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A. BEFORE USING

This watch is not powered by a conventional battery, but is powered by converting light to electrical energy.

Before using, be sure to fully charge your watch by exposing it to light. (See "F. TIME REQUIRED FOR CHARGING", for charge time reference) Since it takes time to recharge the watch until it starts running again once it has stopped, try to make sure the watch is charged everyday. When the watch has stopped, the watch hands will begin to move when the watch is charged for about 5 hours in the case of the two-hand model or about 1 hour in the case of the three-hand model at 3000Lux (under a fluorescent light at a distance of about 20 cm(8 inch)).

Once fully charged, the watch will continue to run for approximately 5 months in the case of the three-hand model, and for approximately 2 months in the case of the two-hand model, without additional charging.

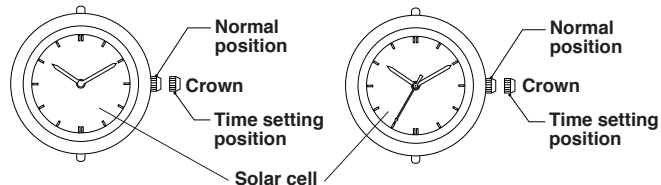
Your watch features an Overcharge Prevention Function so there is no need to worry about overcharging your watch.

A special energy storage cell is used to store electrical energy. This special cell does not require replacement and is a clean energy unit that does not contain any toxic substances.

B. SETTING THE TIME

[Two-Hand Model]

[Three-Hand Model]



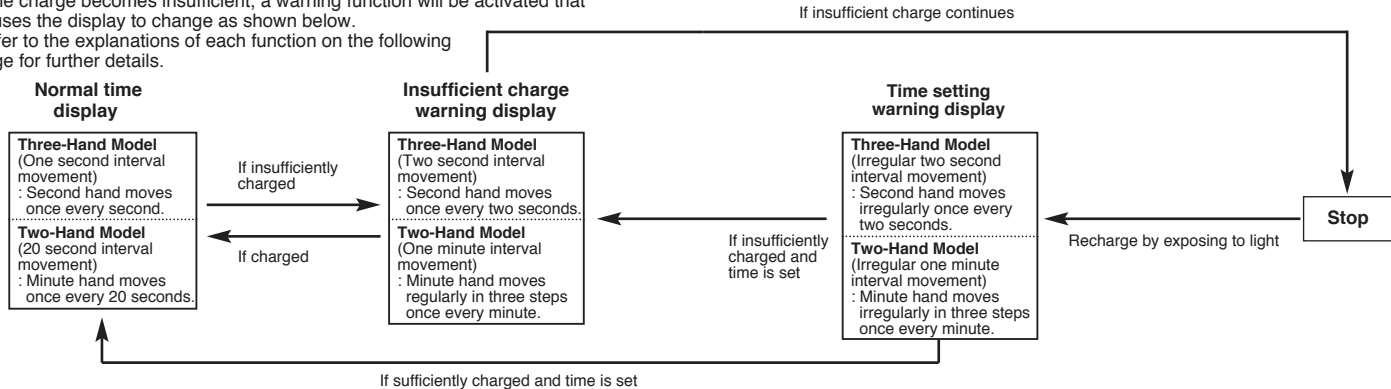
■ Setting the time

1. Pull the crown out to the time setting position (the second hand will stop when the crown is pulled out in the case of the three-hand model).
2. Turn the crown to set the time.
3. After setting the time, firmly push the crown back in to the normal position.

C. FUNCTIONS OF SOLAR POWERED WATCH

If the charge becomes insufficient, a warning function will be activated that causes the display to change as shown below.

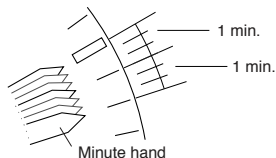
Refer to the explanations of each function on the following page for further details.



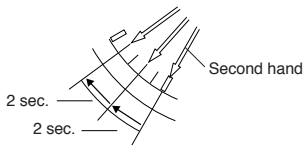
■ Insufficient Charge Warning Function

In the case of the two-hand model, the minute hand moves by one minute interval movement, and in the case of the three-hand model, the second hand moves by two second interval movement to indicate insufficient charging. Although the watch keeps the correct time when this happens, the watch will stop after about 5 days in the case of the two-hand model or after about 1 day in the case of the three-hand model, after the start of one minute interval movement or two second interval movement. Recharge the watch by exposing to light. The watch will then begin to run normally again.

[One minute interval movement]



[Two second interval movement]



■ Time Setting Warning Function

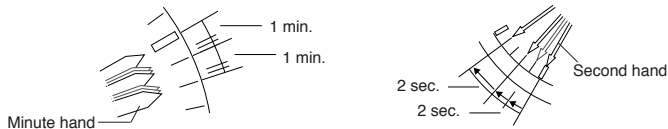
Although the watch hands will begin to move when the watch is fully charged after a complete discharge, the hands will move in an irregular pattern until the time is set. It is very important to set the time after a recharge.

Irregular Interval Identification

FOR TWO HAND MODELS: the minute hand will move in three steps when the minute changes, rather than the normal operation.

FOR THREE HAND MODELS: The second hand will move in two second increments, rather than the regular one-second increments.

[Irregular one minute interval movement] [Irregular two second interval movement]



■ Overcharge Prevention Function

You can recharge your watch without worry.

Once the special energy storage cell is fully charged, the overcharge prevention function comes into operation and prevents over-charging of the energy storage cell.

D. CARE AND HANDLING DURING CHARGING

■ Notes on use

To maintain optimal performance, be sure to expose your watch to light regularly.

Please note that if you wear long sleeves, your watch may be hidden from light and may result in insufficient charging. As such, additional exposure to light may be necessary. When you take your watch off, be sure to place it in as bright an area as possible.

■ Notes on recharging

Avoid recharging your watch in areas of high temperatures (over about 60°C/140°F), otherwise the sensitive components of the watch may become damaged.

(e.g.) Incandescent lights generate heat sufficient to damage your watch. Be sure to keep the watch at least 50cm (20inches) away from the bulb so no damage occurs. We do not recommend the use of Halogen bulbs for recharging.

Never place your watch on the dashboard or rear deck of a vehicle as the heat generated in these areas can damage your watch.

E. ABOUT THE ENERGY STORAGE CELL

Unlike ordinary watches, the special energy storage cell used in your watch **does not need regular replacement. This is a clean energy cell that will last the life of the watch.**

Caution:

The energy cell should last the life of the watch. Never allow anyone other than an Authorized Service Center to replace this cell. The movement is designed to operate with only the original energy storage cell. If an alternate cell is installed, such as a conventional battery, the battery may become overcharged resulting in damage to the movement and/or bursting of the cell, which could cause injury to the user.

F. TIME REQUIRED FOR CHARGING

Time required for recharging may vary according to the design of the watch (color of the dial, etc) and operating environment. The following table will serve as an approximate reference : (Table of recharging)

Illuminance (lux)	Environment	Time required		
		Two-hand model		
		From the stop state to the 20 seconds movement	One day usage	Empty to full
500	inside an ordinary office	52 hours	1 hour 10 minutes	360 hours
1000	60-70cm (24-28in.) under a fluorescent light (30W)	26 hours	40 minutes	180 hours
3000	20cm (8in.) under a fluorescent light (30W)	8 hours 30 minutes	12 minutes	57 hours
10000	Exterior, cloudy	2 hours 30 minutes	4 minutes	20 hours
100000	Exterior, summer, sunny	35 minutes	2 minutes	7 hours

Full recharging time ... Time required to fully charge when the watch has completely stopped

One-Day Usage Time required to charge the watch sufficient for one-day use with one-second interval movement or 20 seconds interval movement..

Time required		
Three-hand model		
From the stop state to the one second movement	One day usage	Empty to full
12 hours	2 hours	160 hours
5 hours 30 minutes	1 hour	75 hours
2 hours	20 minutes	24 hours
30 minutes	7 minutes	9 hours
8 minutes	3 minutes	3 hours 30 minutes

* The recharging time is the time the watch is continuously exposed to direct light.

<Note>
In the case of charging the watch after it has stopped completely, charge with the crown pulled out to the time setting position. After charging, push in the crown to the normal position after setting the time.

G. PRECAUTIONS






CAUTION: Water-resistance performance

There are several types of water-resistant watches, as shown in the following table.

Indication		Specifications
Dial	Case (case back)	
No indication	WATER RESIST(ANT)	Water-resistant to 3 atmospheres
WATER RESIST 5 bar or no indication	WATER RESIST(ANT) 5 bar	Water-resistant to 5 atmospheres
WATER RESIST 10/20 bar or no indication	WATER RESIST(ANT) 10/20 bar	Water-resistant to 10/20 atmospheres

The unit "bar" is roughly equal to 1 atmosphere.

For correct use within the design limits of the watch, confirm the level of water-resistance of your watch, as indicated on the dial and case, and consult the table.

Examples of use				
				
Minor exposure to water (washing face, rain, etc.)	Moderate exposure to water (washing, kitchen work, swimming, etc.)	Marine sports (skin diving)	Scuba diving (with air tank)	Operation of the crown with moisture visible
OK	NO	NO	NO	NO
OK	OK	NO	NO	NO
OK	OK	OK	NO	NO

- **Water-resistance for daily use (to 3 atmospheres):** This type of watch is water-resistant to minor exposure to water. For example, you may wear the watch while washing your face; however, it is not designed for use underwater.
- **Upgraded water-resistance for daily use (to 5 atmospheres):** This type of watch is water-resistant to moderate exposure to water. You may wear the watch while swimming; however, it is not designed for use while skin diving.
- **Upgraded water-resistance for daily use (to 10/20 atmospheres):** This type of watch may be used for skin diving; however, it is not designed for scuba or saturated diving using helium gas.

CAUTION

- Be sure to use the watch with the crown pressed in (normal position). If your watch has a screw-type crown, be sure to tighten the crown completely.
- Do NOT operate the crown with wet fingers or when the watch is wet. Water may enter the watch and compromise water-resistance.
- If the watch is used in seawater, rinse with fresh water afterward and wipe with a dry cloth.
- If moisture has entered the watch, or if the inside of the crystal is fogged up and does not become clear within a day, immediately take the watch to your dealer or Citizen Service Center for repair. Leaving the watch in such a state will allow corrosion to form inside.

- If seawater enters the watch, place the watch in a box or plastic bag and immediately take it in for repair. Otherwise, pressure inside the watch will increase, and parts (crystal, crown, buttons, etc.) may come off.

CAUTION: Keep your watch clean.

- Leaving dust and dirt deposited between the case and crown may result in difficulty in pulling the crown out. Rotate the crown while in its normal position, from time to time, to loosen dust and dirt and then brush it off.
- Dust and dirt tend to be deposited in gaps in the back of the case or band. Deposited dust and dirt may cause corrosion and soil your clothing. Clean the watch occasionally.

Cleaning the Watch

- Use a soft cloth to wipe off dirt, perspiration and water from the case and crystal .
- Use a soft, dry cloth to wipe off perspiration and dirt from the leather band.
- To clean a metal, plastic, or rubber watchband, wash away dirt with mild soap and water. Use a soft brush to remove dust and dirt jammed in the gaps in the metal band. If your watch is not water-resistant, take it to your dealer.

NOTE: Avoid using solvents (thinner, benzine, etc.), as they may mar the finish.

CAUTION: Operating environment

- Use the watch within the operating-temperature range specified in the instruction manual.
Using the watch where temperatures are outside the specified range, may result in deterioration of functions or even stoppage of the watch.
- Do NOT use the watch in places where it is exposed to high temperature, such as in a sauna.
Doing so may result in a skin burn.
- Do NOT leave the watch in a place where it is exposed to high temperature, such as the glove compartment or dash-board of a car.
Doing so may result in deterioration of the watch, such as deformation of plastic parts.
- Do NOT place the watch close to a magnet.
Timekeeping will become inaccurate if you place the watch close to magnetic health equipment such as a magnetic necklace or a magnetic latch of a refrigerator door or handbag clasp or the earphone of a mobile phone. If this has occurred, move the watch away from the magnet and reset the time.
- Do NOT place the watch close to household appliances that generate static electricity.
Timekeeping may become inaccurate if the watch is exposed to strong static electricity, such as is emitted from a TV screen.

- Do NOT subject the watch to a strong shock such as dropping it onto a hard floor.
- Avoid using the watch in an environment where it may be exposed to chemicals or corrosive gases.
If solvents, such as thinner and benzine, or substances containing such solvents come in contact with the watch, discoloration, melting, cracking, etc. may result. If the watch comes in contact with mercury used in thermometers, the case, band or other parts may become discolored.

H. SPECIFICATIONS

1. Type: Analog Quartz watch
2. Caliber No.: B02* (Two-hand model)/
B03* (Three-hand model)
3. Accuracy: Within ± 15 sec/month (within a normal temperature range of $+5^{\circ}\text{C}/41^{\circ}\text{F}$ to $+35^{\circ}\text{C}/95^{\circ}\text{F}$)
4. Quartz oscillator frequency: 32,768Hz
5. IC: C/MOS-LSI (1 pc.)
6. Operating temperature range: $-10^{\circ}\text{C}/14^{\circ}\text{F}$ to $+60^{\circ}\text{C}/140^{\circ}\text{F}$
7. Display features: Time: hour, minute (two-hand model)/hour, minute, second (three-hand model)
8. Additional features: Insufficient charge warning function
Time setting warning function
9. Continuous operating time: From fully charged to stop:
Approx. 5 months (two-hand model)
Approx. 2 months (three-hand model)
From insufficient charge warning display to stop:
Approx. 5 days (two-hand model)
Approx. 1 day (three-hand model)
10. Power Source: Light converted to electrical energy stored in a special energy storage cell. (Not user replaceable)

*Specifications are subject to change without prior notice.