

PULSAR

CAL. W880 DIGITAL QUARTZ

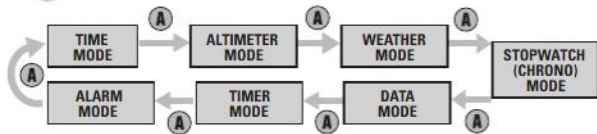
- Full-panel dot-matrix liquid crystal panel
- Dual Time/Calendar
- Stopwatch with data recall function
- Altimeter function
- Barometer function
- Thermometer function
- 4-channel daily alarm
- 2-channel altimeter alarm
- 1-channel H₂O alarm
- 5-segment countdown timer
- Illuminating light (EL backlight)

ENGLISH

MODE CHANGE



A With each press, the mode changes in the following order.



English

2

ILLUMINATING LIGHT

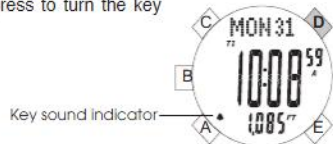


B Press to turn the backlight on.

If you keep holding down the button for 2 seconds until the watch generates a beep sound, the backlight remains lighted for 15 seconds after the button is released.

KEY SOUND SETTING

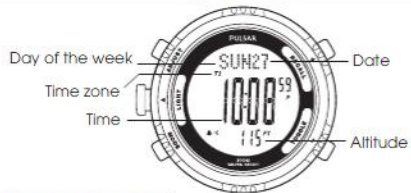
D In the TIME mode, press to turn the key sound on or off.



English

3

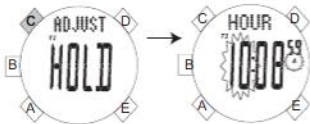
TIME MODE



TIME/CALENDAR SETTING

C Keep holding down for 2 seconds.

"ADJUST HOLD" is shown, and the watch enters the TIME SETTING mode. The hour digits start flashing.



D

Press to increase the digits (+) or move forward.

or

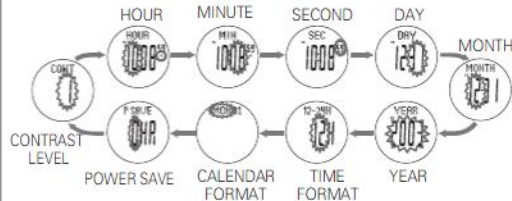
E

Press to decrease the digits (-) or move backward.

A

Press to select the items to be adjusted.

SEQUENCE OF THE ITEM SETTINGS



English

English

Time format

Select either 12-hour indication format or 24-hour indication format.

Calendar format

Select either "Day of the week-Date" format or "Month-Date" format.

Power save

Select the transition time to the power save mode among 0, 1, 3, 6, 12 and 18 hours.

When the selected transition time elapsed without any button operation, the watch automatically enters the power save mode.

If the transition time is set to 0, the power save function will not be activated.

Contrast level

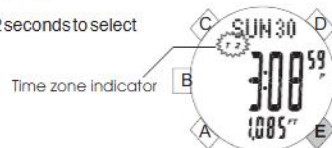
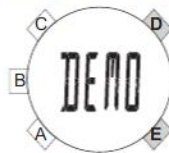
Adjust the contrast level of the display among seven levels ranging from "-3" to "3."

C Press to confirm the settings and return to the TIME mode.

TIME ZONE SETTING

Two time zones (T1 and T2) are provided.

E Keep holding down for 2 seconds to select the time zone.

**ALARM SOUND DEMONSTRATION**

D and E

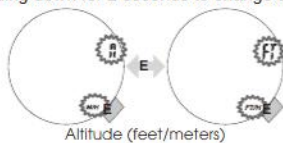
Keep holding down at the same time to hear the alarm sound.

ALTIMETER MODE

- A** Press until the watch enters the ALTIMETER mode.



- E** Keep holding down for 2 seconds to change the readout units.



Upon entering the ALTIMETER mode, the accumulated altitude and maximum altitude scroll across the top of the display. Then, a graphic data display of elevation changes over the past two hours is shown.



Accumulated altitude

Accumulated altitude is the sum of all individual altitude increases.

Maximum altitude

Maximum altitude is the highest altitude reached. (Measurable up to 9,000 meters)

Altimeter calibration

This watch estimates altitude based on the barometric pressure measured by high sensitivity barometer.

For accurate altitude calculation, it is recommended that you set the altitude reading on the watch at a known altitude point before starting to use the altimeter function.

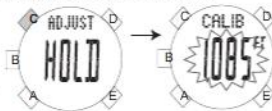
A change in weather, as well as a change in altitude can cause the barometric pressure readings to alter. The watch is programmed to perform a special arithmetic processing to minimize errors in barometric pressure readings caused by changing weather conditions. However, a sudden change in weather condition can affect the barometric pressure readings.

HOW TO CALIBRATE THE ALTIMETER

C In the ALTIMETER mode, keep holding down for 2 seconds.

"ADJUST HOLD" is shown, and the watch enters the ALTIMETER SETTING mode.

The altitude digits start flashing.

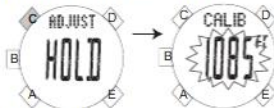


- D** Press to increase the value (+) in 5 ft increments.
- or**
- E** Press to decrease the value (-) in 5 ft increments.
- ▼
- C** Press to complete the altitude calibration.

HOW TO RESET THE ACCUMULATED ALTITUDE AND MAXIMUM ALTITUDE

C In the ALTIMETER mode, keep holding down for 2 seconds.

"ADJUST HOLD" is shown, and the watch enters the ALTIMETER SETTING mode.
The altitude digits start flashing.



A Press to go to the maximum altitude display.

The maximum altitude digits start flashing.



D or E Press to reset the maximum altitude to zero.

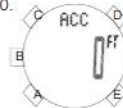


A Press to move on to the accumulated altitude display.

The accumulated altitude digits start flashing.



D or E Press to reset the accumulated altitude to zero.

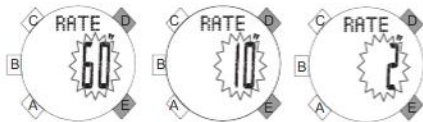


HOW TO SELECT THE SAMPLE RATE

A Press to move on to the sample rate display.

The sample rate digits start flashing.

- D or E** Press to select the sample rate among "60 seconds," "10 seconds," and "2 seconds."



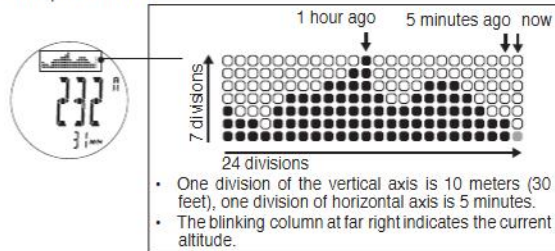
- C** Press to go back to the ALTIMETER mode display.

Sample rate

In the Altimeter Mode, the default measurement interval is set to 60 seconds. This rate can be changed to either 2-second intervals with time limit of maximum 10 minutes or 10-second intervals with time limit of maximum 60 minutes. When the measurement exceeds the time limit, the sample rate returns to 60-second intervals.

Graphic data display of elevation changes

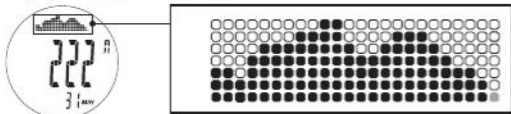
At the top of the display, the watch provides a graphic data of elevation changes over the past two hours.



- The illustration above indicates that the altitude 5 minutes ago was approximately 10 meters higher than the current altitude, and the altitude at 1 hour ago was approximately 60 meters higher than the current altitude.
- This graphic data represents the transition of altitude. To check the current altitude, see the figure shown at the center of the display.

When the altitude exceeds the range of the graphic data display

If a newly obtained altitude reading exceeds the range of the graphic data display, a maximum or minimum length column appears at far right of the graphic data display representing such altitude reading, and the previous altitude data are redisplayed on the revised scale.



Example:
5 minutes after the graphic data on the previous page is displayed, the altitude was 10 meters lower.

MOUNTAIN NAME DISPLAY

When elevation reach a height equal to that of a particular mountain, the watch generates a beep sound and the name of the mountain and its height scroll across at the top of the display for 30 seconds.

Mountain names	Height (m)	Height (ft)
Mt. Mckinley	6,194	20,321
Mt. Whitney	4,418	14,494
Aconcagua. Mt	6,960	22,834
Vinson Massif	4,897	16,066
Mt. Cook	3,754	12,316
Mt. Fuji	3,776	12,388
Mt. Everest	8,850	29,035
Mont Blanc	4,807	15,770
Matterhorn	4,478	14,691
Kilimanjaro	5,895	19,340

WEATHER MODE

- A** Press until the watch enters the WEATHER mode.



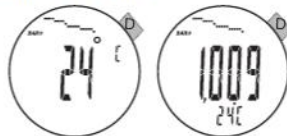
- E** Keep holding down for 2 seconds to change the readout units.

Barometric pressure (hPa/ InchHg)
Temperature (Celsius/Fahrenheit)



BAROMETRIC PRESSURE, TEMPERATURE AND BAROMETRIC PRESSURE TREND

- D** Keep holding down for 2 seconds to change the display format between the "Current temperature" and the "Barometric pressure with current temperature" format.



When the "Current temperature" format is selected, the barometric pressure is not displayed.

Barometric pressure readings

Barometric pressure readings are affected by your body temperature. To reduce the effect of your body temperature to the minimum, wear the watch over a jacket or take the watch off your wrist when measuring the barometric pressure. Direct sunlight can also affect on barometric pressure readings.

Temperature calibration

Temperature readings are affected by your body temperature or direct sunlight. For accurate temperature readings, it is recommended that you set the temperature reading on the watch to match a known reference temperature before starting to use the weather function.

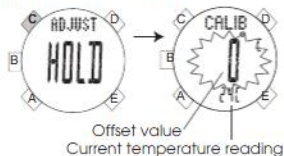
When the watch enters the TEMPERATURE SETTING mode, the previously calibrated offset value will be automatically deleted.

HOW TO CALIBRATE THE TEMPERATURE

C In the WEATHER mode, keep holding down for 2 seconds.

"ADJUST HOLD" is shown, and the watch enters the TEMPERATURE SETTING mode.

The offset value as "zero" starts flashing. At the bottom of the display, the current temperature reading will be shown.



↓ Set the offset value (between -20 and +20) to compensate for the difference between the current temperature reading and the reference temperature.

D Press to increase the value (+).

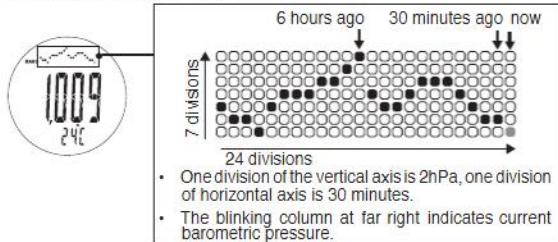
or

E Press to decrease the value (-).

▼
C Press to confirm the temperature calibration.

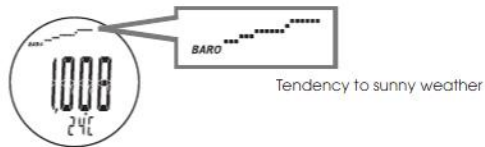
Graphic data display of barometric pressure trend

At the top of the display, the watch provides a graphic data display of barometric pressure trend over the past twelve hours.

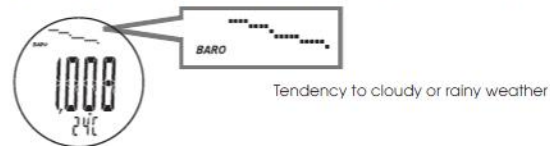


- The illustration above indicates that the barometric pressure 30 minutes ago was approximately 2hPa higher than the current barometric pressure, and the barometric pressure 6 hours ago was approximately 12hPa higher than the current barometric pressure.
- This graphic data represents the fluctuation of barometric pressure. To check the current barometric pressure, see the figure shown at the center of the display.

If the graphic data of barometric pressure trend shows an upward tendency as illustrated below, it indicates that it will likely be sunny.

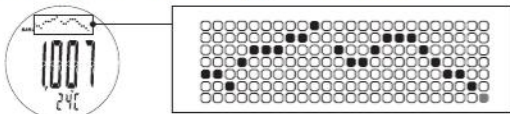


On the other hand, if the graphic depiction of barometric pressure trend shows an downward tendency, it indicates that it will likely be cloudy or rainy.



When the barometric pressure exceeds the range of the graphic data display

If a newly obtained barometric pressure reading exceeds the range of the graphic data display, a maximum or minimum length column appears at far right of the graphic display, representing such barometric pressure reading, and the previous barometric pressure data are redisplayed on the revised scale.

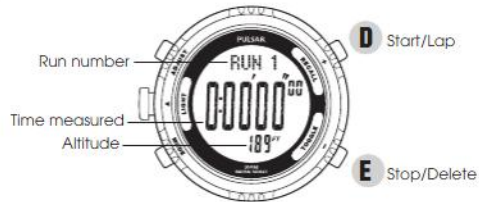


Example:
30 minutes after the graphic data on the previous page is displayed, the barometric pressure was 2hPa lower.

STOPWATCH (CHRONO) MODE

- The stopwatch measures up to 99 hours, 59 minutes and 59.99 seconds in 1/100 second increments.

A Press until the watch enters the STOPWATCH mode.



HOW TO CHECK THE REMAINING MEMORY CAPACITY

- E** When the stopwatch is not in motion, press to check the remaining memory capacity .



Up to 50 lap times can be recorded.

During a measurement is in progress, the remaining memory capacity can not be displayed.

Remaining memory capacity

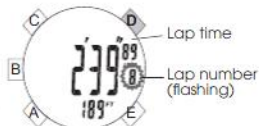
STOPWATCH OPERATION

- D** Press to start the stopwatch.

- D** **lap 1** Press to take a lap time.

- D** **lap 2**

Up to 50 lap times can be recorded.



Lap time

Lap number (flashing)

The lap number and time are displayed for 7 seconds.

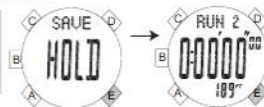
Each time the button D is pressed, the altitude at that moment will be displayed and recorded.

- E** Press to stop the stopwatch.

To save the record

- E** Keep holding down for 2 seconds.

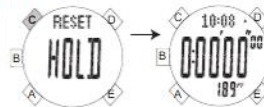
The RUN record is stored in memory and the stopwatch is set for the next measurement with a new RUN number.



To delete the record

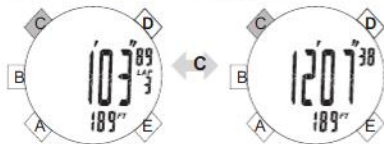
- C** Keep holding down for 2 seconds.

The RUN record is deleted and the stopwatch is reset to zero.



SWITCHING BETWEEN LAP TIME DISPLAY AND TOTAL TIME DISPLAY DURING A MEASUREMENT

- C** Press to switch the display between lap time display and total time display while a measurement is in progress.

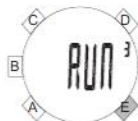


DATA MODE

HOW TO VIEW THE DATA CONTENTS

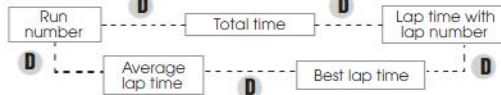
- A** Press until the watch enters the DATA mode.

- E** Press to select the RUN number.



- D** Press to view the contents of the selected RUN data.

SEQUENCE OF THE DATA CONTENTS

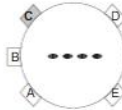


HOW TO DELETE THE RUN DATA

- C** Keep holding down for 2 seconds to delete the selected RUN data.



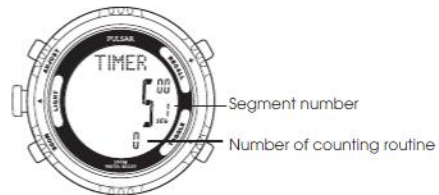
- C** Keep holding down again for 4 seconds to delete all the stored data.



English

TIMER MODE

- The 5-segment timer counts up to 99 hours, 59 minutes and 59 seconds in 1 second increments.
- A** Press until the watch enters the TIMER mode.



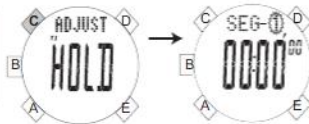
English

TIMER SETTING

C Keep holding down for 2 seconds to show the TIMER SETTING display.

"ADJUST HOLD" is shown, and the watch enters the TIMER SETTING mode.

The segment number start flashing.



A Press to select the digits to be adjusted (second/minute/hour/segment number).

D Press to increase the digits (+).

or

E Press to decrease the digits (-).

To set multiple segments, set the counting time for each segment independently.

C Press to confirm the timer setting.

TIMER OPERATION

E Press to select the desired starting segment (from 1 to 5).

D Press to start the timer.

When the timer counts down to zero, it beeps and immediately starts counting down for the next segment. The timer repeats counting in ascending order of the segment number up to 200 times. To repeat counting the same one segment, set all other segments to "0."

E Press to stop the timer.

To reset the timer counting

C Keep holding down for 2 seconds.

The timer counting of the selected segment will be reset.

To delete all the timer settings

E Keep holding down for 4 seconds.

All the timer settings will be deleted.

ALARM MODE

- A** Press until the watch enters the ALARM mode.

The alarm has 7 channels: the Alarm 1 to 4 are the TIME alarm, the Alarm 5 and 6 are the ALTIMETER alarm, and the Alarm 6 is H₂O alarm.

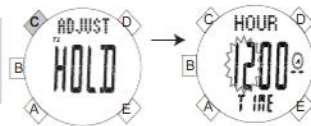
TIME ALARM SETTING

- E** Press to select the desired alarm channel (from 1 to 4).



- C** Keep holding down for 2 seconds to show the ALARM SETTING display.

"ADJUST HOLD" is shown, and the watch enters the ALARM SETTING mode. The hour digits start flashing.



- A** Press to select the digits to be adjusted (hour/minute).
- D** or **E** Press to increase the digits (+).
- E** Press to decrease the digits (-).
- C** Press to confirm the alarm setting.

"ON" and the alarm mark appear and the alarm is automatically engaged.

ALTIMETER ALARM SETTING

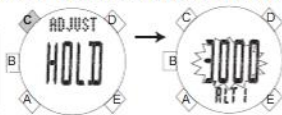
- The ALTIMETER alarm sounds when you reach a specified altitude.

E Press to select the desired alarm channel (5 or 6).

C Keep holding down for 2 seconds to show the ALARM SETTING display.

"ADJUST HOLD" is shown, and the watch enters the ALARM SETTING mode.

The altitude digits start flashing.



D Press to increase the digits (+).

or

E Press to decrease the digits (-).

C Press to confirm the alarm setting.

"ON" and the alarm mark appear and the alarm is automatically engaged.

**H₂O ALARM SETTING**

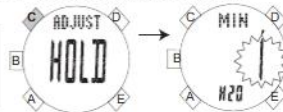
- The H₂O alarm is a hydration reminder, which generates an alert sound to remind you to drink water when a preset time (up to 60 minutes) has elapsed.

E Press to select the alarm channel 7.

C Keep holding down for 2 seconds to show the ALARM SETTING display.

"ADJUST HOLD" is shown, and the watch enters the ALARM SETTING mode.

The digits start flashing.



D Press to increase the digits (+).

or

E Press to decrease the digits (-).

C Press to confirm the alarm setting.

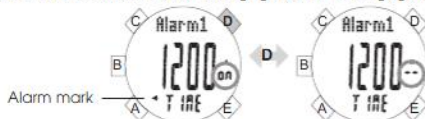
"ON" and the alarm mark appear and the alarm is automatically engaged.



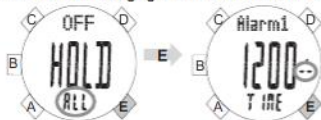
ALARM ENGAGEMENT/DISENGAGEMENT

E Press to select the desired alarm channel.

D With each press, the selected alarm is engaged and disengaged alternately.



E Keep holding down for 4 seconds to disengage all the alarm at one time.



At the designated time, the TIME alarm sounds for 35 seconds with two 10-second intervals. The ALTIMETER alarm and H₂O alarm sound for 5 seconds. To stop the alarm while it is sounding, press any button.

BATTERY CHANGE

**2
Years**

Battery life : Approx. 2 years

Battery : CR2032

- The battery life may be less than 2 years if the alarm is used more than once a day and/or the illuminating light more than 3 times a day when eco mode is activated for 12 hours a day.
- As the battery is inserted at the factory to check the function and performance of the watch, its actual life once in your possession may be less than the specified period.
- When the battery expires, be sure to replace it as soon as possible to prevent malfunction.
- We recommend that you contact an AUTHORIZED PULSAR DEALER for battery replacement.
- **Battery life indicator**
When the battery voltage becomes low, the battery mark starts flashing. In such a case, have the battery replaced with a new one as soon as possible.
- **Necessary procedure after battery change**
After the battery is replaced with a new one or if an abnormal display (broken digits, etc.) appears, follow the procedure below to reset the IC.

Press and hold buttons A, B, C and D at the same time for 2 to 3 seconds. The display will become blank. When the buttons are released, time/calendar display will appear and "2007 1-JAN 12:00'00" MON" will be displayed.

* Before using the watch, set the time/calendar and alarm.



WARNING

- Do not remove the battery from the watch.
- If it is necessary to take out the battery, keep it out of the reach of children. If a child swallows it, consult a doctor immediately.
- Never short-circuit, tamper with or heat the battery, and never expose it to fire. The battery may burst, become very hot or catch fire.



CAUTION

- The battery is not rechargeable. Never attempt to recharge it, as this may cause battery leakage or damage to the battery.

English

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TO PRESERVE THE QUALITY OF YOUR WATCH

WATER RESISTANCE

● Non-water resistant



If "WATER RESISTANT" is not inscribed on the case back, your watch is not water resistant, and care should be taken not to get it wet as water may damage the movement. If the watch becomes wet, we suggest that you have it checked by an AUTHORIZED PULSAR DEALER or SERVICE CENTER.

● Water resistance (3 bar)



If "WATER RESISTANT" is inscribed on the case back, your watch is designed and manufactured to withstand up to 3 bar, such as accidental contact with splashes of water or rain, but it is not designed for swimming or diving.

● Water resistance (5 bar)*



If "WATER RESISTANT 5 BAR" is inscribed on the case back, your watch is designed and manufactured to withstand up to 5 bar and is suitable for swimming, yachting and taking a shower.

● Water resistance (10 bar/15 bar/20 bar)*



If "WATER RESISTANT 10 BAR", "WATER RESISTANT 15 BAR" or "WATER RESISTANT 20 BAR" is inscribed on the case back, your watch is designed and manufactured to withstand up to 10 bar/15 bar/20 bar and is suitable for taking a bath, shallow diving, but not for scuba diving. We recommend that you wear a PULSAR Diver's watch for scuba diving.

English

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- * Before using the water resistance 5, 10, 15 or 20 bar watch in water, be sure the crown is pushed in completely. Do not operate the crown when the watch is wet or in water. If used in sea water, rinse the watch in fresh water and dry it completely.
- * When taking a shower with the water resistance 5 bar watch, or taking a bath with the water resistance 10, 15 or 20 bar watch, be sure to observe the following:
 - Do not operate the crown when the watch is wet with soapy water or shampoo.
 - If the watch is left in warm water, a slight time loss or gain may be caused. This condition, however, will be corrected when the watch returns to normal temperature.

NOTE:

Pressure in bar is a test pressure and should not be considered as corresponding to actual diving depth since swimming movement tends to increase the pressure at a given depth. Care should also be taken on diving into water.

MAGNETISM

Your watch will not be affected by magnetism.

CARE OF CASE AND BRACELET

To prevent possible rusting of the case and bracelet caused by dust, moisture and perspiration, wipe them periodically with a soft dry cloth.

TEMPERATURES

Operational temperature range: Between -5°C ($+23^{\circ}\text{F}$) and 50°C (122°F)



Display temperature range: Between 0°C ($+32^{\circ}\text{F}$) and 50°C ($+122^{\circ}\text{F}$)



Functional temperature range of alarm and LED light: Between 5°C ($+41^{\circ}\text{F}$) and 50°C ($+122^{\circ}\text{F}$)

SHOCKS & VIBRATION

Light activities will not affect your watch, but be careful not to drop your watch or hit it against hard surfaces, as this may cause damage.

CHEMICALS

Be careful not to expose the watch to solvents, mercury, cosmetic spray, detergents, adhesives or paints. Otherwise, the case, bracelet, etc. may become discolored, deteriorated or damaged.

PERIODIC CHECK

It is recommended that the watch be checked once every 2 to 3 years. Have your watch checked by an AUTHORIZED PULSAR DEALER or SERVICE CENTER to ensure that the case, buttons, gasket and crystal seal remain intact.

PRECAUTION REGARDING CASE BACK PROTECTIVE FILM

If your watch has a protective film and/or a sticker on the case back, be sure to peel them off before using your watch.

STATIC ELECTRICITY

The IC (Integrated Circuit) used in your watch will be affected by static electricity which may disturb the display. Keep the watch away from close contact with objects such as TV screens which emit strong static electricity.