

CITIZEN QUARTZ
Eco-Drive
Model No. BJ1XXX
Cal. No. A16*
Model No. EP2XXX
Cal. No. A27*

•INSTRUCTION MANUAL

CTZ-B6902

A. BEFORE USING

This watch is powered not by an ordinary battery, but by converting photo energy to electrical energy.

Before using, expose to light and make sure the watch is sufficiently charged. See "F. TIME FOR CHARGING" for charging time reference.

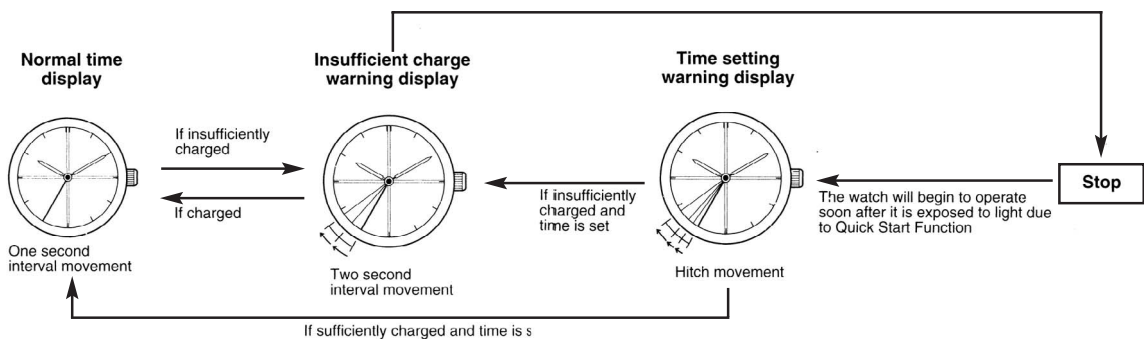
A secondary battery is used in this watch to store electrical energy. **This secondary battery is a clean battery which doesn't use any toxic substances such as mercury. Once fully charged, the watch will continue to run for about 16 months without further charging.**

To use this watch comfortably, **make sure that the watch is always recharged before it stops.**

There is no concern for overcharging this watch (Overcharging Prevention Function is included). **We recommend that you recharge the watch everyday.**

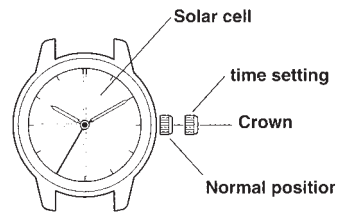
C. FUNCTIONS OF SOLAR POWERED WATCH

If the charge becomes insufficient, a warning function will operate and the display changes, as below.



B. SETTING THE TIME AND CALENDAR

1. Models without date supply

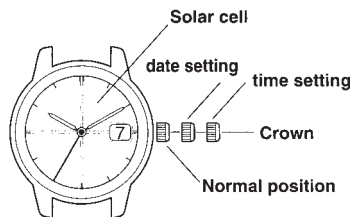


■ **Setting the time**

1. Stop the second hand at the 0 second position by pulling out the crown.
2. Turn the crown to set the time.
3. After setting the time, firmly push the crown back into its normal position.

2. Models with date display

■ **Setting the time**



1. Stop the second hand at 0 second position by pulling the crown out to the 2nd click.
2. Turn the crown to the time.
3. After setting the time firmly push the crown back to its normal position.

■ **Setting the calendar**
Adjusting the date

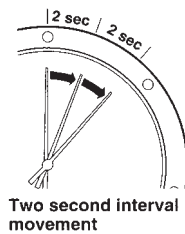
1. Pull the crown out to the first click.
2. Set the desired date by turning the crown.
 - Do not adjust the date when the watch display is reading between 9:00pm and 1:00am, otherwise the date might not change on the following day.
3. After you have set the calendar, be sure to firmly return the crown to its normal position.

C. FUNCTIONS OF SOLAR POWERED WATCH

■ Insufficient Charge Warning Function

The second hand changes to a two second interval movement to indicate insufficient charging.

Even in such a case, the watch keeps correct time, but about 20 days after the two second movement begins, the watch will stop. After exposing the watch to light, recharging takes place and the watch returns to one second interval movement.

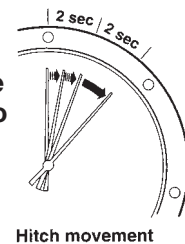


■ Quick Start Function

The watch will stop if it is completely discharged. It will begin to operate soon after it is exposed to light. (However, the time to start may vary according to the brightness of the light.)

■ Time Setting Warning Function

If the watch stops, subsequent exposure to light allows the Quick Start Function to start again, and the second hand moves with a hitch to indicate that the time is incorrect.



■ Overcharge Prevention Function

You can recharge without worry.

Once the secondary battery is fully recharged, the overcharging prevention feature comes into operation and prevents over-recharging.

D. CARE AND HANDLING DURING CHARGING

■ Notes on use

Take care to charge your watch during use.

Please note that if you wear long sleeves, the watch can easily become insufficiently charged because it is hidden and not exposed to light.

- When you take the watch off, place it in as bright a place as possible, and it will always continue to run properly.

■ Notes on recharging

- Avoid recharging at high temperatures (over about 60°C/140°F), otherwise the watch will be damaged during recharging.
 - (eg) Charging the watch near a light source that easily becomes hot, such as an incandescent lamp or halogen lamp.
 - Charging in a place that easily becomes hot, such as a dashboard.

When you charge the watch by an incandescent lamp, take a distance about 50cm (20in.) from the light source to prevent extremely high temperature,

E. REPLACING THE SECONDARY BATTERY

Unlike ordinary batteries, the secondary battery used in this watch doesn't have to be periodically replaced due to repeated charging and discharging.

CAUTION

Never use another battery different from the secondary battery used in this watch. The watch structure is so designed that a different kind of battery other than that specified cannot be used to operate it. In case a different kind of battery such as a silver battery is used by some chance, there is a danger that it will be overcharged to burst, causing damage to the watch and even to the human body.

F. TIME REQUIRED FOR CHARGING

The time required for charging may vary according to the caliber number, design (colour of the dial, etc) and operating environment. The following table will serve as a rough reference.

*The recharging time is the time when the watch is continuously exposed to radiation.

Please check the caliber number on the caseback

Caliber No. A160

A160-*****

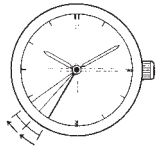
Full recharging time (Empty to full)...
The time for fully recharge from stopped.
One day usage...

The time required for the watch to run for one day with one second interval movement.

Illuminance (lux)	Environment	Cal No. A160		
		Time required		
		From the stop state to one second movement	One day usage	Empty to full
500	Inside and ordinary office	12 days	2 hours	55 days
1000	60-70cm under a fluorescent light	6 days	1 hour	27 days
3000	20cm under a fluorescent light 30W	46 hours	20 minutes	9 days
10000	Exterior, cloudy	14 hours	6 minutes	64 hours
100000	Exterior, summer, sunny	4 hours 30 minutes	2 minutes	22 hours

Illuminance (lux)	Environment	Cal No. A270		
		Time required		
		From the stop state to one second movement	One day usage	Empty to full
500	Inside and ordinary office	19 days	3 hours	85 days
1000	60-70cm under a fluorescent light 30W	9 days	1.5 hour	41 days
3000	20cm under a fluorescent light 30W	70 hours	30 minutes	14 days
10000	Exterior, cloudy	21 hours	9 minutes	96 hours
100000	Exterior, summer, sunny	7 hours	3 minutes	32 hours

G. IN THESE CASES

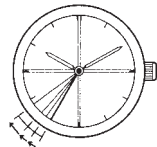


Two second interval movement

If the watch warns that the energy is running short.

The second hand starts moving at two second intervals in order to warn that the watch will stop functioning after about 20 days. **(Insufficient Charge Warning Function)**

In such a case, expose your watch to light for a while to cancel the warning. (The second hand returns to moving at one second intervals when the energy is recharged.) If the watch is left short of energy, it will stop functioning after 20 days or so.



Hitch movement

If the watch warns you to set the time.

When the watch that has stopped is exposed to light, the second hand starts the hitch movement. **(Quick Start Function)**

The time elapsed before the second hand starts moving depends on the illuminance of the light. Even so, the second hand continues the hitch movement to tell you that the watch indicates an incorrect time because it has stopped. **(Time Setting Warning function)**

In such a case, set the hands to the correct time.

* If the watch is insufficiently exposed to light, the second hand will soon switch to moving at two second intervals in order to warn that the energy is running short.

H. PRECAUTIONS

CAUTION: Water-resistance performance

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

- 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.

		Examples of use					
Indication		Specification					
Dial	Case back						
No indication	WATER RESIST (ANT)	Water-resistant to 3 atmospheres	OK	NO	NO	NO	NO
WATER RESIST 5 bar or no indication	WATER RESIST (ANT) 5 bar	Water-resistant to 5 atmospheres	OK	OK	NO	NO	NO
WATER RESIST 10 bar/20bar or no indication	WATER RESIST (ANT) 10 bar/20 bar	Water-resistant to 10/ 20 atmospheres	OK	OK	OK	NO	NO

* (The unit "bar" is roughly equal to 1 atmosphere.)

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 the inside of the crystal has fogged up and does not become clear within a day, immediately take the watch to your dealer or Citizen Service Centre 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 all 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 the 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 the 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 in the glove compartment or dashboard of a car. Doing so may result in deterioration of the watch, such as deformation of the plastic parts.

- Do NOT place the watch close to a magnet. Timekeeping will become inaccurate if you place the watch too 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 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 or benzine, or substances containing such solvents come in contact with the watch, discolouration, melting, cracking, etc. may result. If the watch comes into contact with mercury used in thermometers, the case, band or other parts may become discoloured.

I. SPECIFICATIONS

1. Type	Analogue Quartz with 3 Hands
2. Caliber No.	A16*/A27*
3. Accuracy	Within ± 15 sec/month (within a normal temp range of 5°C/41°F to 35°C/95°F)
4. Quartz oscillator frequency	32,768Hz
5. IC:	C/MOS-LSI (1pc.)
6. Operational Temp Range	-10°C/14°F ~ +60°C/140°F
7. Display Features	Time, hour, minute, second. Calendar: date (models with date display)
8. Additional Features	Insufficient charge warning Quick start Time setting warning Overcharge Prevention
9. Continuous operating time	Approx. 16 months (from full charge to stop) Approx. 20 days (from 2 second interval movement stop)
10. Battery	Secondary battery

* Specifications are subject to change without prior notice.