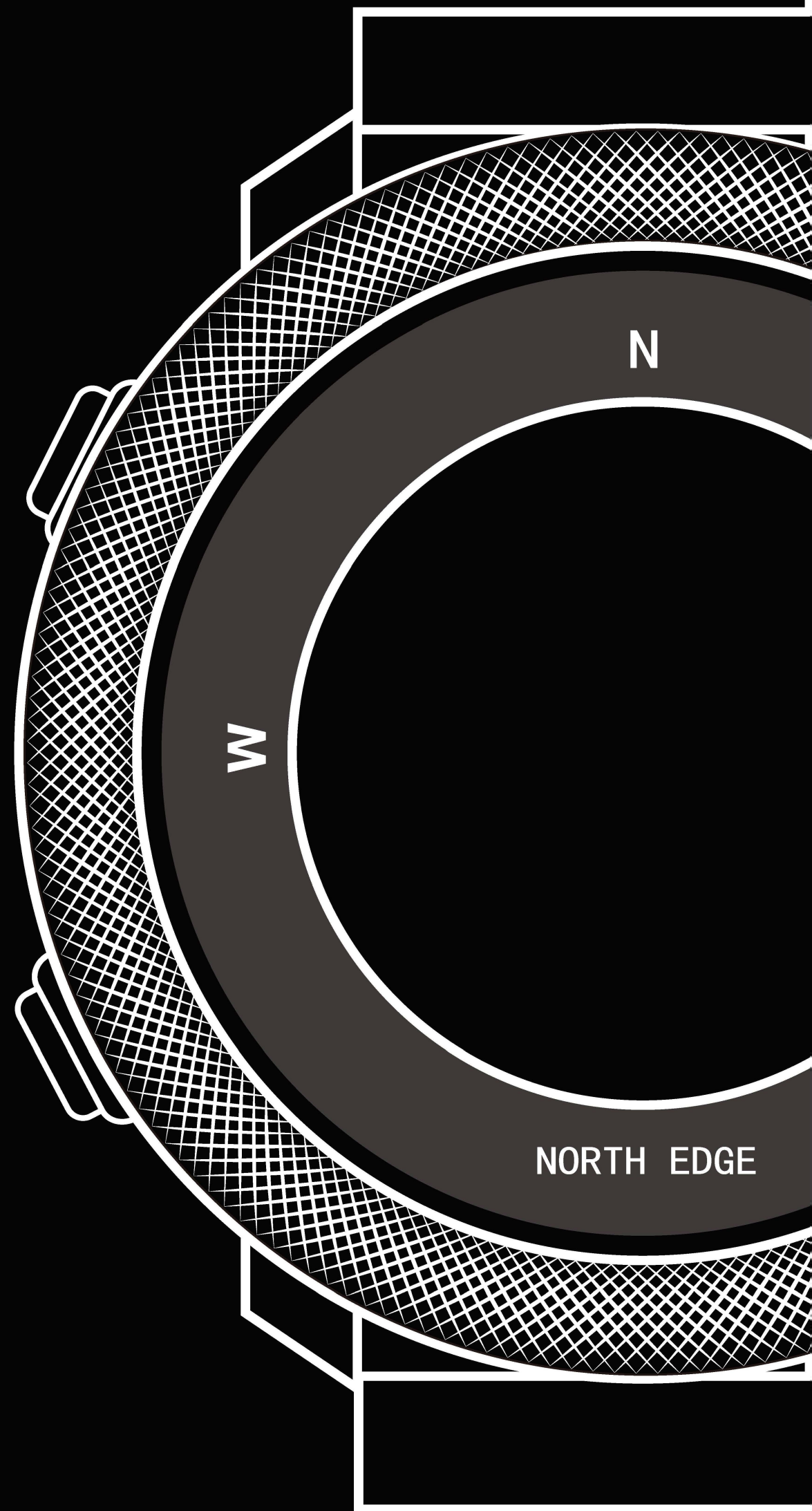


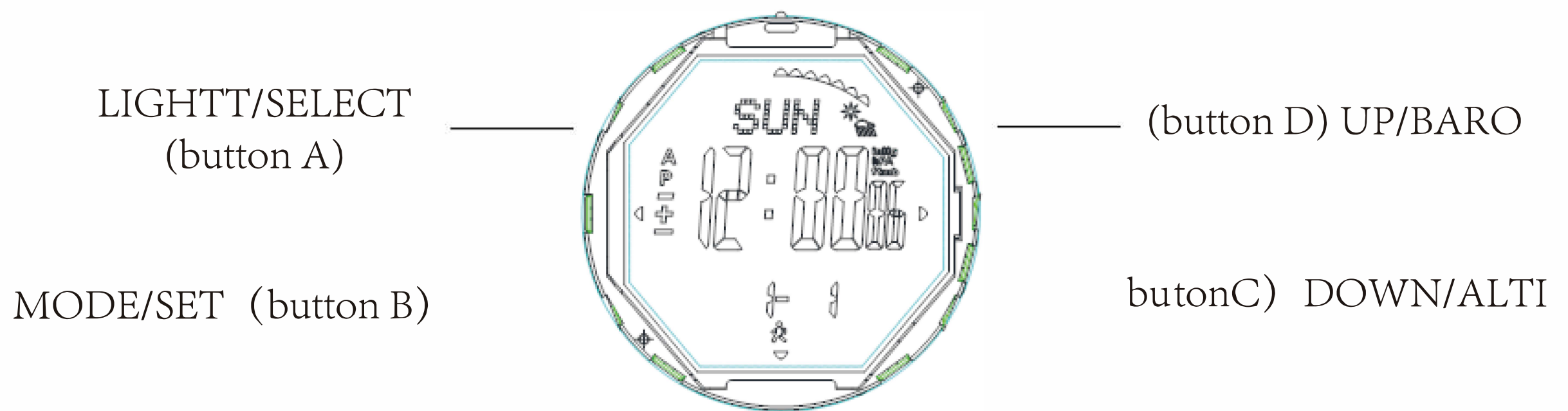

NORTH EDGE
APACHE

Manual | 说明书



Directory

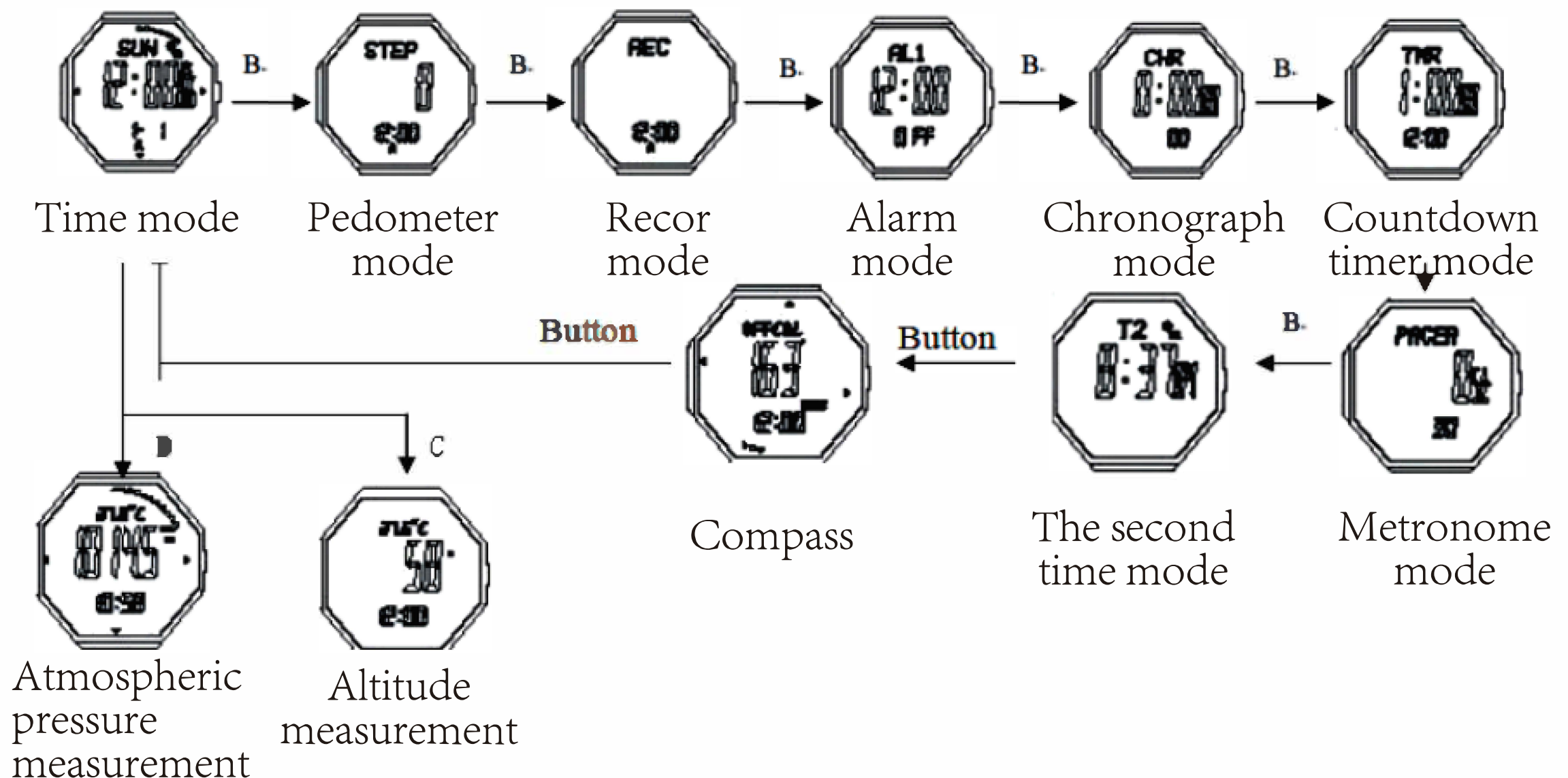
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A . Features

- Time:hour, minute, second, week, month, day.
- 12 / 24 Hourly format
- Year from 2000 to 2099 fully automatic calendar.
- Pedometer
- Air pressure measurement (300~1100mbar/8.859~32.484inHg)
- Height measurement (-698~+9164m/-2246~+30067F)
- Temperature measurement (10 ~ + 60 °C / 14 ~ 140 °F)
- Compass
- Alarms(2 alarms and hourly chime)。
- Chronograph function:99 hours 59min59.99seconds(100 group for Lap)
- Countdown timer(99hours59 minutes 59.99 seconds)
- Pacer
- The second time
- Display low battery
- EL backlight

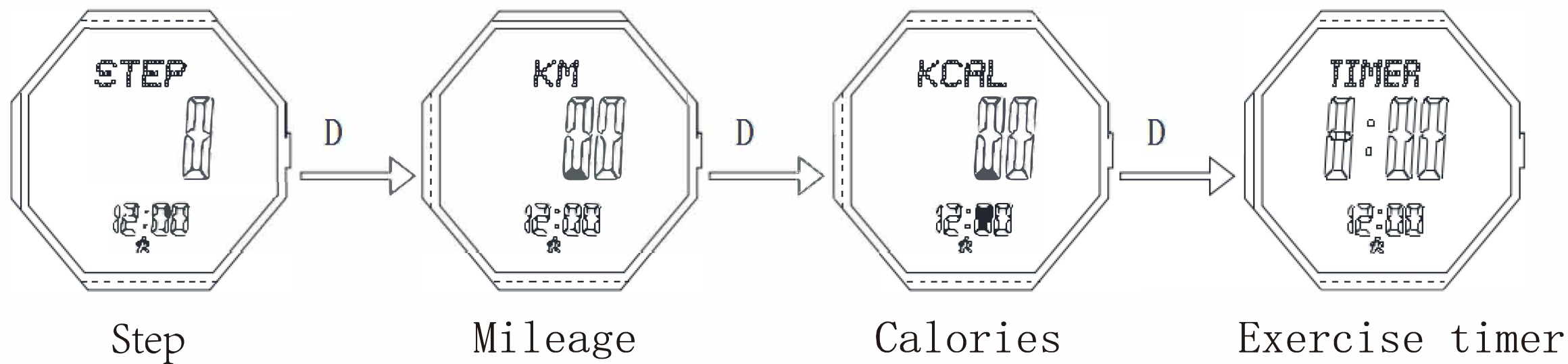
B. Mode and Function



- Press button A in any mode, EL illuminates for 3 seconds.
- Press button B to choose modes.
- In timekeeping mode, keep pressing button D for 2s to shift: week—temperature—altitude curve—sea level atmospheric curve.
- In timekeeping mode, press C to enter Altitude measurement mode directly.
- In timekeeping mode, press D to enter Atmospheric pressure measurement mode directly.
- After enter the above mode, press B to exit and return to timekeeping mode.

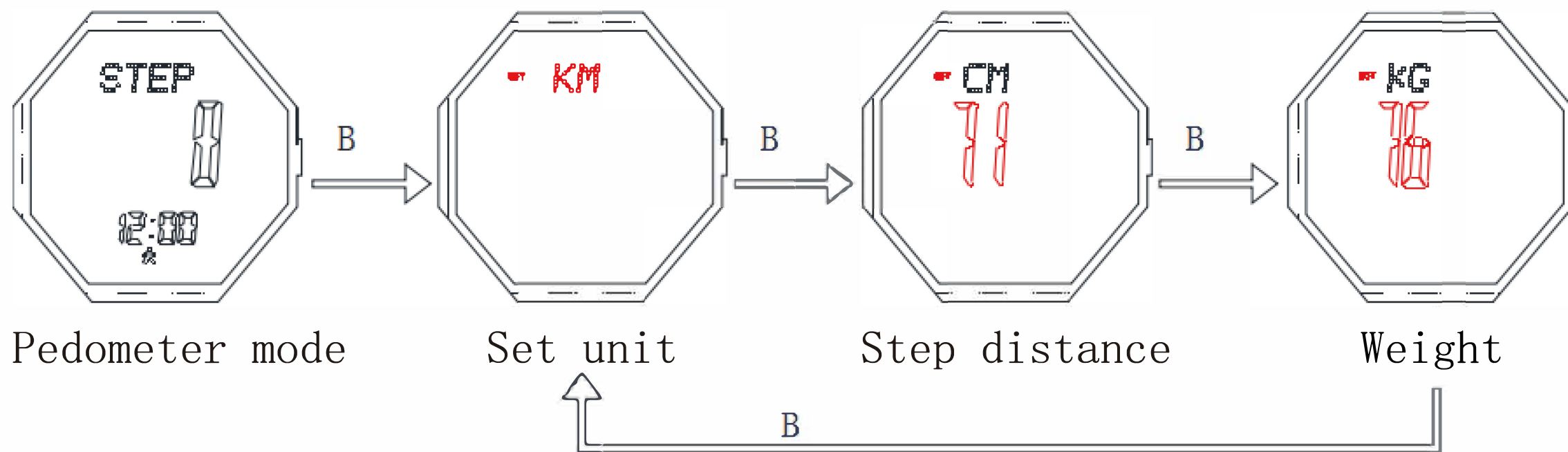
1. Time and date setting

- In timekeeping mode, keep pressing button B for 2s, the Second flashes, entering setting mode.



Set the pedometer

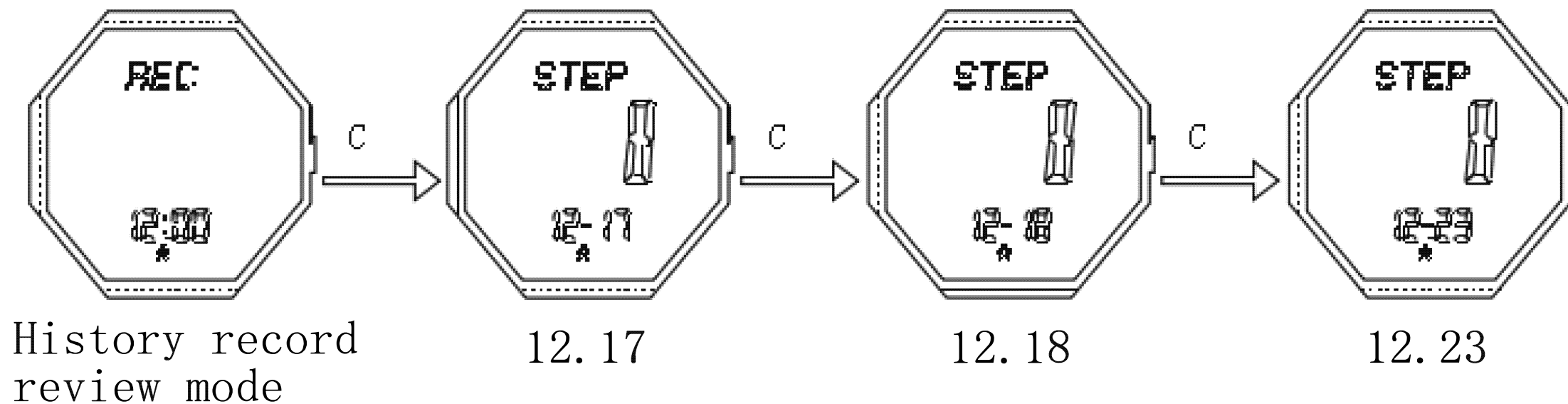
- In pedometer mode, keep pressing button B for 2s, the unit flashes, entering setting mode
- Press button B to set the flashing items: unit step distance weight



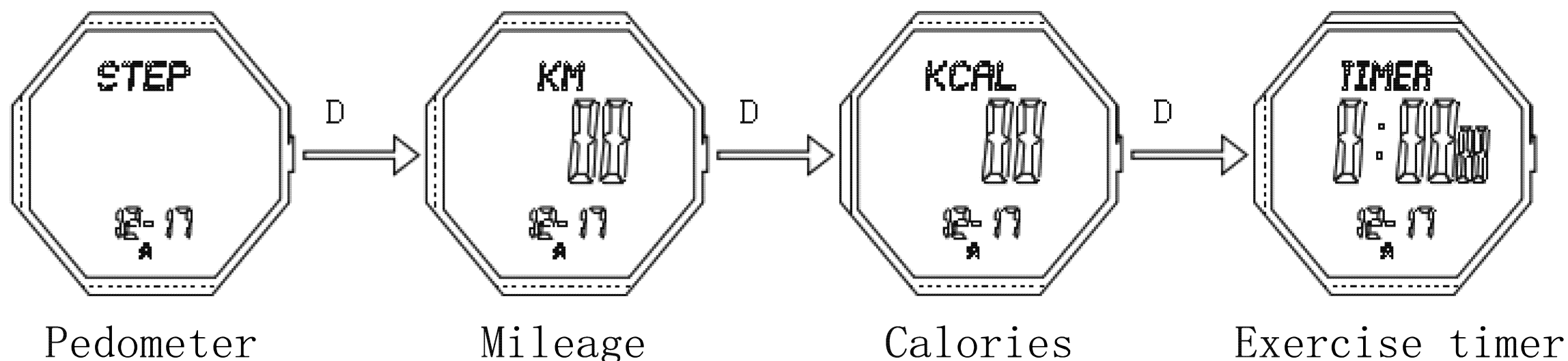
- Press D /C to shift the unit of metric and English
- Press D to increase the value, press and hold D to advance quickly.
- Press C to decrease the value, press and hold C to decrease quickly
- Input your weight: 20 ~ 200 kg or 44 ~ 441 lbs (default value 75 kg or 165 lbs)
- Step distance: 30 ~ 180 cm or 2 ~ 71 inch (default value 70 cm or 28 inch)
- Keep pressing B for 2s to exit.
- It will exit setting mode when no any key pressing for 1 minute.

3. Review records

- In the record mode, press C to review the latest 7 days record



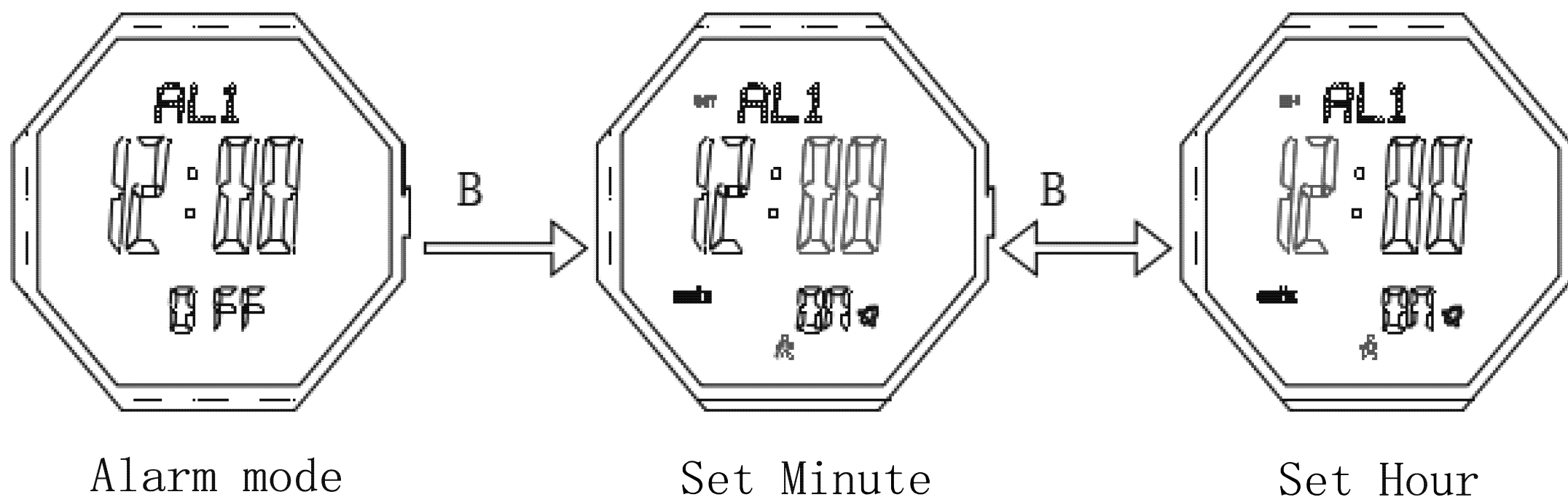
- In the day record, you can shift the data for the following items by pressing D



- If no data recorded on that day, pressing C/D is useless

4. Alarm mode

- In alarm mode, press button D to shift among these items: AL1->AL2->Chime->AL1
- Press C to turn on/off the alarm or hourly chime
- In alarm mode, keep pressing button B for 2s, the Minute flashes, entering setting mode
- Press B to move the setting items:

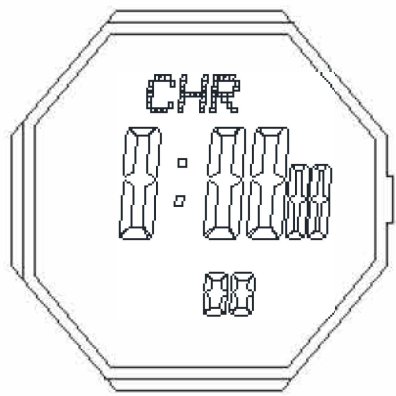


- Press D to increase the value, press and hold D to advance quickly.
- Press C to decrease the value, press and hold C to decrease quickly
- Keep pressing B for 2s to exit.
- It will exit setting mode when no any key pressing for 1 minute.
- When the alarm is on, it will sound BB—BB for 30s once it's the alarm time, the sign will be flashing. Press any button to stop it

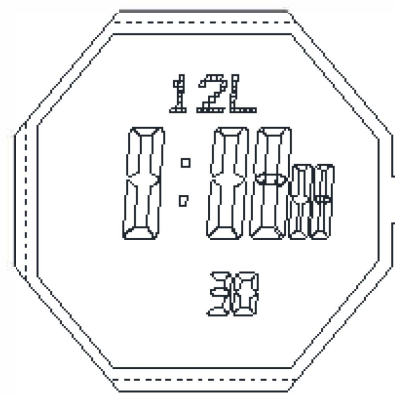
5. Chronograph mode

- The maximum timing range is 99 hours 59 minutes and 59.99 seconds.
- In this mode, press D to start or stop .Press C key to 2s reset when it stop.
- Split time record: When the chronograph is running, press C to choose the LAP, 15s later it will display the time of chronograph, then second pressing C to choose the next LAP, you can stop it by pressing D. keep pressing B for 2 seconds to enter LAP record mode, C/D to review LAP

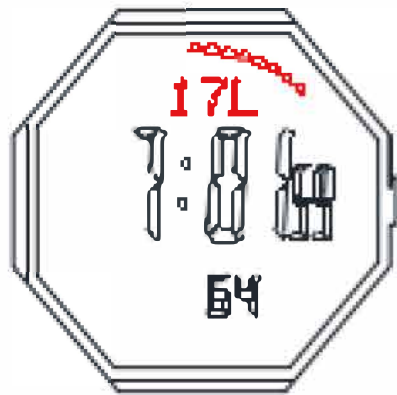
- When LAP have been reach to 100, and you want to go on counting, press D/C to overlay it to the last LAP
- In the LAP mode, press B for 2s to exit and return to chronograph mode
- When the chronograph is running, press B to enter other mode, but the chronograph still running background
- When the chronograph stop, it will return to timekeeping mode 5 min later



Chronograph mode

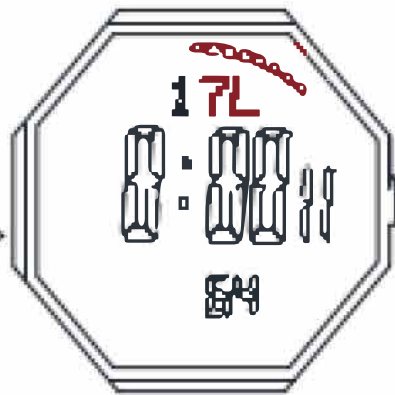


Review LAP



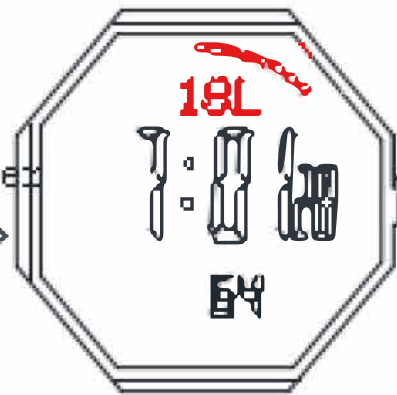
Running

C



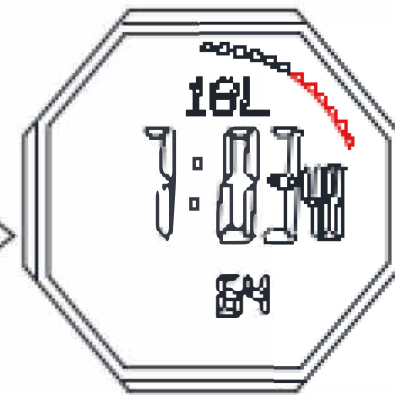
Display

10S later



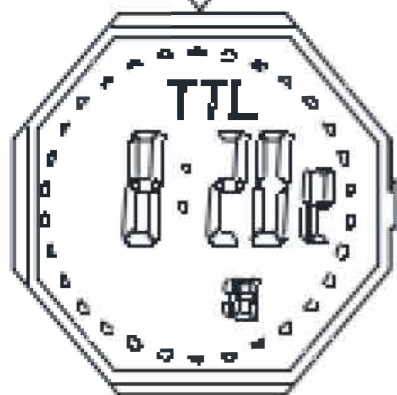
Running

B



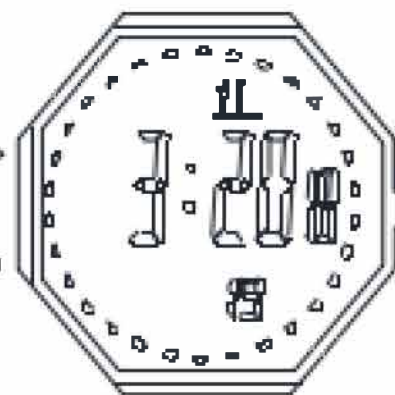
Pause

Press B for 2S



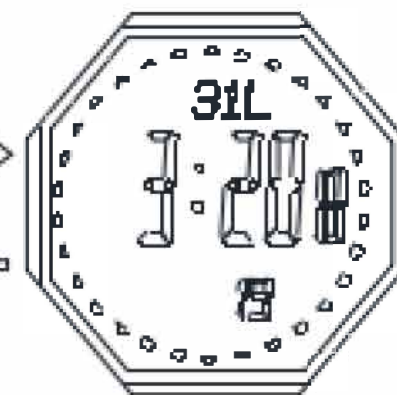
LAP Total time

B



ALP 1

D



ALP 31

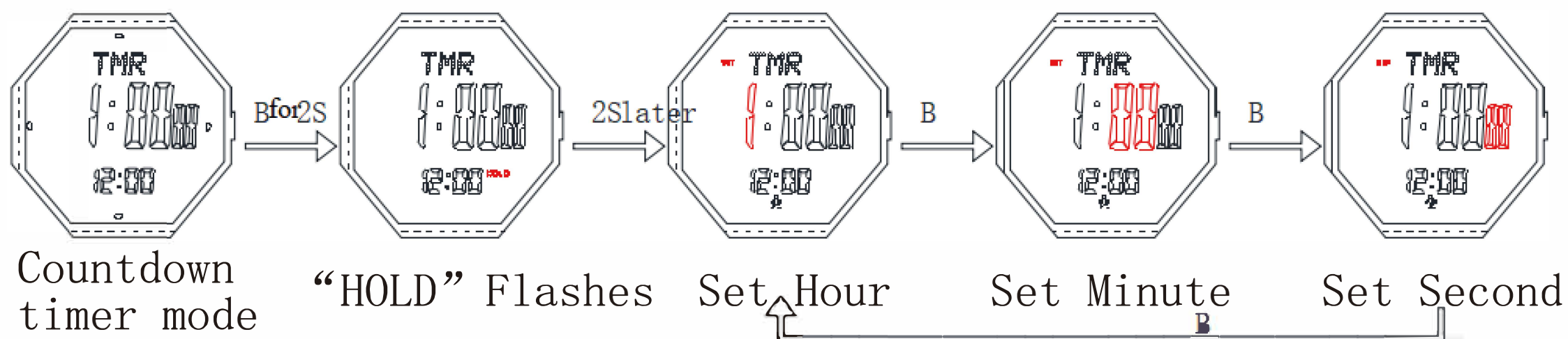
C

6.Countdown timer mode

- The maximum countdown range is: 99 hours, 59 minutes and 59.99 seconds.
- In the countdown timer mode, press button D to run/stop, press button C to return your setting value when it stop.
- When countdown to 0, the alarm will sound BB.BB.BB..for 30 seconds.

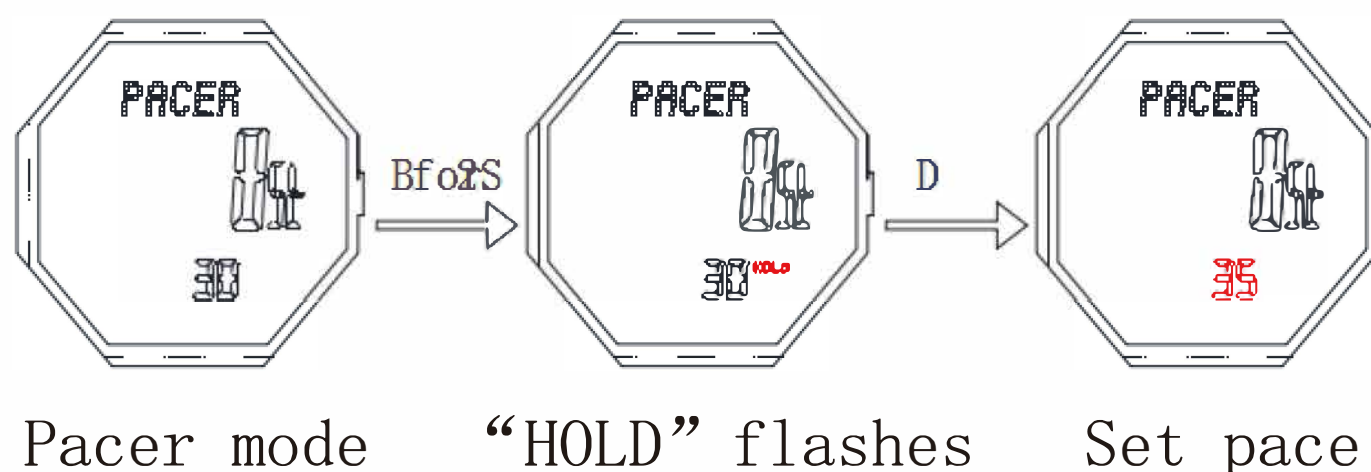
Set the counting down timer: In the counting down mode, press and hold button B for 2 seconds, Hour flashes, entering counting down setting mode.

Press button B to select the following items for setting sequentially:



- Press D to increase the value, press and hold D to advance quickly.
- Press C to decrease the value, press and hold C to decrease quickly
- Keep pressing B for 2s to exit.
- It will exit setting mode when no any key pressing for 1 minute.

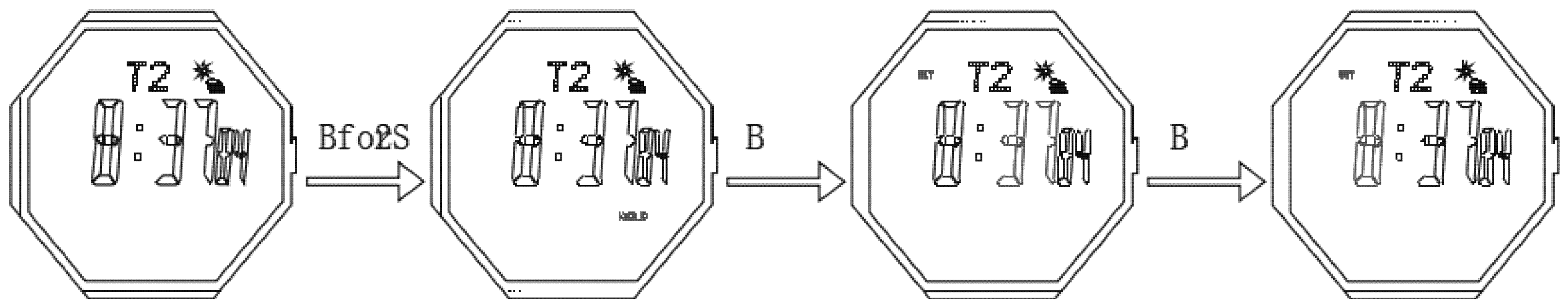
7.Metronome mode



- In the metronome mode, press D to turn it on/off
- When it stops, press C for 2s to reset
- If the metronome is not stopped, it will start from 0 again when reaches 99999
- In the metronome mode, keep pressing B for 2s to enter its frequency setting(30-180)
- Press D to increase the value, press and hold D to advance quickly.
- Press C to decrease the value, press and hold C to decrease quickly
- Keep pressing B for 2s to exit.
- It will exit setting mode when no any key pressing for 1 minute.

8.The second time setting

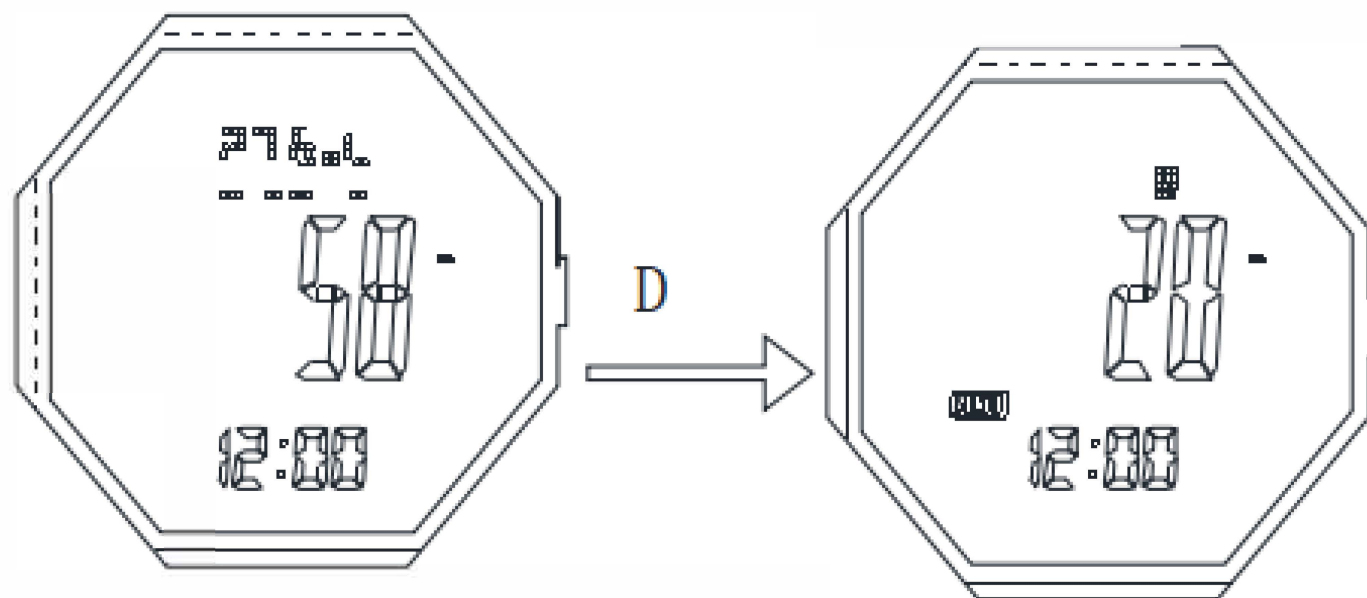
In the second time setting mode, keep pressing B for 2s,the Minute flashes, entering setting mode Press button B to select the following items for setting sequentially:



The 2nd time mode “HOLD” flashes Set Minute Set Hour

- Press D to increase the value, press and hold D to advance quickly.
- Press C to decrease the value, press and hold C to decrease quickly
- Keep pressing B for 2s to exit.
- It will exit setting mode when no any key pressing for 1 minute.

9. Altitude measurement mode



temperature On top

Altitude trend on top

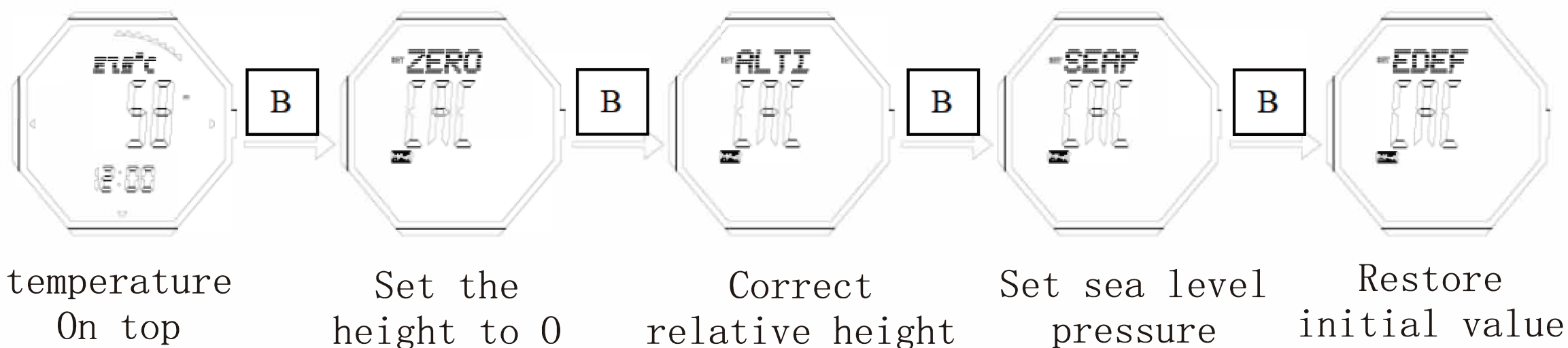
- In the timekeeping mode, press button C to enter altitude measurement mode
- Press D to shift the top row display content: temperature altitude trend
- When it displays the trend, you can review the former hourly curve by quick pressing
- Keep pressing D for 2s to shift the unit of temperature and altitude

$^{\circ}\text{C}/\text{ft} \rightarrow ^{\circ}\text{C}/\text{m} \rightarrow ^{\circ}\text{F}/\text{m} \rightarrow ^{\circ}\text{F}/\text{ft}$

○ It will return to timekeeping mode after 24h without any pressing, when the top row display curve, the first line flashes (current altitude)

Altitude setting

Press button B for 2s to enter altitude setting mode, press B to move and set the following items



Relative altitude setting (ZERO)

● Press D/C to shift “YES” / “NO” ,when it is YES, that means the relative altitude is 0, when NO, that means use the default value(work out according to default sea level atmosphere 1013.25mb). If choose “Yes” , the measurement result is relatively, and the (r) will occur on screen.

Input your current altitude

- Input your current altitude(ALTI)
- Press D to increase the value, press and hold D to advance quickly.
- Press C to decrease the value, press and hold C to decrease quickly
- Press button B for 2s to confirm, return to altitude measurement mode

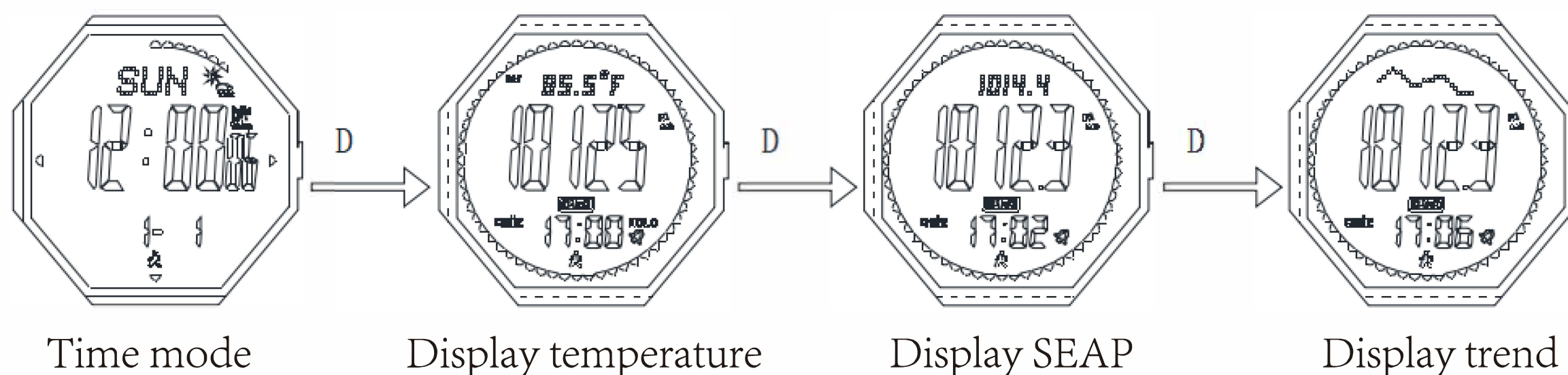
Input sea level atmosphere value (SEAP)

- Press D to increase the value, press and hold D to advance quickly.
- Press C to decrease the value, press and hold C to decrease quickly
- Press button B for 2s to confirm, return to altitude measurement mode

Factory default sea level atmospheric pressure value (FDEF)

- Press D/C to shift “YES” / “NO” ,when it is YES, that means use the default value 1013.25mb

10. Atmospheric pressure measurement mode

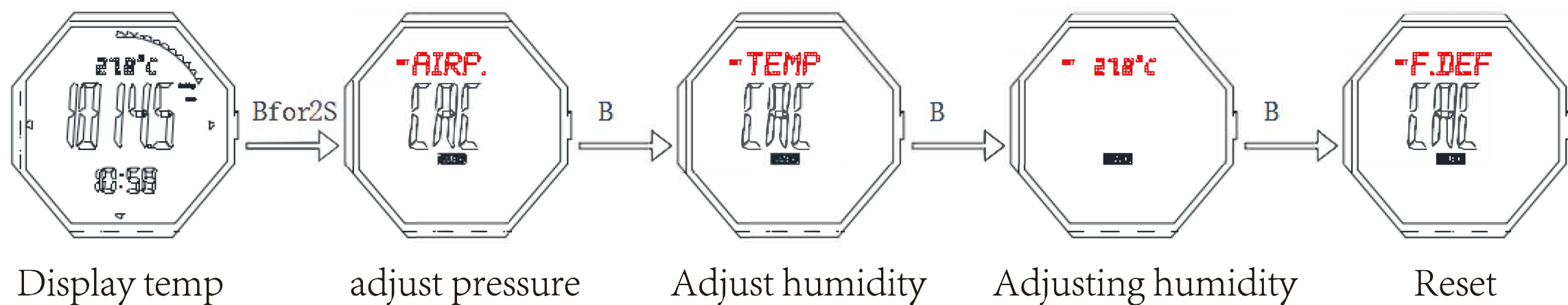


- In timekeeping mode, press button D to enter atmospheric pressure measurement mode,
- Press D to shift the display: temperature sea level atmospheric pressure trend
- When it displays the trend by pressing C, you can review the former hourly curve
- Keep pressing D for 2s to shift the unit of temperature and altitude

°C/hpa/mb → °C/Inhg → °F/Inhg → °F/hpa/mb

The diagram shows a cycle of unit conversions for temperature and altitude. A horizontal line with an upward-pointing arrow at the left end and a vertical line at the right end connects the first and last units in the sequence.

- It will return to timekeeping mode after 24h without any pressing, Atmospheric pressure setting
- Press button B for 2s to enter atmospheric pressure setting mode, press B to move and set the following items



Input your current atmospheric pressure

- Input your current atmospheric pressure(AIRP)
- Press D to increase the value, press and hold D to advance quickly.
- Press C to decrease the value, press and hold C to decrease quickly
- Press button B for 2s to confirm, return to atmospheric pressure measurement mode

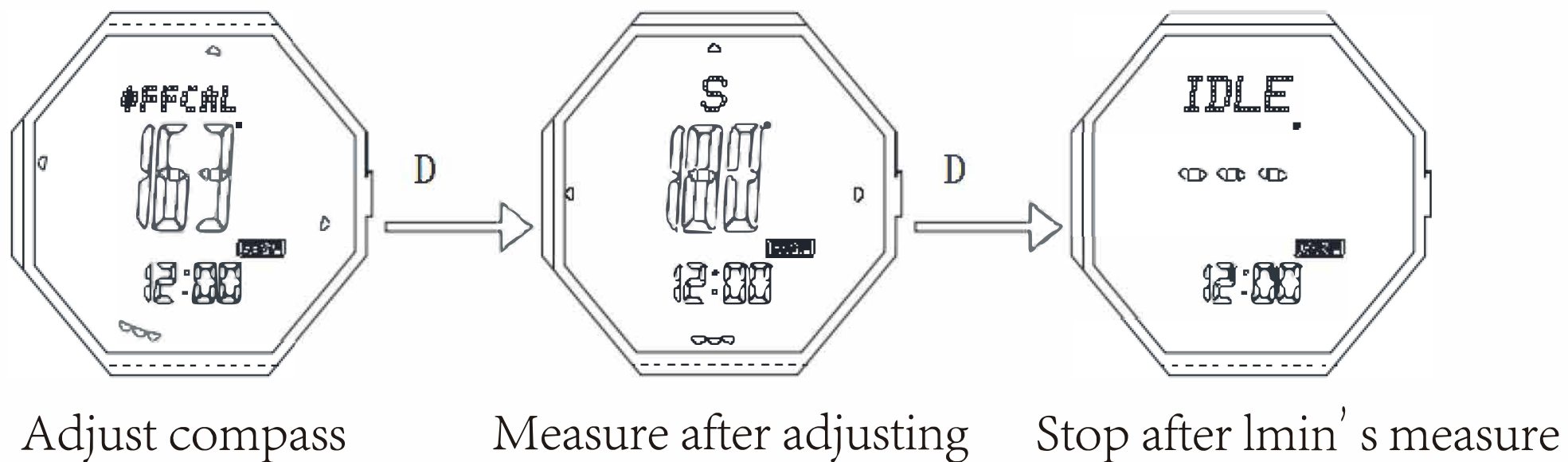
Input your current temperature(TEMP)

- Press D to increase the value, press and hold D to advance quickly.
 - Press C to decrease the value, press and hold C to decrease quickly
 - Press button B for 2s to confirm, return to atmospheric pressure measurement mode
- Factory default atmospheric pressure value (FDEF)

● Press D/C to shift “YES” / “NO” ,when it is YES, that means use the default value for pressure and temperature

- Press button B for 2s to confirm, return to atmospheric pressure measurement mode
- Note: when adjust the temp., it use the unit $^{\circ}\text{C}$,it will increase/decrease 0.1 each pressing, when unit is $^{\circ}\text{F}$,then 0.2 each pressing

11. Compass mode

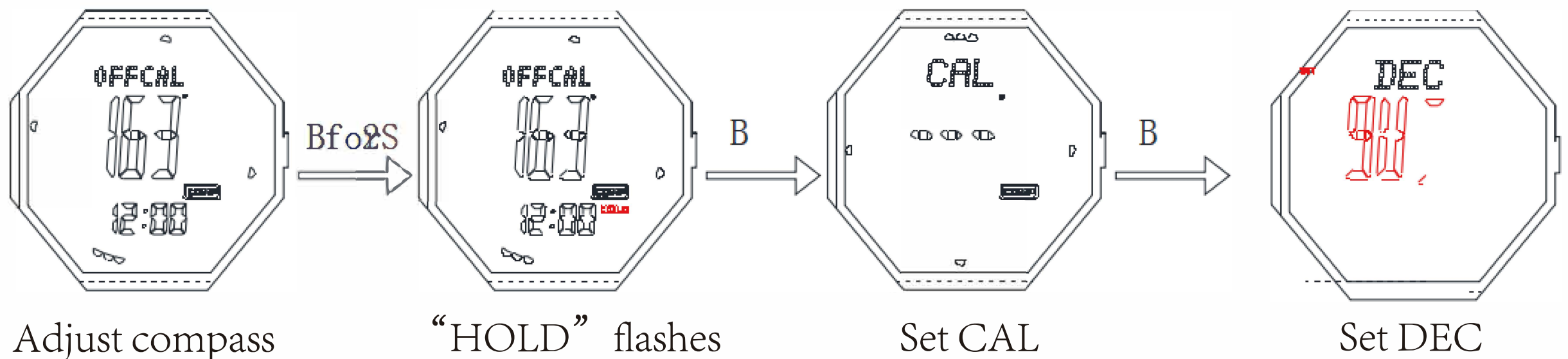


- When the watch is horizontal, move the watch to make the needle point to 0, the 12 o'clock direction is the north.
- In compass measurement mode, press C key to on / off reverse direction display. When open the reverse direction, there is a “ - ” on the bottom left of the screen. And when needle point to 0, the "S" direction indicated by the 12 o'clock position is the south
- It will exit the measuring mode after 1 min without button pressing, you can measure again by pressing D.
- The follow table indicated the meaning of each acronym for each direction.

Direction	Meaning	Direction	Meaning	Direction	Meaning	Direction	Meaning
N	North	NNE	North-north-east	NE	North-east	ENE	East-north-east
E	East	ESE	East-south-east	SE	South-east	SSE	South-south-east
S	South	SSW	South-south-west	SW	South-west	WSW	West-south-west
W	West	WNW	West-north-west	NW	North-west	NNW	North-north-west

Note: if your compass never used before, please adjust as following method

Compass adjust mode



Automatically adjust mode (CAL)

● In compass mode, keep pressing B for 2s to enter CAL, press D or C, then turn the watch slowly, both clockwise and anti-clockwise are ok. This watch will exit the correction mode automatically and return to compass measurement mode after simply turning two circles in the same direction. During compass correction, after 60 direction points illuminate and go out one by one sequentially, it will confirm this correction automatically. (Note: After change battery and use the compass for the first time, it will enter automatically adjust mode first)

Digital adjust mode(DEC)

● If you have a correct north, and after DILE, it still deviate much, then use the DEC to correction.

● In compass mode, keep pressing B for 2s to enter CAL, press B again to enter DEC (press D to increase 1, C decrease 1)

● The maximum correction angle range is $\pm 90^\circ$ (“W” “E” $\pm 90^\circ$)

● Press B for 2s to confirm the corrected value, and return to normal measurement mode.

Note: you don't need to print the below 2 items

*Explain on the sensor checking

- When it is powered on, the error exist between MCU and sensor, it will display.
- If it is between pedometer IC and MCU, it display “ERR1”
- If it is between compass IC and MCU, it display “ERR2”
- If it is between temp. sensor and MCU, it display “ERR3”
- The above will display for 2s, and will not display again after enter timekeeping mode again
- If everything is OK, then no error display, it will directly enter timekeeping mode

*Universal explain

1. The curve display in atmospheric pressure mode, is not the actual one. It detects the altitude every 15 min, if the altitude change is not more than 8 meters, then it will own to the sea level change, not actual altitude. In this case, it will work out the pressure value according to the former 15 min altitude. If it is more than 8 meter, it will figure out you are climbing, the pressure will be kept the same.

2. At the first 5 minute after entering altitude or pressure measurement mode or exiting the setting mode, it will measure every 2 second; after 5 min later, every 2 min measred, and other mode will be 15 min.

3. When set the magnetic declination, if + is set, the actual declination plus adjusted one displayed, if it is -, then the actual declination minus adjusted one displayed.

4. Estimate the weather every hour (estimate the weather according to the air pressure diversification in the former 4 hours). If air pressure value goes up gradually, it indicates that the weather will turn into better. If the air pressure value goes down gradually, it indicates that the weather will turn into bad.

There are 4 kinds of weather status (from good to bad):

Sunshine, Cloudy, Overcast sky, Rainy.

Method:

a) Detect the pressure every 59min 59s

b) The pressure from former 1 hour minus later 1 hour's, totally 4 value (if the absolute value more than 2.5mbar, then it is useless), only use the valid value for their average. The weather is judge from the average value.

Sunshine: 0.8~2.5(mbar/h) Cloudy: 0.5~0.8(mbar/h)

No change: - 0.5~0.5(mbar/h)

Overcast sky: - 1.0~ - 0.5(mbar/h)

Rainy: - 2.5~ - 1.0(mbar/h)

Notes:

● temperature measurement by personal temperature (when you wear a watch), the effect of direct sunlight and humidity. In order to make the measurement of temperature more accurate, please take the watch from the wrist and place it in a place not directly exposed to the sun and good ventilation and dry the case. It takes about 20 to 30 minutes for the watchcase to reach the actual ambient temperature.

C. Specification

● Movement dimension : $\Phi 40.20 \pm 0.1$ mm

● Thickness (include buzzer) : 8.5 mm

● Work temperature : $-10^{\circ}\text{C} \sim 60^{\circ}\text{C}$

● Work voltage : 3V

● Time Veracity : $\pm 60\text{s/month}$ ($T=25^{\circ}\text{C}$)

● Thermometer precision : $\pm 2^{\circ}\text{C}$ ($-10^{\circ}\text{C} \sim 60^{\circ}\text{C}$)

● Barometer precision : $\pm 3\text{mb}$ ($-10^{\circ}\text{C} \sim 40^{\circ}\text{C}$)

● Altimeter precision (altitude ascent every 1000m) : $\pm 5\text{m}$ ($-10^{\circ}\text{C} \sim 40^{\circ}\text{C}$)

- Digital compass Veracity : $\pm 11^{\circ}$ (-10°C ~40°C)
- Battery type : CR2032 (220mAh)
- Static average moment current : $\leq 590\mu A$
- Static average drive current : $\leq 8.02\mu A$ (max: 13 μA)
- Alarm average current : $\leq 2.65m A$ (max: 5.5m A)
- EL backlight average current : $\leq 9.96 m A$ (max: 12m A)
- Digital compass average current : $\leq 0.261 \mu A$ (max: 0.442 μA)
- weather forecast average current : $\leq 0.12 \mu A$ (max: 900 μA)
- pressure sensor average current : $\leq 0.0576 \mu A$ (max: 0.602 μA)
- altitude/pressure sensor average current : $\leq 0.0488\mu A$
- Battery life (85%) : 18months(Japan battery)

Sensor electricity consumption

- 1) Detect the weather 1 time each hour
- 2) Detect the direction 1 time each minute
- 3) At the first 2s, when use Atmospheric pressure or altitude measurement, it measure 1 time,;it will measure every second 5 minutes later; At 15 min later, will measure every 2 min for 1 time;in other mode, every 15 min for 1 time

Compass used 3 time, each time for 60s,pressure detected 3 times, each time for 60s,altitude detected 11 time, each time for 4 hours, backlight for 4 times,3s for each time, alarm sound 1 time for 60s



NORTH EDGE

BREAK ALL BOUNDARIES