

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