

**PYLE<sup>®</sup>**  
**SPORTS**

***"Recreational Gear For  
The Great Outdoors"***

**IMPORTANT:** Pack carefully in original package if possible. We are not responsible for damage incurred in returning items for repair. A letter stating your exact street address, daytime phone number, and the problem you are experiencing should be included. You must also enclose a copy of the original receipt a proof of date of purchase

**PYLE<sup>®</sup>**  
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***"Recreational Gear For  
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**PSHTM24**  
**USER'S MANUAL**



Brooklyn, NY 11204  
1-800-444-5671  
Monday Through Thursday, 9AM to 5PM  
Friday 9AM to 1PM Eastern

[www.pyleaudio.com](http://www.pyleaudio.com)

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## 2.0 Parts and Its Functions



### Mode Button

! To select among the following modes: Current Time, Alarm Time, Chronograph, Lap Memory Recall, Countdown Timer, Pacer and Dual Time Mode. ! Press and hold the button to change to setting displays in various modes! To select among items which to be set during setting sequence! To select between normal compass bearing and backward bearing display in Compass Mode.

### Start/Stop Button

! To start/stop the timer, chronograph and pacer ! To lock / unlock the compass bearing ! To increase the number during setting sequences ! To review the lap memories by forward reviewing.

### Compass Button

! To select between Current Time and Compass Mode ! To decrease the number during setting sequences ! To select Compass function in Chronograph Mode. To review lap memory by backward reviewing. ! Press the button to reload the target time in Countdown Timer Mode. Press and hold the button to reset the timer in Countdown Timer Mode.

### Light Button

! Press the button once to turn on the EL back light for about 3 seconds! Press and hold the button to enable/disable the auto-light feature (If the auto-light feature is enabled, press any button will turn on the back light for about 3 seconds)

1

3

## 1.0 Introduction



Thanks of your purchase of the HandHeld TrackMaster.

Your HandHeld TrackMaster features electronic sensors that measures the compass directions.

Your HandHeld TrackMaster provides directions to you at the time during you are hiking, climbing and doing other outdoor activities.

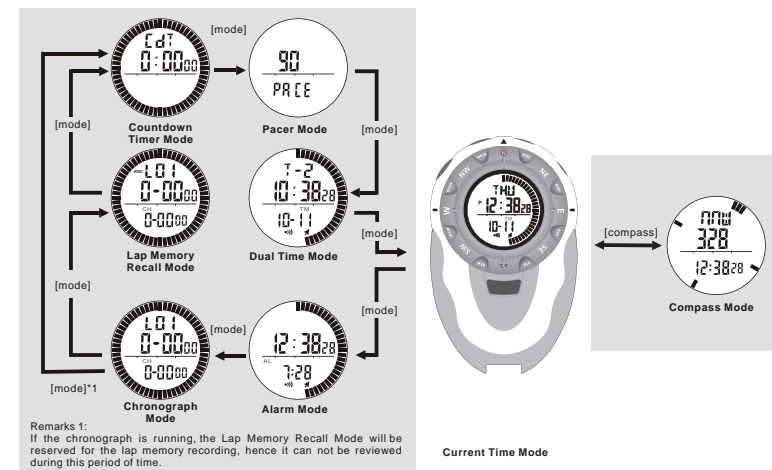
Your HandHeld TrackMaster also includes normal time, daily alarm, chronograph, countdown timer, pacer and dual time.

Your HandHeld TrackMaster is carefully designed and produced for outdoor activities, in order to utilize these features of your watch, it is advisable to read the following instructions:

- Read the instruction before you use the HandHeld TrackMaster.
- Avoid exposing your HandHeld TrackMaster to the extreme conditions for an unreasonable time.
- Avoid rough uses or severe impacts to your HandHeld TrackMaster.
- Do not open the HandHeld TrackMaster's case unless a certified service agency because your HandHeld TrackMaster contains precise electronic sensor and components.
- Clean your HandHeld TrackMaster with a soft cloth occasionally that working for a longer use life of your watch.
- Keep your HandHeld TrackMaster away from magnets or the appliances which contains magnetic objects such as mobile phones, speakers and motors.
- Store your HandHeld TrackMaster in a dry place when it is not in use.

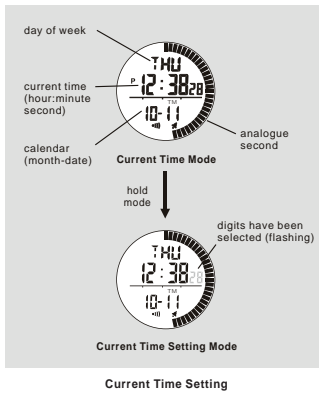
2

## 3.0 Major Function Modes



4

#### 4.0 Current Time Mode - Current Time & Calendar

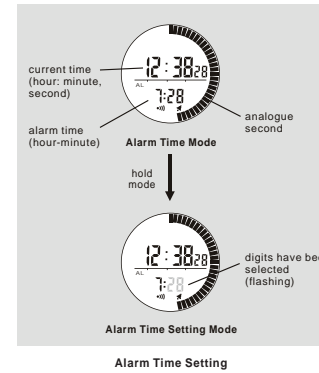


##### Current Time Mode

- The 1st row of the display shows the day of week.
- The 2nd row of the display shows the current time: hour, minute and second.
- The 3rd row of the display shows the calendar: month, date.
- The indicators encircle the display show the current time in 1 second resolution analogically.

5

#### 5.0 Alarm Time Mode - Setting the Alarm and Chime On/Off



##### Alarm Time Mode

- The 2nd row of the display shows the current time: hour, minute and second.
- The 3rd row of the display shows the alarm time: hour, minute.
- The indicators encircle the display show the current time in 1 second resolution analogically.

##### To Set the Chime ON/OFF

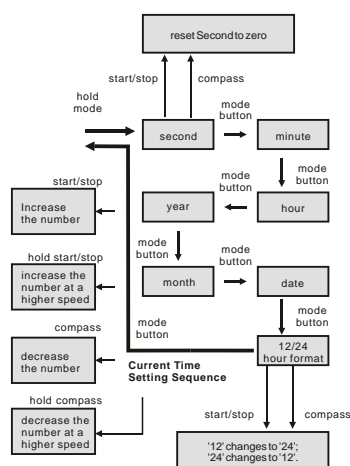
- Press the [compass] button to change the ON/OFF status of the hourly chime, in the Alarm Time Mode.
- When the chime indicator ▲ is appeared (chime ON), the HandHeld TrackMaster beeps every hour on the hour.

##### To Set the Alarm ON/OFF

- Press the [start/stop] button to change the ON/OFF status of the alarm, in the Alarm Time Mode.
- When the alarm indicator ● is appeared (alarm ON), the HandHeld TrackMaster sounds at the pre-set alarm time every day.

7

#### 4.1 Current Time Mode - Setting Current Time Mode



##### To Set the Current Time Mode

- To set the current time, calendar and 12/24 hour format, press and hold the [mode] button for 2 seconds to change the display from the Current Time Mode to Current Time Setting Mode.

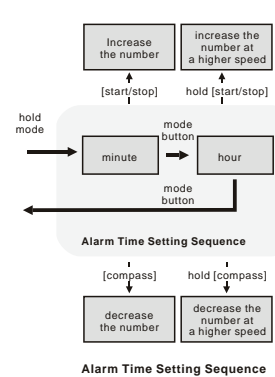
- The second digits flash on the display because they are being selected.

##### The Setting Procedures

- Press [mode] button to change the selections following the Current Time Setting Sequence.
- If the digits are flashing, press the [start/stop] button to increase the number; hold the [start/stop] button to change the number at a higher speed. Press the [compass] button to decrease the number; hold the [compass] button to change the number at a higher speed.
- When second digits start flashing, press the [start/stop] or [compass] button once to reset the second to zero.
- When 12 or 24 digits start flashing, press the [start/stop] or [compass] button once to select between 12 or 24 hour format.
- After you set the current time, calendar and 12/24 hour format, press the [mode] button to exit the Current Time Setting Sequence.
- If no key-stroke has been activated for 30 seconds, the setting display will return to Current Time Mode.

6

#### 5.1 Alarm Time Mode - Setting the Alarm Time



##### To Set the Alarm Time

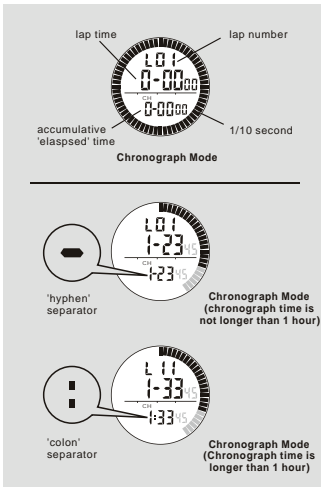
- Press and hold the [mode] button for 2 seconds to change from Alarm Time Mode to Alarm Time Setting Mode.
- The minute digits flash on the display because it is being selected.

##### The Setting Procedures

- Press [mode] button to change the selection following the Alarm Time Setting Sequence.
- If the digits are flashing, press the [start/stop] button to increase the number; hold the [start/stop] button to change the number at a higher speed. Press the [compass] button to decrease the number; hold the [compass] button to change the number at a higher speed.
- After you set the alarm time, press the [mode] button to exit the setting sequence.
- If no key-stroke has been activated for 30 seconds, the setting display will auto return to Alarm Time Mode.

8

## 6.0 Chronograph Mode - Chronograph Mode

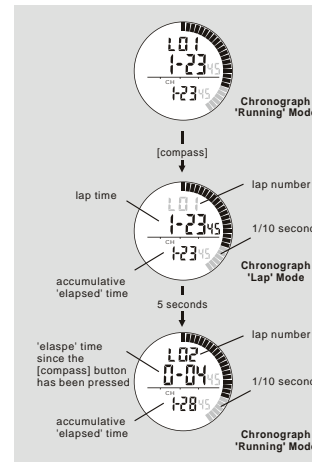


### Chronograph Mode

- The Chronograph measures elapsed times and lap times.
  - The 1st row of the display shows the current lap number of the chronograph.
  - The 2nd row of the display shows the lap time: minute, second and 1/100 second.
  - The 3rd row of the display shows the accumulated running time: minute, second and 1/100 second.
- NOTE:** if the accumulated time is long than 1 hour, the display shows chronograph time in hour, minute and second instead of minute, second and 1/100 second.
- The indicators encircled the display shows the chronograph time in 1/10 second analogically.

**NOTE:** The maximum counting range of the chronograph is 9 hours 59 minutes and 59 seconds, hence the chronograph will count continuously until it counts to that value or the [start/stop] button is pressed.

## 6.2 Chronograph Mode - Record Lap Time



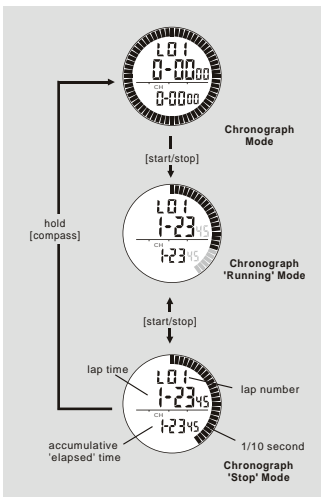
### To Record Lap Memory

- The Chronograph Mode allows you to record lap memory (maximum 42 lap memories).
- Press the [compass] button once to record the lap memory during the chronograph is running.
- The lap number will be flashing on the 1st row of the display.
- The lap time display on the 2nd row of the display for 5 seconds, then it shows the 'elapse' time since the [compass] button has been pressed.
- The accumulated 'elapse' time will be display on the 3rd row of the display.
- During the lap number and lap time are displaying, the chronograph keeps running.
- Repeat the steps mentioned above to get another set of lap memory.

### To Reset Lap Memory

- Press and hold the [compass] button for 2 seconds to reset the lap memory in the Chronograph Mode, when the chronograph was stopped.

## 6.1 Chronograph Mode - Start/Stop the Chronograph



### To Start/Stop the Chronograph

- When the chronograph is stopped, press the [start/stop] button once to start the chronograph; press [start/stop] button once again to stop the chronograph.
- The elapsed time between the two 'start/stop' keystrokes will be appeared on 3rd row of the display.

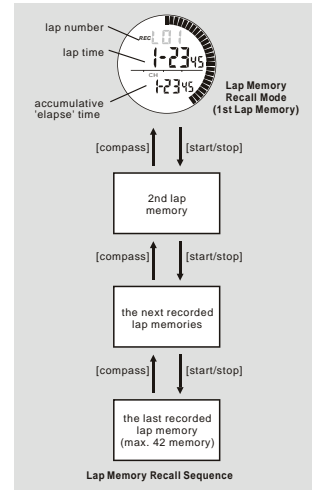
- Repeat the above mentioned steps to get the accumulative time of which the chronograph is running.

### To Reset the Chronograph

- Record a new set of elapsed time, press and hold the [compass] button for 2 seconds (when the chronograph has stopped) to reset the chronograph.

**NOTE:** If you reset the chronograph, the lap memory will be reset at the same time.

## 7.0 Lap Memory Recall Mode - Recall Lap Time



### Lap Memory Recall Mode

- The lap number flashes at the 1st row of the display; the 'REC' indicator will be appeared at the same time.
- The 2nd row of the display shows the lap time of the current lap memory: minute, second and 1/100 second (not longer than 1 hour) or hour minute and second (longer than 1 hour).
- The 3rd row of the display shows the accumulated 'elapse' time: minute, second and 1/100 second (not longer than 1 hour) or hour minute and second (longer than 1 hour).

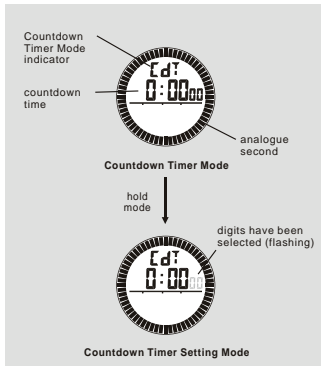
**NOTE:** If the chronograph is running, the Lap Memory Recall Mode will be reserved for the lap memory recording and this mode can not be reviewed during this period of time.

### To Recall Lap Memory

- Press the [start/stop] button to check the lap memories through forward reviewing from lap 1 to lap 42. Hold the [start/stop] button to change lap memory at a higher speed.
- Press the [compass] button to check the lap memories through backward reviewing from lap 42 to lap 1. Hold the [compass] button to change lap memory at a higher speed.

**NOTE:** Check the 'To Reset Lap Memory' section for lap memory reset.

## 8.0 Countdown Timer Mode - Countdown Timer Mode

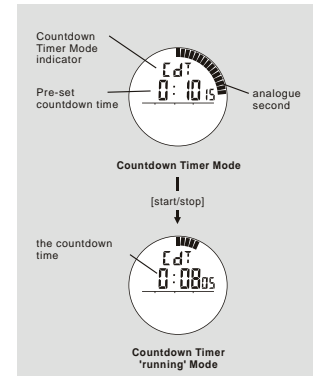


### Countdown Timer

- HandHeld TrackMaster has countdown feature: the Countdown Timer Mode.
- The Countdown Timer starts counting from the preset number to zero and stops at zero.
- The 1st row of the display shows the 'CdT' indicator.
- The 2nd row of the display shows the countdown time: hour, minute and second.
- The indicators encircled the display shows the countdown time in 1 second analogically.

13

## 8.2 Countdown Timer Mode - Using the Timer



### To Use the Timer

- Once the timer has been set (for example 0:10:15), press the [start/stop] button once to start the countdown. The countdown time will be displayed continuously throughout the countdown.
- To stop countdown, press the [start/stop] button once.
- When the countdown time is come to zero, press [compass] button to re-load the preset time, or press [start/stop] button to re-load the preset time and starts the countdown simultaneously.

### To Reset the Timer

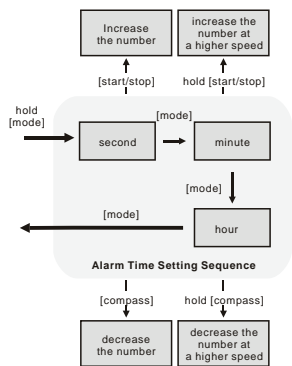
- To reset the timer to zero, press and hold the [compass] button for 2 seconds when the timer has stopped counting.

### Timer Alarm Sound

- The timer starts to beep twice when the countdown time comes to 10, 5, 4, 3, 2, 1 minute(s) and 50, 40, 30, 20, 10 seconds.
- The timer starts to beep once when the countdown time comes to 9, 8, 7, 6, 5, 4, 3, 2, 1 second(s).
- The timer starts to beep a long beep when the countdown time comes to zero.

15

## 8.1 Countdown Timer Mode - Setting the Timer



### To Set the Countdown Timer

- Press and hold the [mode] button for 2 seconds to change the display from Countdown Timer Mode to Countdown Timer Setting Mode.

**NOTE:** The setting range of the timer: 0 to 99 hours, 59 minutes, 59 seconds.

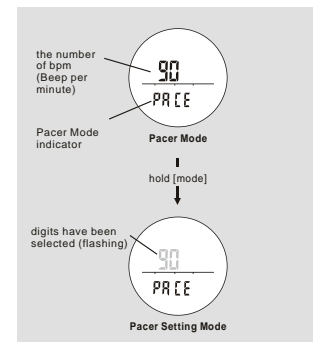
- The second digits flash on the display because it is being selected.

### The Setting Procedure

- Press [mode] button to change the selection following the Countdown Timer Setting Sequence.
- If the digits are flashing, press the [start/stop] button to increase the number; hold the [start/stop] button to change the number at a higher speed. Press the [compass] button to decrease the number; hold the [compass] button to change the number at a higher speed.
- After you set the timer, press the [mode] button to exit the setting sequence.
- If no key-stroke has been activated for 30 seconds, the setting display will return to Countdown Timer Mode.

14

## 9.0 Pacer Mode - Using the Pacer



### To Use the Pacer

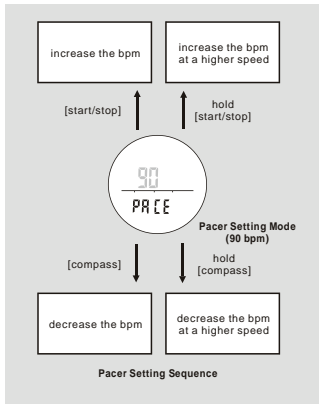
- The HandHeld TrackMaster build-in a pacer for the user: The Pacer Mode.
- The 2nd row of the display show the current pacer setting.
- The 'PACE' indicator will be appeared on the 3rd row of the display.
- If the pacer is activated, the HandHeld TrackMaster will beep at the preset rate (bpm) for every minute.

### To Start/Stop the Pacer

- If the Pacer has been set, press the [start/stop] button to start the pacer. If the Pacer started, press the [start/stop] button again to stop the pacer and the beeping sound.

16

## 9.1 Pacer Mode - Setting the Pacer Rate (bpm)



### To Set the Pacer Rate (bpm)

- Press and hold the [mode] button for 2 seconds to change the display from Pacer Mode to Pacer Setting Mode.

- The digits flash on the display because it is being selected.

### The setting procedure

- If the digits are flashing, press the [start/stop] button to increase the number (step of 5 BPM); hold the [start/stop] button to change the number at a higher speed. Press the [compass] button to decrease the number (step of 5 BPM); hold the [compass] button to change the number at a higher speed.

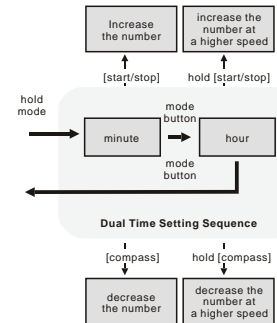
- After you set the pacer, press the [mode] button to exit the setting sequence.

- If no key-stroke has been activated for 30 seconds, the setting display will return to PacerMode.

**NOTE:** The setting range of the pacer: 40 bpm to 180 bpm.

17

## 10.1 Dual Time Mode - Setting the Dual Time



### To Set the Dual Time

- To set the dual time, press and hold the [mode] button for 2 seconds to change the display from the Dual Time Mode to Dual Time Setting Mode.

- The minute digits flash on the display because they are being selected.

### The Setting Procedures

- Press [mode] button to change the selections following the Dual Time Setting Sequence.

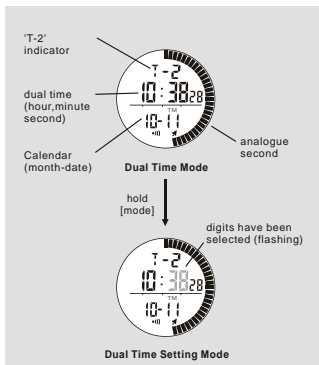
- If the digits are flashing, press the [start/stop] button to increase the number; hold the [start/stop] button to change the number at a higher speed. Press the [compass] button to decrease the number; hold the [compass] button to change the number at a higher speed.

- After you set the Dual Time, press the [mode] button to exit the Dual Time Setting Sequence.

- If no key-stroke has been activated for 30 seconds, the setting display will return to Dual Time Mode.

19

## 10.0 Dual Time Mode - Dual Time Mode



### Dual Time Mode

- The 'T-2' indicator will be displayed on the 1st row of the display.

- The 2nd row of the display shows the dual time: hour, minute and second.

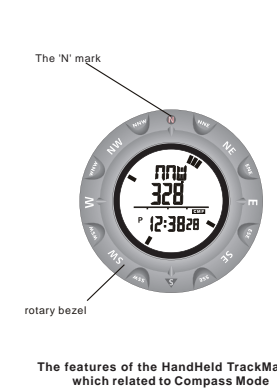
- The 3rd row of the display shows the calendar: month, date.

- The indicators encircle the display show the current time in 1 second resolution analogically.

**NOTE:** The calendar readout of the Dual Time Mode will be the same as the Current Time Mode.

18

## 11.0 Compass Mode - The Precautions



### The Precautions when Using HandHeld TrackMaster

- Keep your HandHeld TrackMaster away from magnets or the appliances which may contain magnetic objects such as mobile phones, speakers, motors and etc.

- The HandHeld TrackMaster, like most magnetic compass, points to the magnetic North which is slightly different from the true North. Check the 'What is Magnetic Declination' section for more detail.

- Perform the compass calibration on the following conditions:

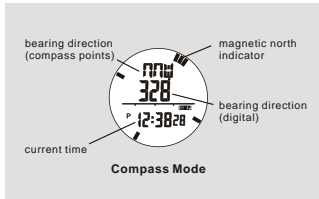
- 1) when the HandHeld TrackMaster is used the first time,
- 2) when the 'DIST' indicator is flashing,
- 3) the battery has been replaced, and
- 4) use the compass in a location where is apart from the place in which the compass had been calibrated.

- To achieve an accurate result, you should avoid measuring a direction on the following conditions:

- 1) the watch is closed to magnetic/metal objects,
- 2) the watch is closed to electrical appliances, and
- 3) the watch is placed inside a moving object or a ferroconcrete building.

20

## 11.1 Compass Mode - Compass Mode

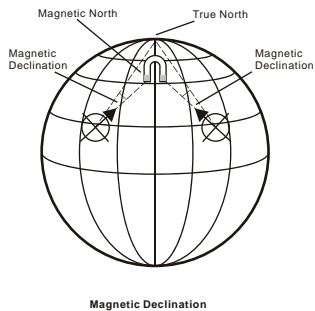


### Compass Mode

- In the Compass Mode, the 1st row of the display shows the bearing (compass points) of the direction which the watch's pointer is pointing.
- The 2nd row of the display shows the bearing (digital) of the direction which the watch's pointer is pointing.
- The 3rd row of the display shows the current time: hour, minute and second.
- The indicators encircled the display show the direction of magnetic North analogically.
- In the Compass Mode, the Compass Mode will change to the standby mode after 1 minute.
- In the standby mode, press any button except [Light] button once to return to Compass Mode.

21

## 11.2 Compass Mode - Magnetic Declination



### What is Magnetic Declination

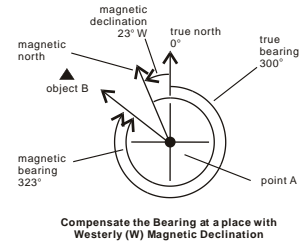
- The Magnetic North Pole which is slightly different from the True North Pole. The HandHeld TrackMaster, like most magnetic compass, points to the Magnetic North Pole. On the contrary, everything measure from a map is related to the True North Pole.
- The angular difference between Magnetic North Pole and True North Pole is called magnetic declination. Its amount (degrees and minutes) and direction (easterly and westerly) depend on where you are.
- For serious compass user or who intends to perform accurate navigation, compass must be adjusted to compensate of magnetic declination.
- HandHeld TrackMaster also includes a compensation setting for Magnetic Declination. Check 'Calibrating the Compass' section for more detail of the setting.

### Magnetic Declination Information

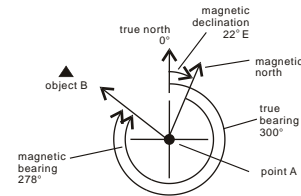
- Most topographic maps show magnetic north pole and or the magnetic declination information.
- This manual includes the magnetic declination for some major cities. Check the 'Magnetic Declination at Major Cities' section for more detail.
- For those cities whose names are not included in the list, you may like to refer to the online magnetic declination information at:
  1. [http://www.geolab.nrcan.gc.ca/geomag/e\\_cgcf.html](http://www.geolab.nrcan.gc.ca/geomag/e_cgcf.html)
  2. <http://www.ngdc.noaa.gov/cgi-bin/seg/gmag/flidnsh1.pl>
- Use an atlas to find your latitude and longitude before you can use the links above.

22

## 11.3 Compass Mode - Magnetic Declination Compensation



Compensate the Bearing at a place with Westerly (W) Magnetic Declination



Compensate the Bearing at a place with Easterly (E) Magnetic Declination

### Magnetic Declination Compensation

- Compensate an object's bearing by subtract westerly (W) magnetic declination or add easterly (E) magnetic declination with the magnetic bearing.

#### Example 1

- 23° Westerly magnetic declination and the compass needle points 323°.
- The bearing will be 323° (MB) - 23° (W) = 300° (TB).

#### Example 2

- 22° Easterly magnetic declination and the compass needle points 278°.
- The bearing will be 278° (M) + 22° (E) = 300° (TB).
- HandHeld TrackMaster will compensate the compass bearing wherever the magnetic declination is either Westerly (-ve) declination or Easterly declination (+ve) automatically, if the user input the magnetic declination angle of the city which close to the user's current location into the watch during the calibration.
- Check the 'Calibrating the Compass' section for more detail of the calibration.

23

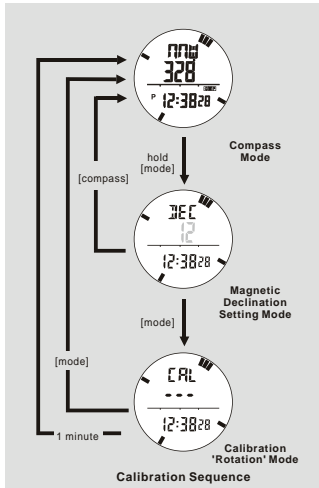
## 11.4 Compass Mode - Magnetic Declination at Major Cities

| No. | Country/Place  | Major City   | Declination | No. | Country/Place  | Major City     | Declination |
|-----|----------------|--------------|-------------|-----|----------------|----------------|-------------|
| 1   | Afghanistan    | Kabul        | 2-E         | 33  | Netherlands    | Amsterdam      | 1-W         |
| 2   | Australia      | Canberra     | 12-E        | 34  | New Zealand    | Wellington     | 22-E        |
| 3   | Austria        | Vienna       | 2-E         | 35  | Norway         | Oslo           | 0           |
| 4   | Bahrain        | Manama       | 2-E         | 36  | Pakistan       | Islamabad      | 2-E         |
| 5   | Bangladesh     | Dhaka        | 0           | 37  | Philippines    | Manila         | 1-W         |
| 6   | Belgium        | Brussels     | 1-W         | 38  | Portugal       | Lisbon         | 5-W         |
| 7   | Brazil         | Brasilia     | 19-W        | 39  | Russia         | Moscow         | 9-E         |
| 8   | Canada         | Ottawa       | 14-W        | 40  | Singapore      | Singapore      | 0           |
| 9   | Chile          | Santiago     | 5-E         | 41  | South Africa   | Cape Town      | 23-W        |
| 10  | China          | Beijing      | 6-W         | 42  | Spain          | Madrid         | 3-W         |
| 11  | China          | Hong Kong    | 2-W         | 43  | Sweden         | Stockholm      | 3-E         |
| 12  | Costa Rica     | San Jose     | 0           | 44  | Switzerland    | Bern           | 0           |
| 13  | Cuba           | Havana       | 3-W         | 45  | Taiwan         | Tai-pei        | 3-W         |
| 14  | Czech Republic | Prague       | 2-E         | 46  | Thailand       | Bangkok        | 0           |
| 15  | Denmark        | Copenhagen   | 1-E         | 47  | UAE            | Abu Dhabi      | 1-E         |
| 16  | Egypt          | Cairo        | 3-E         | 48  | United Kingdom | London         | 3-W         |
| 17  | Finland        | Helsinki     | 6-E         | 49  | United States  | Washington, DC | 10-W        |
| 18  | France         | Paris        | 1-W         | 50  |                | Juneau         | 25-E        |
| 19  | Germany        | Berlin       | 1-E         | 51  |                | Phoenix        | 12-E        |
| 20  | Greece         | Athens       | 3-E         | 52  |                | Little Rock    | 2-E         |
| 21  | Hungary        | Budapest     | 4-E         | 53  |                | Sacramento     | 16-E        |
| 22  | India          | New Delhi    | 1-E         | 54  |                | Denver         | 10-E        |
| 23  | Indonesia      | Jakarta      | 1-E         | 55  |                | Atlanta        | 4-W         |
| 24  | Israel         | Jerusalem    | 3-E         | 56  |                | Honolulu       | 10-E        |
| 25  | Italy          | Rome         | 1-E         | 57  |                | Boston         | 16-W        |
| 26  | Japan          | Tokyo        | 7-W         | 58  |                | Saint Paul     | 2-E         |
| 27  | Jordan         | Amman        | 3-E         | 59  |                | Jackson        | 1-E         |
| 28  | Kenya          | Nairobi      | 1-E         | 60  |                | Santa Fe       | 10-E        |
| 29  | Korea          | Seoul        | 7-W         | 61  |                | Oklahoma City  | 6-E         |
| 30  | Malaysia       | Kuala Lumpur | 1-E         | 62  |                | Salem          | 18-E        |
| 31  | Mexico         | Mexico City  | 6-E         | 63  |                | Harrisburg     | 11-W        |
| 32  | Nepal          | Kathmandu    | 0           | 64  |                | Salt Lake City | 14-E        |

24



## 11.5 Compass Mode - Before Calibrate the Compass



### To Calibrate the compass

- Perform the compass calibration on the following conditions:

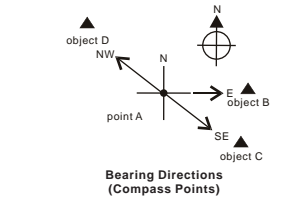
- 1) when the HandHeld TrackMaster is used the first time,
- 2) when the 'DIST' indicator is flashing,
- 3) the battery has been replaced, and
- 4) use the compass in a location where is apart from the place in which the compass had been calibrated.

**IMPORTANT:** If the watch has not been calibrated, the direction reading may be inaccurate.

- Check the 'Magnetic Declination at Major Cities' section to get the magnetic declination of the city which close to your current location, because such angle will be inputted into the HandHeld TrackMaster during the calibration.

25

## 11.7 Compass Mode - Compass Points and Digital Bearings



### The Direction of an Object

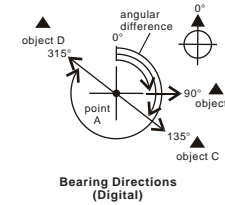
- The direction of an object from a point is specified in either compass points or digital bearing directions.

- The HandHeld TrackMaster provides both compass points or digital bearing directions.

### The Compass Points

- The compass points are North, Northeast, East, Southeast, South, Southwest, West and Northwest.

- For example, in the figure on the left, the compass points of object B from point A is East. The compass points of object C from point A is Southeast. The compass points of object D from point A is Northwest.



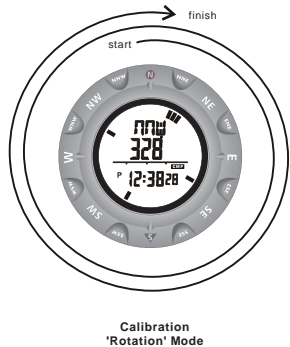
### The Digital Bearing

- The digital bearing direction of an object is defined as the angular difference between North and the object. (Assuming that 0° for North, and the measuring range is from 0° to 359°)

- For example, in the figure on the left, the digital bearing direction of object B from point A is 90°. The digital bearing direction of object C from point A is 135°. The digital bearing direction of object D from point A is 315°.

27

## 11.6 Compass Mode - Calibrating the Compass



### To Calibrate the Compass

- Press and hold the [mode] button for 2 seconds to start the Magnetic Declination Setting, in the Compass Mode.

- The 'DEC' indicator will be appeared on the 1st row of the display. The digit will start flashing, press the [start/stop] button to change the angle (from -90 to 90) until the desire magnetic declination appeared.

### Example 1:

- Compensate the magnetic declination for Wellington in New Zealand (22-E), select +22 in the magnetic declination setting.

### Example 2:

- Compensate the magnetic declination in Boston in the USA (16-W), select -16 in the magnetic declination setting.

- Press the [mode] button to go to the Calibration 'Rotation' Mode, the EL back light will turn on automatically for a second. At the same time, the 'CAL' indicator will be appeared on 1st row of the display and the bearing indicators start to move.

- When the EL back light is off, hold the HandHeld TrackMaster on a flat surface which is parallel to the horizon, then rotate the HandHeld TrackMaster clockwise at the rate as the bearing indicators' moving for 2 turns. The rotation should be completed in a slow and steady way

- When the turning is completed, press the [mode] button to return to Compass Mode otherwise the Calibration 'Rotation' Mode will return to Compass Mode after 1 minute.

26

## 11.8 Compass Mode - Compass Points versus Digital Bearings

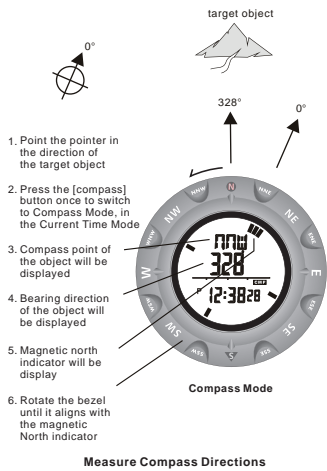
| Marks | Compass Points  | Digital Bearing Directions |
|-------|-----------------|----------------------------|
| N     | North           | 348.75° to 11.25°          |
| NNE   | North Northeast | 11.25° to 33.75°           |
| NE    | Northeast       | 33.75° to 56.25°           |
| ENE   | East Northeast  | 56.25° to 78.75°           |
| E     | East            | 78.75° to 101.25°          |
| ESE   | East Southeast  | 101.25° to 123.75°         |
| SE    | Southeast       | 123.75° to 146.25°         |
| SSE   | South Southeast | 146.25° to 168.75°         |
| S     | South           | 168.75° to 191.25°         |
| SSW   | South Southwest | 191.25° to 213.75°         |
| SW    | Southwest       | 213.75° to 236.25°         |
| WSW   | West Southwest  | 236.25° to 258.75°         |
| W     | West            | 258.75° to 281.25°         |
| WNW   | West Northwest  | 281.25° to 303.75°         |
| NW    | Northwest       | 303.75° to 326.25°         |
| NNW   | North Northwest | 326.25° to 348.75°         |

Compass Points versus Digital Bearings

28



## 11.9 Compass Mode - Measure Compass Directions



### Measure Compass Directions

- When measuring compass directions, make sure that the HandHeld TrackMaster is placed on a flat surface which is parallel to the horizon.

- If you are wearing the HandHeld TrackMaster during the measurement, make sure that your wrist is parallel to the horizon.

**IMPORTANT:** If the watch does not parallel to the horizon when taking a measurement, the result may be inaccurate.

- Point the pointer which engraved on the watch in the direction where is your target object.

- Press the [compass] button once to select the Compass Mode, in the Current Time Mode.

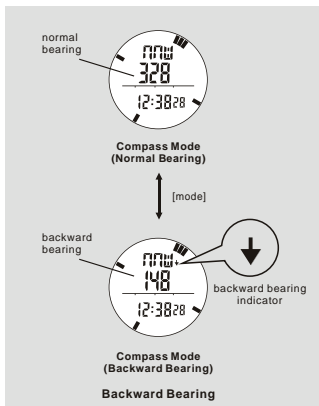
- The Compass points of the target object appears on the 1st row of the display. The digital bearing direction of the target object appears on the 2nd row of the display. The arrow shape indicators on the display points the magnetic north analogically.

- Rotate the rotary direction bezel until the 'N' mark is aligned with the arrow shape indicators on the display. That action makes all of the marks on the bezel in the correct direction.

- Check the marks on the bezel to identify the other compass points.

29

## 11.10 Compass Mode - Backward Bearing Direction



### Backward Bearing Directions

- The HandHeld TrackMaster has a built-in function which shows backward bearing direction of an object.

- The backward bearing direction is the bearing direction that on the opposite direction from normal bearing direction.

- When the 'Backward Bearing' indicator ↓ is appeared, the HandHeld TrackMaster shows the backward bearing direction of the direction which the watch's pointer is pointing.

**NOTE:** In Backward Bearing CompassMode, the magnetic north indicator and the compass points readout will not be affected.

#### To Select Normal Bearing and Backward Bearing

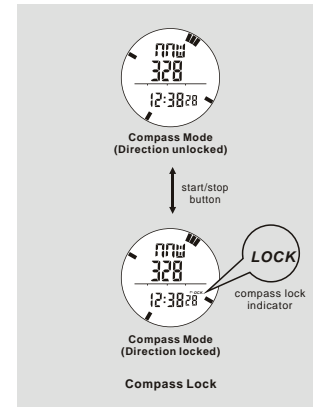
- Press the [mode] button to select between normal and backward bearing directions, in the Compass Mode.

- The backward bearing will be return to normal bearing automatically in the following conditions:

- 1) the HandHeld TrackMaster change to standby mode.
- 2) the HandHeld TrackMaster change to Current Time Mode.

30

## 11.11 Compass Mode - Compass Lock



### Compass Lock

- The HandHeld TrackMaster has a built-in lock function to lock important direction readings, in the Compass Mode.

- When the 'Lock' indicator 'LOCK' is appeared, the HandHeld TrackMaster locks the direction readings, hence the direction reading will not be changed even the pointer is pointing to another object.

#### To Lock/Unlock the Compass Lock

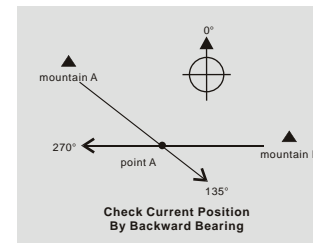
- Press the [start/stop] button to lock/unlock the direction readings, in the CompassMode.

- The compass lock will be released automatically on the following conditions:

- 1) The HandHeld TrackMaster change to standby mode.
- 2) The HandHeld TrackMaster change to Current Time Mode.

31

## 11.12 Compass Mode - Application of the Compass I



### Check your position by Backward Bearing

- The HandHeld TrackMaster can check your position by backward bearing.

- Spot two distant identifiable landmarks (mountains, light-houses, forts and buildings) of your current position, such as the mountain A and B.

- Consult a map to find out the mountain A and B's locations on a map.

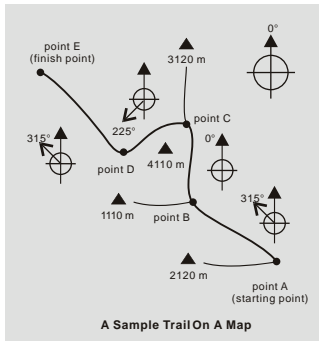
- Check out the backward bearing directions of mountain A and B of your current position, such as 135° for mountain A and 270° for mountain B.

- Use a ruler to draw the line 135° on the map which starting from the mountain A. Draw the lines 270° on the map which starting from the mountain B.

- Your current position will be at the intersection point (point A) of the lines 135° and 270°.

32

## 11.13 Compass Mode - Application of the Compass II



### To Check the Track Course Correct

- If you are hiking on a track, the HandHeld TrackMaster can keep your track course correct.
- For example, the correct track is from point A to point E as it is mentioned on the map on the left.

### Before the Track

- Mark the points (identifiable landmarks) on a topographic map where the track turns its direction or the track branches its way, such as the point A, B, C, D and E.
- Check the bearing directions on a topographic map of the following points:
  - 1) point B from point A (315°),
  - 2) point C from point B (0°),
  - 3) point D from point C (225°), and
  - 4) point E from point D (315°).

### During the Track

- Check that you are in the correct bearing direction at the turning points or where the trail branches its way.

**IMPORTANT:** If you doubt of the directions and positions of the track, consult a wrangler or park administration officer before starting your track.

33

## 13.0 Specifications

### Current Time Mode

#### Time System:

- AM, PM, Hour, minute, second, and display with bar graph animation at the rate of 1 second
- 12-hour or 24-hour format

#### Calendar:

- Month, date and day of week display
- Auto-Calendar function for leap year and day of week

#### Alarm Mode

##### Alarm Type:

- 1 daily alarm, hourly chime

##### Alarm Sound:

- Sounds for 20 seconds at preset time of real time clock

#### Chronograph Mode

##### Resolution:

- 1/100 second

##### Range:

- 9 hours 59 minutes 59 seconds

##### Lap memory:

- 42 lap memories (maximum)

### Countdown Timer

#### Resolution:

- 1 second resolution

#### Range:

- 99 hours 59 minutes 59 seconds

#### Timer Sounds:

- The timer starts to beep twice when the countdown time comes to 10, 5, 4, 3, 2, 1 minute(s) and 50, 40, 30, 20, 10 seconds.
- The timer starts to beep once when the countdown time comes to 9, 8, 7, 6, 5, 4, 3, 2, 1 second(s).
- The timer starts to beeps a long beep when the countdown time comes to zero.

#### Pacer Mode

##### Range:

- 40 bpm to 180 bpm

##### Pacer Sounds:

- Pacer beep

#### Dual Time Mode

##### Time System:

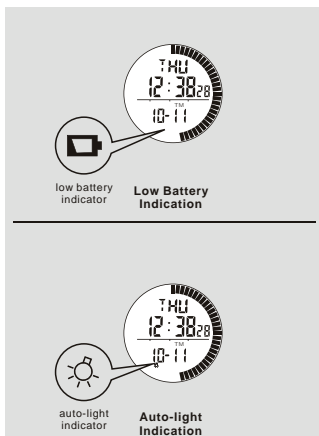
- AM, PM, Hour, minute, second, and display with bar graph animation at the rate of 1 second

##### Calendar:


- Month and date

35

## 12.0 Low Battery Indication & Auto-Light Indication




### Low Battery Indication

- If the battery low indicator  is appeared on the display, it means that the capacity of the battery is low. It is recommended to replace the battery with a new one (CR-2032).
- Complete the battery replacement by a certified service agency, because this HandHeld TrackMaster contains precise electronic sensor and components.
- However, if the appearance of battery low indicator is caused by an extremely low temperature, the indicator will be disappeared when normal temperature returns.

**IMPORTANT:** Perform the compass calibration immediately, if the battery has been replaced. Refer to the 'Before Calibrate the Compass' and 'Calibrating the Compass' sections for more detail of the calibration.

### Auto-Light Indication

- If the auto-light indicator  is appeared, the auto-light feature is enabled.
- If the auto-light feature is enabled, press any button will turn on the back light for about 3 seconds.

**NOTE:** Auto-Light feature will consume more battery than that when the auto-light feature is disabled, hence a shorter life cycle for the battery when the auto-light feature is enabled.

### To Enable/Disable Auto-Light

- Press and hold the [light] button for 2 seconds to enable the auto-light feature when the auto-light is disabled.
- Press and hold the [light] button for 2 seconds to disable the auto-light feature when the auto-light is enabled.

34

## 13.0 Specifications

### Compass Mode

#### Resolution:

- 1° display (digital)
- 1 of 60 pointers (graphical)
- 16 compass points

#### Display Range:

- 0 to 359° (digital)
- 1 to 60 pointers (graphical)

#### Others:

- Digital bearing reading Lock
- Digital backward bearing

#### Back Light

##### Back Light Type:

- Electro-Luminescent (EL) back light

#### Others:

- Auto back light

#### Battery

##### Battery Type:

- Single 3V lithium battery (CR2032)

36