

CNR-SW2 Manual v1.0

Canyon NavMaster

Features

Altimeter

- Altitude Measuring Range : -500 to 9000 meter or -1,600 to 29500 feet
- Resolution of 0.5 meter or 1 feet
- Total Altitude Gain
- Trip timer : 9 hr 59 min 59 sec
- Current ascending or descending Speed
- Average ascending or descending Speed

Electronic Compass

- 3-mode display showing a compass arrow direction, numeric and cardinal readouts
- with highly accuracy of +-5 degree and a resolution of 1 degree
- a magnetic distortion alerts "Err" when external magnetic interference occurs
- automatic shut-off

Thermo Alarm Clock

- Perpetual calendar with day of week
- Snooze alarm clock
- Thermometer (-10 degree °C to + 50 degree °C)
- 12/24 hr, °C/°F selectable
- Max/Min memory for Thermometer

Battery Installation

Computer Watch

Remove the back cover of the computer with a screwdriver, install the 3.0V-battery with the positive(+) pole facing up and replace the cover. Remove the battery and reinsert it if the LCD displays irregular figures. This will clear and restart the computer's microprocessor.















3V-Battery CR2032

Display Icons & Keys Illustration



Icons:

	Heading Direction		Time mode
	Alarm ON / OFF		Afternoon
	Alarm Snooze		Temperature in Celsius
	Battery Low		Temperature in Fahrenheit
	Compass mode		Maximum memory
	Altimeter mode		Minimum memory

To wake Up and set your computer

- Press and hold both button A and C until all segments on.

Meter / Feet Selection

Right after all segments on, the "M" digit will start to flicker.

To select M (Meter) or Ft (Feet), press button C and then press button A to confirm.



°C/°F Selection

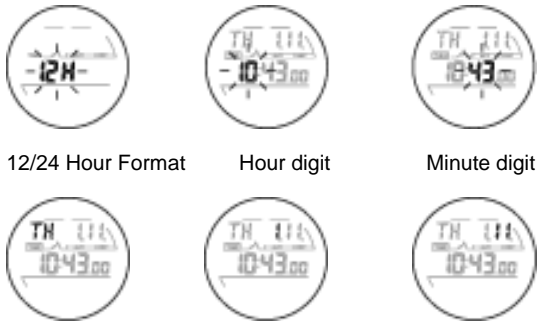
- Right after Meter/Feet selection, the Celsius digit will then start to flicker
- To select °C or °F, press button C and then press button A to confirm.



Clock Setting

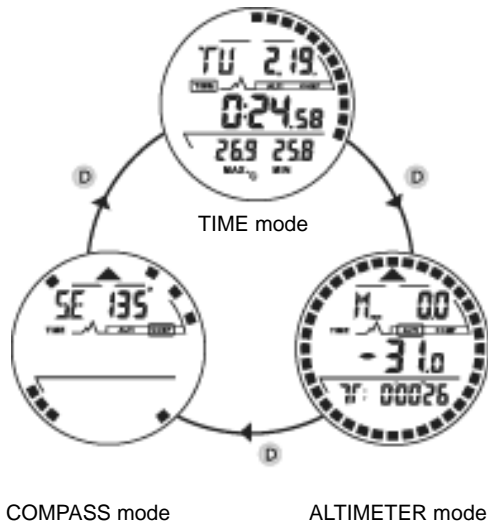
- Right after °C/°F selection, the "24H" digits will then start to flicker, press button C to select 12H or 24H hour format
- Press button A to confirm and then the hour digits will start to flicker.

- To set hour, press button C to adjust the hour digits to desired value and then press button A to confirm. Right after the confirmation, the minute digits will start to flicker.
- To set minutes, press button C to adjust the minute digits to desired value and then press button A to confirm.
- Repeat the process until you get a desired value of the day of week, month and the date.



To turn on and display different mode

Press button D to turn on and press button D again to switch to different modes.

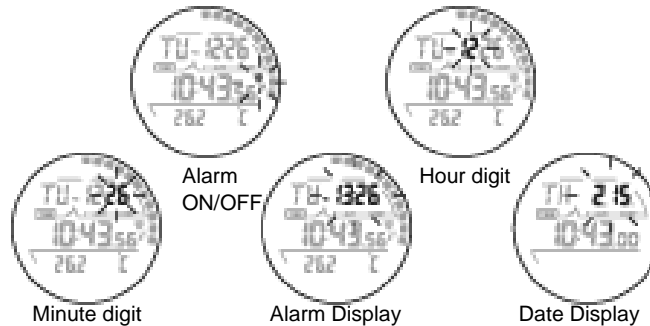


Back Light

- Press button B to turn on.

Snooze Alarm

- To set alarm time, in Clock mode, press and hold button A until the alarm hour digit start to flicker.
- Press button C to adjust the hour digit and then press button A to confirm.
- Right after the confirmation, the alarm minute digit will start to flicker.
- Press button C to adjust and then button A to confirm.
- To a snooze alarm (Z Z), it will alarm for 1 minute and repeat for 3 times with an interval of 5 minutes each.
- To read alarm time in Clock mode, Press button A to select the alarm time display or the date display format.



Temperature Memory Recall and Reset

- To recall maximum and minimum temperature, in Clock mode, press button C.
- To reset the memory, press and hold button A right after the recalling



Maximum and minimum temperature memory



Maximum and minimum temperature memory reset

The Digital Altimeter

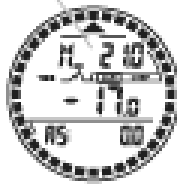
- Press button D to enter the Altimeter mode.
- To set the altitude, press button C to enter T (trip timer mode) first. Press button A to stop the timer and then hold button A again until the "▲" symbol start to flicker.
- Press button C to select "▲" for the ascending altitude gain counting or "▼" for the descending altitude loss counting.
- Press button A to confirm and then the first digit of the altitude will start to flicker.
- Press button C to adjust the digit and then press button A to confirm.
- Repeat the process until you get the desired altitude reading.
- To reset the altitude to sea level, press and hold button A for 8 seconds until all digits change to zero.
- To start a trip, press button C to enter trip timer mode and then press button A to start counting and press again to stop.
- To read different trip information, press button C to toggle (Trip Timer), d (the total altitude displacement for the gain or the loss) and AS (average ascending or descending speed).
- To reset trip information, press button C to enter trip timer mode first. Press button A to stop the timer and then hold button A again to reset the data.
- Trip timer will be switched off automatically when difference of altitude is no bigger than 2.5m within 5 minutes.
- Once the trip timer stops running, the altitude trip measurement will also stop in order to save battery power.
- The only way to restart the altitude trip measurement is to restart the trip timer again manually.
- In order to save battery power, the trip timer will also automatically be switched off when the device is switched to time or compass function.
- User should then restart the trip timer again manually in order to minimize error.

Current average ascending speed or descending speed

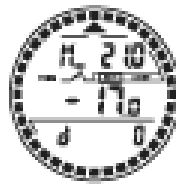


Trip Timer

Current altitude

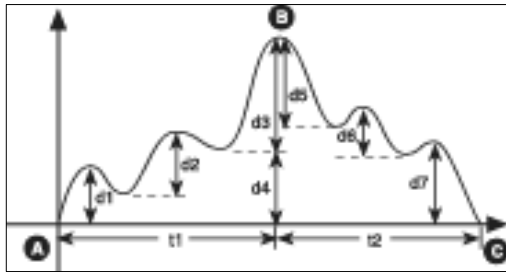


Average ascending speed or descending speed



Total altitude displacement {For Ascending (▲) or Descending (▼)}

Height



Time Spend

From A to B, (Ascending ▲) = $\frac{d3+d4}{t1}$
Average ascending speed (AS ▲) t1

Total altitude displacement for ascending (d ▲) = $d1+d2+d3$

From B to C, (Descending ▼) = $\frac{d3+d4}{t2}$
Average ascending speed (AS ▼) t2

Total altitude displacement for descending (d ▼) = $d5+d6+d7$

The Digital Compass

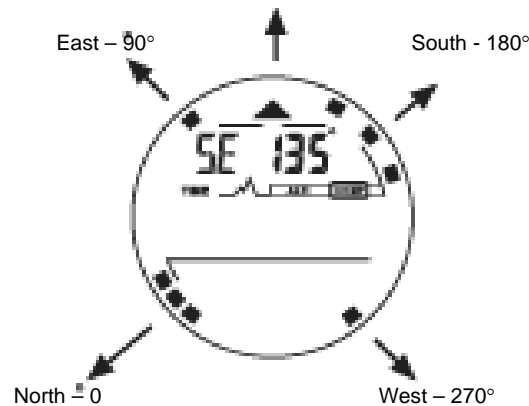
- Press button D to enter into the Compass mode.
- Keep the compass in horizontal level and pointing the direction by "▲".
- The compass will show the direction by 2 different ways.
 - (1). Precise direction pointed by "▲" in degree and cardinal readout, e.g. South East (SE) 135°.

(2). Precise direction of North (■■■), South (■■■■), East (■) and West (■) by the ring.

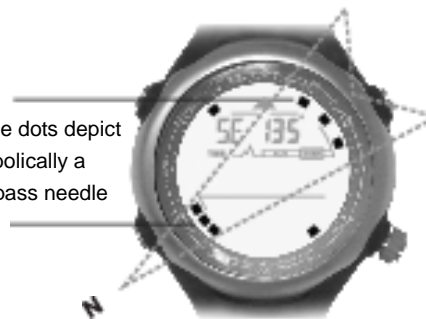
- For Power Saving, the compass will automatically stop measurement around 2 minutes with full direction dots on. To start the measurement again, press button A.



e.g. Direction pointing by - South East (SE) 135°



These dots depict symbolically a compass needle



Example: Determination of North

You may symbolize the icon ■■■ as the "TIP" of a needle, which

always points to the north, and the icon ■■■ as the "TAIL" of the needle, which always points to the south. No matter what the current compass's orientation is, the NORTH and SOUTH can easily be identified by ■■■ and ■■■.

Compass Calibration and Environmental Interference

- It is important to know that all digital compasses work with Earth's magnetic field and are very sensitive to different environments where the earth magnetic field is distorted, such as interference of closing to heavy metal, home appliance, computer and high power cable...etc.
- To keep high accurate heading information, you must calibrate the compass (1) when the magnetic distort message "Err" is continuously displayed (2) when the numeric heading information with an error of more than 10 degrees and (3) when the unit is used for the first time in a vehicle so as to separate the earth's field from the interference.



How to Calibrate the Compass

- Press button D to the Compass mode.
- Press and hold button A to enter calibration mode "CAL" and then press button C to start. The ring will then display and turn.
- Turn the unit clockwise for two circles on a level surface where it is free from unnecessary metal plate, home appliance, computer and high power cable...etc. The circles do not need to be perfect circles, but must be completed in the same direction. It is also important that each circle takes a minimum of 20 seconds but less than 1 minute to complete.
- Right after the calibration, press button C to confirm

- Failure to do a correct calibration can result in inaccurate headings. Perform a new calibration again if a heading is suspected.



Calibration Mode



After the ring move, turn the unit clockwise for two circles

Enter Declination angle for the true North

- Declination refers to the measured difference between the magnetic North and the North of the map. The local declination is given on the map margin either as easterly plus declination (E) or as westerly minus declination (W). When orienteering, the map direction is corrected by subtracting the plus declination and adding the minus declination.
- To input the value, press and hold button A to enter calibration mode "CAL" first and press button A again to confirm to enter declination setting mode "dEC".
- Right after entering the declination setting mode, a letter "E" starts to flicker. Press button C to select the direction East- E or West- W and then press button A to confirm.
- An angle digit will then start to flicker. To set the angle to be offset, press button C to adjust to the desired value and then press button A to confirm.
- As the declination setting will affect the direction directly, for a serious and final confirmation, press button C to turn the function "on" and then press button A again to confirm.
- In order to understand the declination effect, let us quote an example, the current direction is N 10 degree, If the declination angle is set to E 30 degree, the final will change to NE 40 degree or If the declination angle is set to W 30 degree, the final direction will change to NW 340 degree.



Important notes

Compass

- The compass must not be used near a metal or magnetic object like any other compass.
- Whenever error message "Err" is continuously displayed, please calibrate the compass again.
- Please hold the compass as horizontal as possible to get a precise direction.

Temperature

- The temperature displayed is the temperature of the case inside. Hence, it is influenced by your body temperature.
- To display the actual temperature, the watch must be taken off the hand for about 15 to 30 minutes and must not be exposed to direct sunlight.

Altimeter

- Unfortunately all altimeter are going to be affected by barometric pressure (unless they are GPS controlled or similar) as this is what they use to calculate their height. To offset this barometric effect on altimeter, Please keep a check and re-adjust the altimeter when you are at known heights or re-setting your watch to zero at sea-level.

And the declination angles for major world cites are listed as follows:

City	Declination	Angle	City	Declination	Angle
Anchorage	-----	22°E	Calgary	-----	18°W
Atlanta	-----	4°W	Chicago	-----	3°W
Bombay	-----	1°W	Denver	-----	10°E
Boston	-----	16°W	Jerusalem	-----	3°E
London	-----	4°W	Rio De Janeiro	-----	21°W
Little Rock	-----	3°E	San Francisco	-----	15°E
Livingston, MT	-----	14°E	Seattle	-----	19°E
Munich	-----	1°E	Shanghai	-----	5°W
New York City	-----	14°W	Toronto	-----	11°W
Orlando	-----	6°W	Vancouver	-----	20°W
Oslo	-----	2°W	Washington DC	-----	10°W
Paris	-----	2°W	Waterbury, CT	-----	14°W

Malfunction

Problem

Incorrect Compass Reading	Wrong Calibration or the environment of operation is changed. Do the Calibration again with correct instruction stated in the user manual.
"Err" display in Compass Mode	External Magnetic Interference, such as heavy metal, home appliance, computer and high power cable ,etc... Escape from the interference or do the re-calibration again.
Incorrect Temperature Reading	Interference from direct sunlight, air conditioner or Heater vent. Move the unit away from the interference.
Display readout fades and Incorrect readings	Poor battery or bad contacts. Take out battery and install again or Install a new battery.
Black Display	Temperature too hot, or display exposed to direct sunlight too long.
Display shows irregular figures	Take out battery and install again.