

# CITIZEN®

**Model No. BR0 \* \* \* / Cal. No. J304**

- INSTRUCTION MANUAL
- BETRIEBSANLEITUNG
- MANUEL D'INSTRUCTIONS
- MANUAL DE INSTRUCCIONES
- MANUALE DI FUNZIONAMENTO
- MANUAL DE INSTRUÇÕES
- 説明書
- 说明书



***Eco-Drive***

CTZ-B8109





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# 1. Features

This is an analog solar-powered watch that is equipped with a solar cell incorporated in its face to convert solar energy into electricity. The watch is also equipped with the large and highly visible date indicator and the fan-shape 24-hour dial.

# 2. Before Using

**Sufficiently Recharge by  
Placing in Light Before Use**

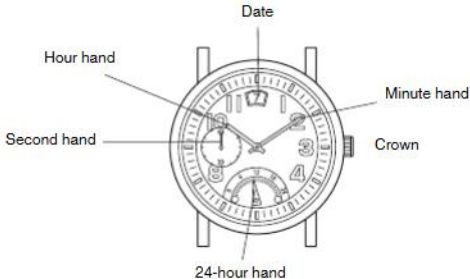
A secondary battery is used in this watch to store electrical energy. This secondary battery is a clean energy battery that does not contain mercury or other toxic substances. Once fully charged, the watch will continue to run for about 6 months without additional charging.

## <How to use this Solar Watch Properly>

To use this watch comfortably, make sure to recharge the watch before it stops running completely. Since there is no risk of overcharging (Overcharging Prevention Feature), it is recommended that the watch be recharged everyday.

### 3. Names of Components

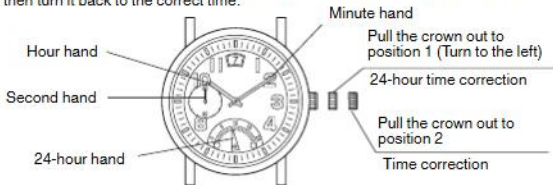
\* In the case the crown is of the screw-lock type, loosen the screw by turning the crown to the left before operating the crown, and after having returned the crown to the normal position following operation, turn the crown to the right while pushing it in to securely retighten it.



\* The illustrations in this instruction manual may differ from the actual appearance of your watch.

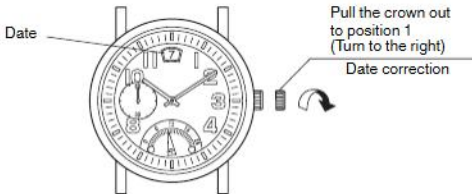
## 4. Setting the Time

- For accurate setting of the time
- Set in the time order of second hand, hour hand, minute hand, 24-hour hand.
- (1) Pull the crown out to position 2 when the second hand reaches the 60-second position.
- (2) Turn the crown to set the time.  
The date changes when the time is about 2:00 AM. Do not confuse AM and PM when setting the time.
- (3) Securely return the crown to the normal position in synchronization with a telephone or other time service. The second hand will start moving and the watch will begin to keep accurate time.
- (4) Pull the crown out to position 1 and turn it to the left to set 24-hour time. (Turn to the right to set the date.)
- (5) Return the crown to the normal position.
- For more accurate setting of the time, turn the minute hand 4-5 minutes past the correct time, then turn it back to the correct time.



## 5. Setting the Date

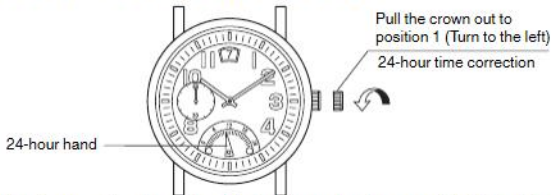
- (1) Pull the crown out to position 1.
- (2) Turn the crown to the right to set the date. (Turning the crown to the left enables correction of the 24-hour hand.)
- (3) When the date was set, return the crown to the normal position.



### [Notes]

- If the date is set while the time on the watch is between the hours of about 11:00 PM and 2:00 AM, the date may not change on the following day. If this happens, set the date after temporarily moving the hands to a time other than between the above times.
- The date is based on a 31-day calendar. The crown must be used to change the date from the last day of the month to the first day of the following month for shorter months (months having 30 days and February).

## 6. Using the Dual Time Function



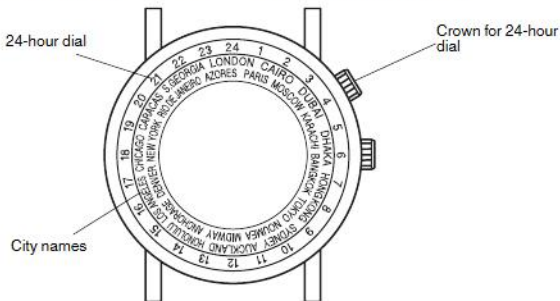
The 24-hour hand enables the setting of the time for another time zone. The 24-hour time setting can be made in 1-hour increments to enable use of the dual time function.

- (1) Pull the crown out to position 1.
- (2) Turn the crown to the left to set the 24-hour hand to a time in another time zone. (Turning the crown to the right enables correction of the date.)
- (3) When the setting was completed, return the crown to its normal position.
  - The minute display position of the 24-hour hand stops at a position that is linked to the minute hand.
  - Please use the dual time function as a general reference only.

## 7. Using World Time function

\* For models equipped with World Time function only

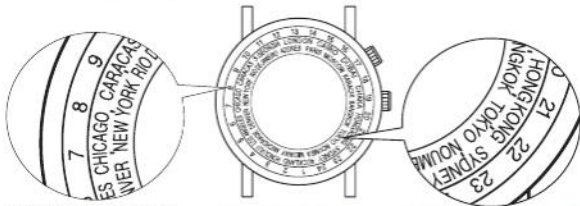
The World Time function allows you to see the time in 24 major cities in the world.



\* The World Time function does not support Daylight Saving Time.

<How to see the times in other cities>

\* Ex.: To see the time in New York



Set "8" on the dial above  
"NEW YORK".

Fig. for Ex. 1 below

"TOKYO" is below "22" on  
the dial.

Ex. 1: To see the time in Tokyo at 8 o'clock in New York.

- (1) Turn the crown for 24-hour dial so that "8" on the dial comes above "NEW YORK".
- (2) "22" on the dial comes above "TOKYO".

Now you can see it is 22 o'clock in Tokyo when it is 8 in New York.

Ex.2: To see the time in New York at 12 o'clock in London.

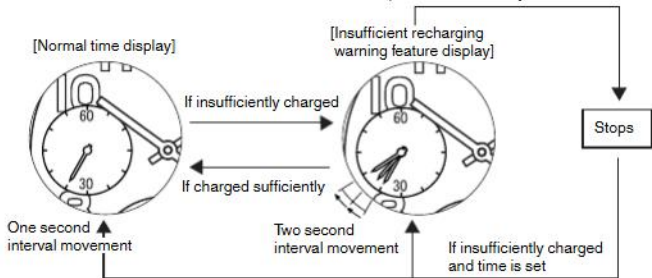
- (1) Turn the crown for 24-hour dial so that "12" on the dial comes above "LONDON".
- (2) "7" on the dial comes above "NEW YORK".

Now you can see it is 7 o'clock in New York when it is 12 in London.

## 8. Special Functions of Solar-Powered Watches

This watch is provided with a function that causes a warning function to be activated when the watch is sufficiently charged that alters the display to inform the wearer of insufficient charge.

If insufficiently charged state (2-second interval movement) continues for 3 days or more



When the watch is exposed to light, the Quick Start Function will begin operating and the second hand will start moving. The correct time can be set once the watch is fully charged.

### **<Insufficient Recharging Warning Feature>**

The second hand changes to two-second interval movement to inform the wearer of insufficient recharging. Although the watch will keep the correct time when this happens, the watch will stop when two-second interval movement continues for about 3 days. Place the watch in light to recharge. The watch will return to one-second interval movement.

### **<Quick Start Feature>**

The watch will stop when it is completely discharged. When placed in light, the hand will begin to move after about 10 seconds. (The time until the hands begin to move varies according to the model and brightness of the light.) Please note that if the light is blocked, the watch may stop again as a result of being insufficiently recharged.

### **<Overcharging Prevention Feature>**

When the secondary battery is fully charged, the overcharging prevention feature is activated to prevent further recharging. This enables the wearer to recharge without risk of damage to the watch.

## 9. Charging Time

The time required for charging varies according to the model of watch (color of the watch face, etc.). The following table provides a general reference for determining charging times.

Illuminance (lux)	Environment	Charging time (approx.)		
		After stopping until one-second movement	For one day's use	For full charge
500	Inside an ordinary office	70 hours	4 hours	——
1,000	60-70cm (24-28in.) under a fluorescent light (30W)	35 hours	2 hours	——
3,000	20cm (8in.) under a fluorescent light (30W)	10 hours	40 min	130 hours
10,000	Exterior, cloudy	3 hours	12 min	40 hours
100,000	Exterior, summer, sunny	25 min.	3 min	8 hours

Time required for full charge: Time from the state in which the watch has stopped until fully charged.

Time required for one day's use: Time required for the watch to run at one-second intervals for one day.

## 10. Notes Regarding Handling of Solar-Powered Watches

<Always make sure to recharge frequently>

- Please note that if you wear long sleeves, the watch may stop as a result of being covered by your sleeve and blocked from the light.
- When you take off the watch, try to place it in as bright a location as possible. This will ensure that it will continue to run properly.

### **CAUTION: Recharging Precautions**

- The watch will be damaged during recharging if it becomes excessively hot (60°C/140°F and above). Avoid recharging when the watch is hot.  
Examples: Recharging when the watch is in close proximity to an incandescent lamp, halogen lamp or other light source that generates considerable heat, or recharging the watch while placed on the dashboard of an automobile or other locations subject to excessively high temperatures.
- When you charge the watch by an incandescent lamp, take a distance about 50cm (20 in.) from the light source to prevent extremely high temperature.

## <Replacement of Secondary Battery>

Since the secondary battery used in this watch is able to be charged and discharge repeatedly, it does not have to be replaced periodically in the manner of ordinary batteries.

### **WARNING** Handling of Secondary Battery

- The secondary battery should never be removed from the watch.
- If for any reason it becomes necessary to remove the secondary battery from the watch, keep it out of the reach of children to prevent accidental swallowing.
- If the secondary battery is accidentally swallowed, consult a doctor immediately.

### **WARNING** Use Only the Specified Battery

Never use a battery other than the secondary battery specified for use in this watch. Although the watch structure is designed so that it will not operate when another type of battery is installed, if a silver battery or other type of battery is installed in the watch and the watch is recharged, there is the risk of overcharging which may cause the battery to rupture. This can cause damage to the watch and injury to the wearer.

When replacing the secondary battery, always make sure to use the designated secondary battery.

## 11. Helpful Hints

### <The second hand is moving in two-second interval movement>

- This indicates that the insufficient recharging warning feature has been activated. When this happens, recharge the watch promptly so that it returns to one-second interval movement.



2-second interval movement

### <If there is a discrepancy between the 24-hour hand and the hour hand>

- If you pulled the crown out to position 2 and turned it in the opposite direction (counterclockwise) when you set the time or moved the hands during a date setting operation, the 24-hour hand stops at the 0:00 position when the time goes past 0:00 AM. If this is the case, pull the crown out to position 1 and turn it to the left until the 24-hour hand matches the time indicated by the hour hand. If, however, the dual time function setting has been made, allow for the time difference when resetting the time.

### <The date changes at about 2:00 PM>

- An error was made in the selection of the 12-hour time period (AM/PM) when the time was corrected. (Refer to the "Setting the Time" section and reset the time to the correct time.)

## 12. 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.



Minor exposure to water (washing face, rain, etc.)

Name	Indication	Specification	
	Watch dial and Case back		
Everyday-use water-resistant watch	WATER RESIST(ANT)	Water-resistant to 3 atmospheres	<b>OK</b>
Upgraded everyday-use water-resistant watch	WATER RESIST(ANT) 5bar	Water-resistant to 5 atmospheres	<b>OK</b>
Upgraded everyday-use water-resistant watch	WATER RESIST(ANT) 10/20bar	Water-resistant to 10 or 20 atmospheres	<b>OK</b>

### Examples of Use



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

**NO**

**NO**

**NO**

**NO**

**OK**

**NO**

**NO**

**NO**

**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, benzene, 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 benzene, 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.

## **Periodical inspections**

Your watch needs inspection once in every two or three years for safety and long use. To keep your watch water-resistant, the packing needs to be replaced regularly. Other parts need to be inspected and replaced if necessary. Ask for Citizen genuine parts upon replacement.

## 13 . Specifications

1. **Model** : J304
2. **Type** : Analog solar-powered watch
3. **Timekeeping accuracy** : Within  $\pm 15$  seconds per month on average  
(when worn at normal temperatures between 5°C/41°F and 35°C/95°F)
4. **Operating temperature range** : -10°C/14°F to +60°C/140°F
5. **Display functions** : Time: 24 hours, hours, minutes, seconds  
Calendar: Date
6. **Additional function** : Quick date correction function  
Insufficient recharging warning feature  
Quick start feature  
Overcharging prevention feature
7. **Continuous operation times** : Fully charged to stopping: Approx. 6 months  
2 second interval movement to stopping: Approx. 3 days
8. **Secondary battery used** : Secondary battery, 1pc.

\* In the interest of product improvement, specifications are subject to change without notice.

**CITIZEN®**

CTZ-B8109 ③