

■ This radio controlled watch receives standard radio waves broadcast from Japan ■

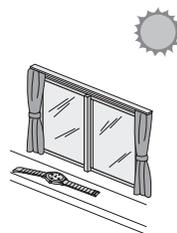
This watch is equipped with an Automatic Tuning Function that receives radio waves by automatically selecting the transmitter with the strongest radio wave, an Automatic Reception Function that sets the time and date by automatically receiving waves at 2 a.m., or at 4 a.m. when radio waves are unable to be received at 2 a.m., each day, and an On Demand Reception Function that allows you set the time and date by arbitrarily receiving radio waves at any time.

- Only the Japanese standard radio waves can be received. (Overseas radio waves cannot be received)
- The radio controlled watch has no effect on the human body or medical equipment.

■ Fully charge your watch before use by exposing it to sufficient light ■

The second hand will move at 2-second intervals when the watch is insufficiently charged. Charge your watch as indicated in “Guide to Charging Time” (p.104).

It is recommended that the watch be exposed to direct sunlight for a long time once a month to fully charge it.



Thank you for your purchase of this Citizen watch. Before using this watch, read this instruction manual carefully to ensure correct use. After reading this manual, store it in a safe place for future reference.

In addition, you can view animated explanations of the operation of this watch by accessing the Citizen web site and viewing the "Watch Operating Guide". URL: <http://citizen.jp/support.html>

Safety precautions (Instructions to be followed at all times)

This manual contains the following instructions that should be strictly followed at all times to prevent injury to yourself and other persons as well as damage to property.

■ **Injuries and damage that might be caused by using the watch improperly or neglecting any of the instructions or precautions contained in this manual are classified with the following symbols.**

 **WARNING** Can cause serious injury or death

 **CAUTION** Can or will cause minor or moderate injury or damage

■ **Important instructions that should be followed are classified with the following symbol.**

 Warning (caution) symbol followed by instructions that should be followed or precautions that should be observed

Table of Contents

1. Your Watch	68
2. Operating the Crown	70
3. Before Use	72
Checking the Reference Position.....	74
4. Functions List	76
Radio Wave Reception	
5. Reception Area Guidelines	78
6. For Best Reception	80
7. Poor Reception Areas	81
8. Receiving the Radio Waves	82
A. Position of the Second Hand During Reception	84
B. Confirming the Reception Status	85
Setting the Time and Date Manually	
9. Setting the Time	86
10. Setting the Date	88
11. Correcting the Time Difference	91
12. Setting the Dual Time	92

13. Adjusting the Reference Position Manually	94
Solar Power	
14. Solar Power Function	96
15. Characteristics of the Solar Powered Watch	98
A. Power Saving Function.....	100
B. Insufficient Charge Warning Function	102
C. Overcharging Prevention Function	103
D. Guide to Charging Time	104
E. Handling Your Solar Powered Watch.....	106
Troubleshooting	
Radio wave reception function	108
Eco-Drive.....	110
Precautionary Items and Usage Limitation	
16. Specifications	120
Warranty and After-Sales Service	122
To Customers with Reception Problems	124
Please Direct Inquiries To:	125

1. Your Watch

- ◎ **Radio wave reception function:** This radio controlled watch receives a standard time wave from a radio wave transmitter in either Fukushima or Kyushu, selecting whichever provides the best reception, and automatically adjusts the date and time.
- ◎ **Eco-Drive function:** This solar powered Eco-Drive watch is equipped with a solar power function for powering the watch by converting light energy into electric energy. The watch incorporates a power saving function that reduces the power consumption when the watch face is not exposed to light.
- ◎ **Dual time function:** In addition to the current time, this watch incorporates a 24-hour hand that enables it to display an additional time, for example the time in another country.
- ◎ **Time difference correction function:** The watch incorporates a convenient time difference adjustment function. A simple method is available for changing to the local time if you are going to an area in a different time zone.

Perfex
パーフェックス

- The watch integrates three functions, a JIS Type-1 antimagnetic watch function, impact detection function, and hand correction function, in order to prevent hand misalignment caused by external factors such as impacts or magnetism.

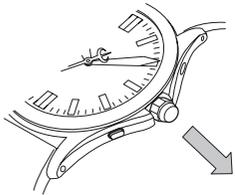
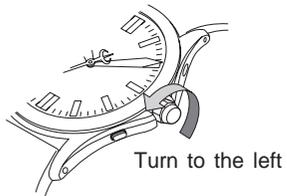
* A JIS Type-1 antimagnetic watch maintains its time functionality as close as 5 cm away from devices that generate a magnetic field during normal use.

- ◎ **Impact detection function:** This function prevents unwanted movement of the hour, minute and second hands when the watch receives an impact.
- ◎ **Hand correction function (hand reference position auto-correction function):** The reference position of the hands is checked at regular intervals, and if there is any misalignment, the hour, minute and second hands are rapidly corrected to maintain the correct time.

2. Operating the Crown

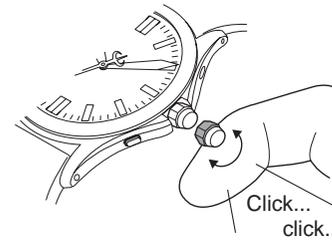
There are two models available for the crown: normal and screw lock.

<Operating the screw lock crown>



1. Turn the crown to the left.
2. When the screw lock is released, the crown pops out a little and stops in the normal position.
3. After finishing the operation, turn the crown to the right to lock it.

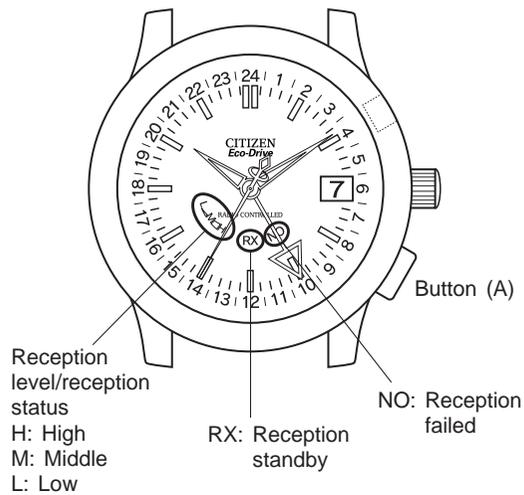
<To move the hands and date continuously>



Turn the crown quickly (more than 2 clicks).

1. Pull out the crown to the position 1 or 2. Rapidly turn the crown to the left or right (more than 2 clicks) to move the hands and date continuously.
2. To stop the continuous movement of the hands, turn the crown to the left or right by one click.

3. Before Use



Check the movement of the second hand.

The second hand is moving at 1-second intervals.

The second hand is moving at 2-second intervals or is stopped.

Charge watch by placing it in direct sunlight.

Check the reception status by pressing the lower right button (A) once.

The second hand indicates a reception status of H, M or L

The second hand indicates a reception status of NO

Your watch is correctly receiving the standard time radio wave. It is ready to use.

Perform on demand reception as indicated in **"On Demand Reception" (p.82).**

If you have problems in receiving the radio wave, please contact the Citizen Consumer Help Desk.
0120-78-4807

The second hand will move at 1-second intervals.

Checking the Reference Position

<Before using the watch, confirm that the hands are aligned with “0”, similar to when setting weighing scales>

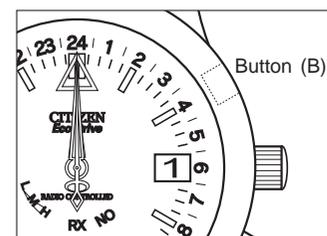
- ◎ The reference position may become misaligned when the watch is exposed to strong magnetism, static electricity or impacts. Even if radio waves are received, the correct time will not be indicated unless the watch hands are aligned to the correct reference position. Check that the hands are properly aligned with “0”.



Examples of magnetic products that can affect the watch

- Health products (for example, medical necklaces and waist bands that have magnetic fields)
 - Refrigerators (magnetic part of the door)
 - Electromagnetic cookers
 - Bags (with magnet fasteners)
 - Mobile phones (speaker part)
- Keep the watch away from items similar to those above.

The radio controlled watch displays the received standard time and date based on the reference position “12:00:00” for the hands, “0:00 a.m.” for the 24-hour hand and “1st” for the date.



Correct reference position indication

Time: 12:00:00
24-hour hand: 0:00 a.m.
Date: 1st

- ◎ Confirm that the reference position is correctly displayed.
1. With the crown in the normal position, press the upper right button (B) for more than 5 seconds, and then release it when the second hand begins to move either clockwise or counterclockwise. All the hands and the date will move rapidly, stopping at the reference position recorded in the watch memory.
 - This could take up to a maximum of about 7 minutes.

If the reference position described above is not displayed, see “Adjusting the Reference Position Manually” (p.94).

4. Functions List



Function	Button or crown operation	Hand movement
On demand reception (p.82)	Press the lower right button (A) for more than 2 seconds and release when the second hand stops at the RX position.	The second hand will stop at the RX position and then move to the reception level (H, M or L). If the reception level is not indicated, reception failed and the hands will return to their normal movement.
Confirm reception status (p.85)	Press the lower right button (A) once.	The second hand will stop at the H, M, L or NO position.
Dual time (p.92)	Pull out the crown to the position 1, then press the upper right button (B) once.	When the second hand aligns with the 12:00 position, this indicates time difference with the home time is ± 0 hours. One step of the second hand indicates a one hour time difference.
Time difference setting (p.91)	Press the upper right button (B) once and turn the crown. Then, press the upper right button (B) once to complete the operation.	The second hand will stop at the 12:00 position. (If a time difference setting has been made, it will stop at the position appropriate for the time difference.) The second hand at the 12:00 position indicates time difference of ± 0 hours. One step of the second hand indicates a one hour time difference.
Setting the time manually (p.86)	Pull out the crown to position 2.	Turn the crown to the right to rotate the second hand clockwise once and move the minute hand ahead by 1 minute. Turn the crown to the left to rotate the second hand counterclockwise once and move the minute hand back by 1 minute. Turn the crown quickly to move the hour and minute hands continuously. * When the date changes it is 0:00 a.m. (midnight).
• Setting the Date (p.88) (Elapsed years after the most recent leap year)	Pull out the crown to position 1. * Each time the lower right button (A) is pressed alternates between leap year correction and date.	The second hand will move to the "elapsed years after the most recent leap year" recorded in the watch memory, and stop. Date: Turn the crown to the right to progress the date by 1 day. Turn the crown to the left to move the day back. Leap year: Press the the lower right button (A) once. Turn the crown to the right to move the second hand one step forward. Turn the crown to the left to move the second hand back.

Radio Wave Reception

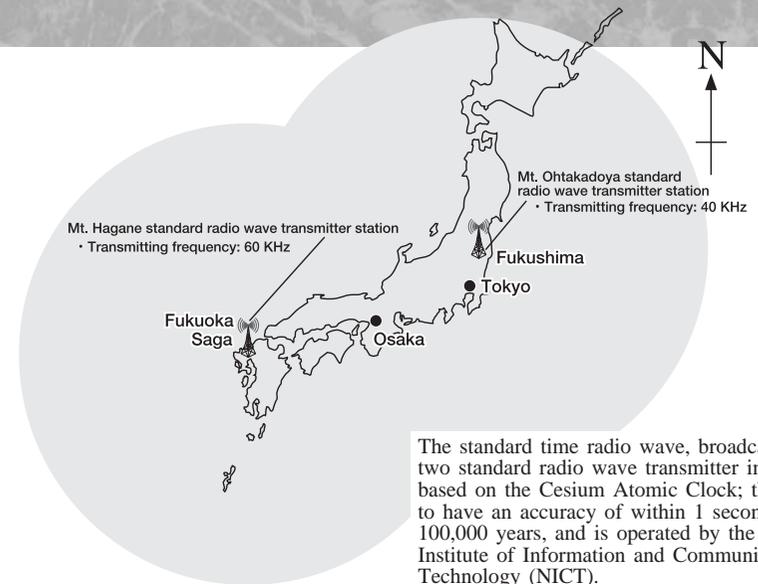
5. Reception Area Guidelines

This watch incorporates an Automatic tuning function that selects the radio wave transmitter for reception. The map shows the approximate reception area. However, note that the radio wave condition could change due to factors including the weather (such as lightning) and changes in the season or sunrise/sunset time. The reception area on the map is only guideline, and it may be difficult to receive the radio wave even within the areas indicated on the map.

<Radio wave transmitter>

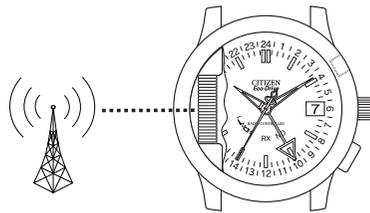
- Ohtakadoya-yama Standard Time Transmitter (Fukushima Transmitter)
- Hagane-yama Standard Time Transmitter (Kyushu Transmitter)

The standard time radio wave this watch uses is broadcast almost continuously 24-hours a day, but may occasionally be interrupted for maintenance. Even if reception of the standard time radio wave has failed, the watch will continue to be accurate to within ± 15 seconds per month. The broadcasting conditions of the standard time radio wave can be confirmed on the Citizen home page, or by contacting the Citizen Consumer Help Desk.



6. For Best Reception

This watch incorporates a radio antenna (9:00 position side). To achieve the best reception, remove the watch from the wrist, point the 9:00 position of the watch towards the radio wave transmitter, place the watch in a stable place where reception is good such as near a window. Do not move the watch while it is receiving the radio wave.



For details on the direction of the transmitter, refer to the “**Reception Area Guidelines**” (p.78).

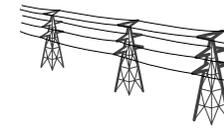
The reception level may change depending on the surrounding environment. Place the watch in different locations and directions while paying attention to the reception level (H, M or L) to find the most receptive location or orientation to give a reception level of H or M.

7. Poor Reception Areas

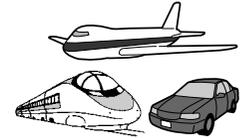
It may be difficult to properly receive the radio waves under certain environmental conditions or in areas susceptible to radio noise.



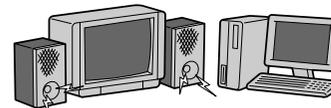
◆ Extremely hot or cold locations



◆ Near high-tension electrical lines, railway overhead wires or communication facilities



◆ Inside vehicles, including cars, trains and aero planes



◆ Near TVs, refrigerators, computers, fax machines and other electrical equipment or office appliances



◆ Near cellular phones that are in use



◆ Inside reinforced concrete buildings
Between tall buildings or mountains, or underground

8. Receiving the Radio Waves

Three types of radio wave reception are possible: **Automatic reception, on demand reception** and **recovery automatic reception**. When the radio wave has been properly received, your watch will automatically adjust the time and date.

Automatic Reception

- **It is not necessary to operate buttons during automatic reception.**

Place the watch in a stable location near a window where the radio wave can be easily received with the 9:00 position (antenna for receiving the radio waves) pointing towards the transmitter. The watch will receive the radio waves at 2 a.m. every day. If the radio wave cannot be received at 2 a.m., it will try again automatically at 4 a.m.

On Demand Reception (Manual Reception)

- **Radio waves can be received at any time.**

Use this function when automatic reception is impossible due to changes in the reception environment.

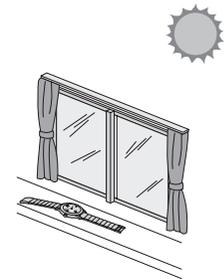
1. Remove the watch from the wrist, then press the lower right button (A) for more than 2 seconds and release it when the second hand rapidly moves and stops at the RX position.

2. Place the watch in a stable location near a window where the radio wave can be easily received with the 9:00 position pointing towards the transmitter.
 - **Subsequently, the second hand will move from the RX position to the H, M, or L position during reception.**
 - **When reception is finished, the second hand will move from the H, M, or L position and return to 1-second interval movement. (This may take up to 13 minutes.)**

Refer to “**Confirming the Reception Status**” (p.85) to check the reception status.

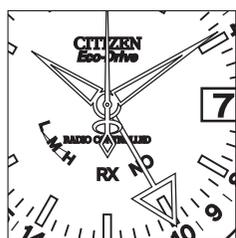
Recovery Automatic Reception

If the watch stops due to insufficient charging, expose the watch to sunlight to recharge it. When the watch is recharged sufficiently, it will automatically receive the radio wave once. Regularly charge your watch so it does not become insufficiently charged.



A. Position of the Second Hand During Reception

[During reception standby]



◆ Second hand moves to RX and stops.

[During reception]



◆ The second hand moves from RX to reception level H, M or L and reception starts.

[Reception completed]



◆ When the reception is successful, the second hand will return to 1-second interval movement and the other hands will be automatically corrected.

<Time required for reception>

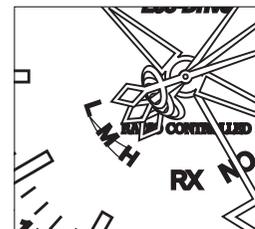
Reception can take from about 2 minutes to a maximum of 13 minutes, depending on factors such as the weather or noise. There are also occasions when the second hand remains aligned to the reception standby position (RX), does not move to H, M or L, the watch returns to normal display after about 60 seconds.

[NOTE] There are cases during reception when the radio wave transmitter will change, or the radio wave is interrupted due to environmental changes, and the second hand will make one full rotation and then indicate the reception level once again. Do not move the watch until the second hand has returned to 1-second interval movement.

B. Confirming the Reception Status

◎ The reception status (reception successful or failed) can be confirmed.

1. Press the lower right button (A) once. The second hand will rapidly move to either H, M, L or NO to indicate the reception status.
2. The reception status will be indicated for 10 seconds, then the watch automatically returns to normal hand movement. You can also press the lower right button (A) again while the reception status is indicated to return to 1-second interval movement.
 - If NO is indicated, find a location or direction where the reception is better and perform on demand reception again.



* H, M and L only indicate the reception level, and do not affect the performance.

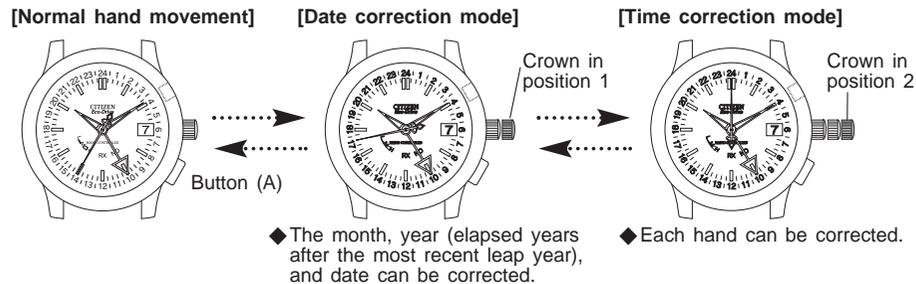
Reception level	Reception status
H	Received at a strong reception level
M	Received at a quite strong reception level
L	Received at a weak reception level
NO	Reception failed

<Even if the radio wave is received correctly, there could be a slight deviance from the correct time due to factors such as the radio wave reception environment and internal watch processing.>

Setting the Time and Date Manually

9. Setting the Time

When this watch has received the radio wave, it automatically adjusts the date and time. If the watch is used overseas or in a location where the radio wave cannot reach, the date and time can be set manually. When returning to a region where the radio wave can be received, perform the automatic reception or on demand reception.



◎ Pressing the lower right button (A) changes the correction mode and turning the crown performs the correction.

<Correcting the time>

1. Pull out the crown to position 2.
 - The second hand moves rapidly to the 12:00 position and stops.
2. Turn the crown to set the minute hand and hour hand.
 - ① Turn the crown to the right by 1 click to rotate the second hand clockwise once and to move the minute hand ahead by 1 minute.
 - ② Turn the crown to the left by 1 click to rotate the second hand counterclockwise once and to move the minute hand back by 1 minute.
 - Continuously turn the crown by 2 or more clicks to make the second, minute and hour hands move continuously by 12 hour.
 - Turn the crown to the left or right to stop the continuous movement of the hands.

[NOTE] When the date changes it is 0:00 a.m. (midnight). Take care to observe whether it is a.m. or p.m.
3. Set the time by using a time signal, and then press the crown back into its normal position.

10. Setting the Date

<Correcting the date>

1. Pull out the crown to position 1.
 - The watch will enter the date correction mode and the second hand will stop at the month and elapsed year positions recorded in the watch memory.
2. Turn the crown to set the date.
 - ① Rotate the crown to the right by 1 click to advance the date by one day.
 - ② Rotate the crown to the left by 1 click to move the date back by one day.
3. Press the lower right button (A) once, and turn the crown to set the month and elapsed years after the most recent leap year, referring to “Quick reference for the elapsed years after the most recent leap year”.

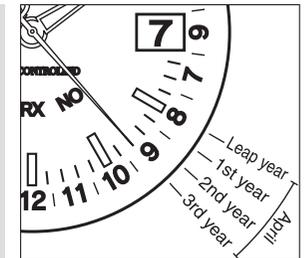
<Month and year (elapsed years after the most recent leap year) indication by the second hand>

☆ Month indication by the second hand

Second hand between 1:00 and 2:00: January
 Second hand between 2:00 and 3:00: February
 ⋮
 Second hand between 12:00 and 1:00: December

<Example>

• April of the 3rd year after the most recent leap year
 Read the elapsed years after the most recent leap year from the table below.
 · Align the second hand with the 23 seconds position (in the zone between 4:00 and 5:00).



Quick reference for the elapsed years after the most recent leap year

Year	Elapsed years	Year	Elapsed years	Year	Elapsed years
2004	Leap year	2008	Leap year	2012	Leap year
2005	1st year	2009	1st year	2013	1st year
2006	2nd year	2010	2nd year	2014	2nd year
2007	3rd year	2011	3rd year	2015	3rd year

☆ Elapsed years indication by the second hand

Leap year:

The second hand points to the start position of each month zone

1st year after the most recent leap year:

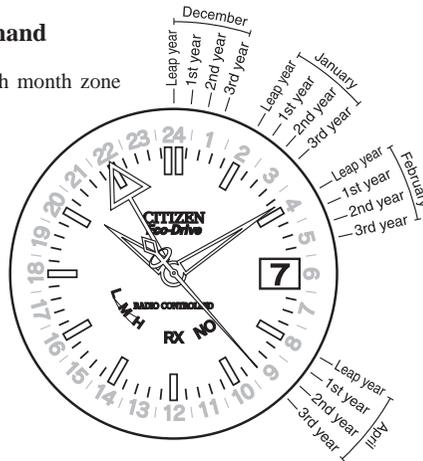
The second hand points to the 1st position in each month zone

2nd year after the most recent leap year:

The second hand points to the 2nd position in each month zone

3rd year after the most recent leap year:

The second hand points to the 3rd position in each month zone



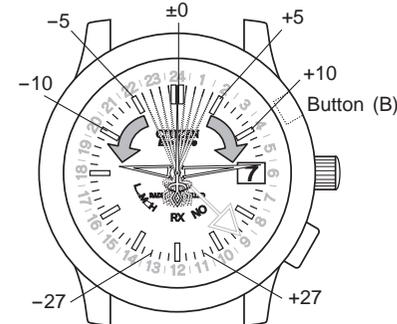
4. Refer to “Quick reference for the elapsed years after the most recent leap year” to confirm the number of elapsed years, and turn the crown to the right by 1 click to align the second hand with the month and elapsed years. Turn the crown to the left by 1 click to move the second hand counterclockwise.

5. Press the crown back into its normal position.

- With the crown pulled out to position 1, each press of the lower right button (A) moves either the date or the second hand being corrected to indicate the correction mode.

11. Correcting the Time Difference

The watch can be adjusted to the local time when going to an area in a different time zone, by using the second hand to set the time difference in units of 1 hour.



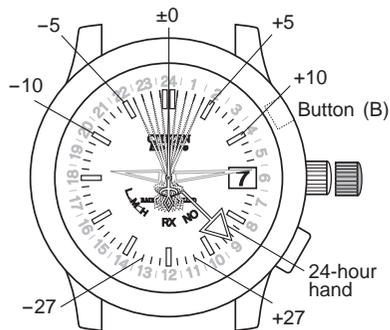
Example: When Hong Kong is compared to Japan time as the reference, the time difference is -1 hour, so set the second hand to the 59 seconds position.

1. Press the upper right button (B) once. The second hand will stop at the 12:00 position. The second hand 12:00 position indicates a time difference of ± 0 hours.
 - * If a time difference setting has been made, it will stop at the position appropriate for the time difference.
2. Turn the crown without pulling it out. Turn the crown to the right by 1 click to move the second hand ahead by 1 step. Time difference of +1 hour is set. Turn the crown to the left by 1 click to move the second hand back by 1 step. Time difference of -1 hour is set.
 - The second hand in the 12:00 position indicates Japan time. With Japan time as the reference time, a time difference of up to “ ± 27 hours” can be set.

3. When the upper right button (B) is pressed once after setting the time difference or not perform any operations for 60 seconds, the watch will indicate the time difference setting time and then rapidly return to 1-second interval movement.

12. Setting the Dual Time

In addition to the current time, a 24-hour hand enables the watch to display an additional time in intervals of 1 hour.



1. Pull out the crown to the position 1, then press the upper right button (B) once.

- The second hand will move to the current setting in watch memory, and the 24-hour hand will move indicating the correction mode.
- * The crown cannot be used while the 24-hour hand is moving.

- With the second hand in the 12:00 position the watch is at home time, time difference of ± 0 hours.

Home time:
Home time is the time in the region currently resided in.

2. Turn the crown to the right by 1 click to move the second hand forward by 1 step. The time difference of +1 hour is set. Turn the crown to the left by 1 click to move the second hand back by 1 step. The time difference of -1 hour is set.
 - With the home time as the reference position at 12:00, a time within ± 27 hours can be set.
 - The watch will have to be adjusted 1 hour during daylight saving time.

Using the 24-hour hand



3. After setting the time, return the crown to its normal position; the second hand will move normally, and the 24-hour hand will display the set time.

Example: When the home time (Japan time) is 20:00, display the time in New York

* Time difference: -14 hours

- Following the setting procedure, align the second hand with the 46 seconds position. The 24-hour hand shows New York time to be 6:00 a.m.

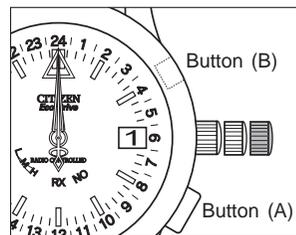
13. Adjusting the Reference Position Manually

Time: 12:00:00
24-hour hand: 0:00 a.m.
Date: 1st

If the indication is different to the above, the reference position must be corrected.

<Correcting the hour, minute, second, and 24-hour hands reference position>

1. Press the upper right button (B) for more than 5 seconds and release when the second hand begins rapid movement; while the seconds hand is moving, pull out the crown to position 2 and wait.
2. Turn the crown to set the date to "1". • This could take up to a maximum of about 7 minutes.
 - ① Turn the crown to the right continuously (2 or more clicks) to advance the date continuously; turn it to the left to move the date back.
 - Turn the crown to the left or right to stop the continuous change.
 - ② When "1" appears in the date window, turn the crown to the left or right to stop.
 - Fine adjustment can be achieved by turning the crown by 1 click.
 - Each time the lower right button (A) is pressed, the date, second hand, or 24-hour hand being corrected will move indicating the correction mode.



3. Press the lower right button (A) once, turn the crown to align the 24-hour hand with the 0:00 a.m. position.
 - ① Turn the crown to the right by 2 or more clicks to make the 24-hour hand move continuously. Turn to the left continuously will return the hand.
 - ② Turn the crown by 1 click to perform fine adjustment to align the hand to the 12:00 position.
4. Press the lower right button (A) once, and turn the crown to align the hand to 12:00:00 position.
 - ① Turn the crown to the right by 1 click to rapidly move the second hand ahead by 1 minute and turn it to the left to move it back.
 - ② Turn the crown continuously by 2 or more clicks to rapidly rotate the second hand. Since the minute and hour hands and the second hand are linked together, the minute hand and hour hand will move continuously.
5. After adjusting the reference position, return the crown to the normal position, and press the upper right button (B) once to make the hands and the date rapidly return to the current time and date.
 - This concludes setting the reference position. If the current time is not displayed, perform on demand reception before using the watch.

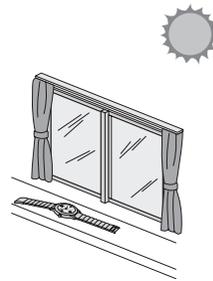
14. Solar Power Function

This watch uses a secondary battery to store electrical energy. When the watch is fully charged, it will maintain its accuracy for about 6 months.

<Ensuring best operation of the watch>

Always store the watch in a bright location for best results.

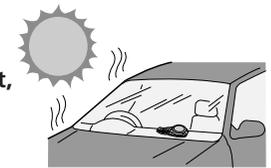
- ◆ Placing the watch near a window where its face can receive sunlight or near another source of light when you are not wearing it will ensure that the watch is regularly charged, allowing it to maintain its accuracy.



- ◆ Wearing clothes with long sleeves makes it difficult for the watch to get the necessary light, resulting in insufficient charging. It is recommended that the watch be left in direct sunlight once a month to charge it.

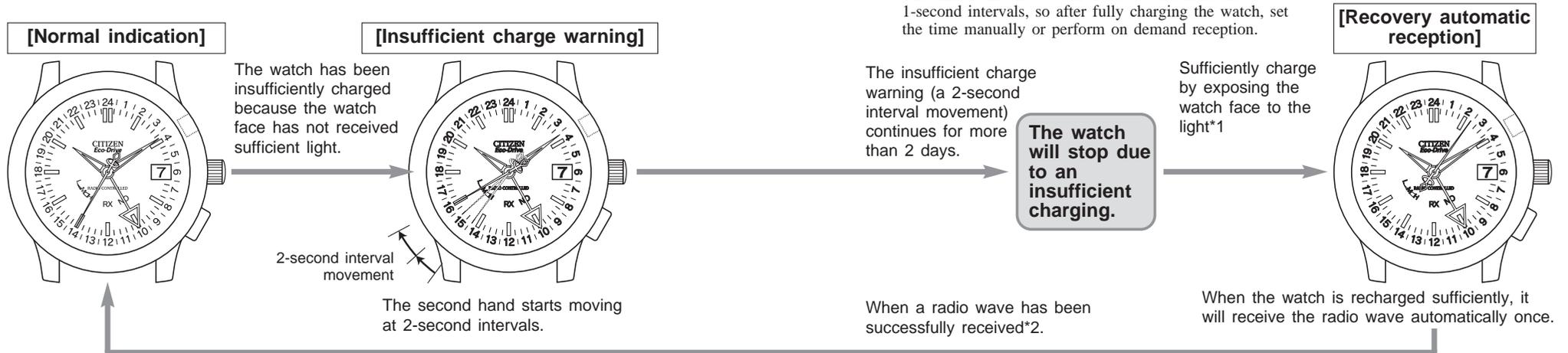
[NOTE]

Do not charge on surfaces that can easily become hot, such as a car dashboard.



15. Characteristics of the Solar Powered Watch

☉ When the watch is insufficiently charged, the indication will be changed as follows:



- *1. When the watch stopped due to insufficient charging
 - It takes at least 30 minutes to recharge sufficiently to perform recovery automatic reception, even if the watch is being exposed to light. After recovery, refer to “Guide to Charging Time” and sufficiently charge the watch.
- *2. If the watch failed to perform recovery automatic reception
 - The time is incorrect even if the second hand moves at 1-second intervals, so after fully charging the watch, set the time manually or perform on demand reception.

A. Power Saving Function

If the face of the watch is not exposed to light for a continuous period of 90 days, the hands will stop at the 12:00 position and the watch will enter power saving mode.

[The following functions are available even during power saving mode]

- The time is always being kept inside the watch.
- The date will be automatically updated.



Hands stop at the 12:00 position.

<Canceling the power saving function>

The power saving function will be automatically canceled when the watch face is exposed to light.

- After the power saving function has been canceled, the hands will rapidly move to the current time and return to 1-second interval movement.
- If the watch is insufficiently charged, the second hand will begin the 2-second interval movement. Charge the watch sufficiently to return the second hand to normal movement.

[NOTE]

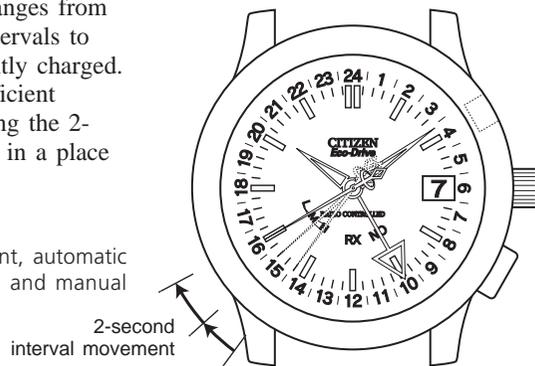
- After the power saving function has been canceled, press the lower right button (A) once to check the reception status. If it is not showing the correct time, carry out "On Demand Reception" (p.82) or "Setting the Time" (p.86) before using.

B. Insufficient Charge Warning Function

The second hand's movement changes from 1-second intervals to 2-second intervals to show that the watch is insufficiently charged. The watch will stop due to insufficient charging about 2 days after starting the 2-second interval movement if kept in a place with no light.

[NOTE]

During 2-second interval movement, automatic reception, on demand reception, and manual time setting are unavailable.



- ◆ If the charging insufficiency occurs during “Radio wave reception”, “Confirming the reception status”, “Time difference correction” or “Checking/correcting the reference position”, the operation will stop automatically, the watch will return to the time before the operation, and 2-second interval movement will begin.
Regularly charge your watch so it does not become insufficiently charged.

C. Overcharging Prevention Function

No matter how much the watch is charged, it will not affect the secondary battery, timekeeping, functions or performance of the watch.

When the secondary battery becomes fully charged by exposing the watch face to light, the overcharging prevention function is automatically activated to prevent the battery from being charged further.

D. Guide to Charging Time

The charging time varies according to the model (including the color of the watch face). The following data should only be used as a guideline.

* The charging time is based on continuous exposure.

Illuminance (lx)	Environment	Charging time (approximate)		
		For a 1-day movement charging time	Time from stopping to resuming the 1-second interval movement	Time for full charging
500	Indoor lighting	3.5 hours	12 hours	—
1,000	60 – 70 cm beneath a 30 W fluorescent light	2 hours	6 hours	—
3,000	20 cm beneath a 30 W fluorescent light	35 minutes	2.5 hours	110 hours
10,000	Cloudy sky	11 minutes	1 hour	35 hours
100,000	Direct summer sunlight	3 minutes	35 minutes	17 hours

For a 1-day movement charging time ... The charging time to run the watch for one day with normal movement.

Time for full charging ... The time for full charging after the watch has stopped due to an insufficient charging.

[NOTE]

A fully charged battery will run the watch for about 6 months without further charging.

The watch will maintain its accuracy for about a year when running in the power saving mode.

Charge the watch every day, as it will take a long time to recharge it, as is indicated in the table, when it stops due to an insufficient charging.

Furthermore, it is recommended to charge your watch by exposing to direct sunlight once a month.

E. Handling Your Solar Powered Watch

WARNING Handling the secondary battery

- ◆ Do not remove the secondary battery from the watch yourself, unless unavoidable. If you must remove the battery, store it out of reach of children to avoid accidental ingestion. If the secondary battery is ingested, consult a doctor immediately.
- ◆ Do not throw away with regular trash. Doing so could cause a fire or environmental damage. Follow the collection procedures as specified by your local authority.

WARNING Do not use anything other than the specified secondary battery

- ◆ The watch will not operate if incorrect battery types are inserted. Never use a regular silver battery. The battery could overcharge during the charging process and burst, causing damage to the watch or injuries to the wearer.

CAUTION Charging precautions

- ◆ Do not charge the watch in a high-temperature environment (about 60°C or more). Overheating while charging can cause the watch exterior to become discolored, the watch to deform or the movement to be damaged.
Example
 - Charging close to incandescent lighting, halogen lamps, or other lighting sources that easily become hot.
 - Charging on surfaces that can easily become hot, such as a car dashboard.
- ◆ When charging with incandescent lighting, halogen lamps, or other lighting sources that easily become hot, place the watch at least 50 cm away from the source to avoid overheating.

Troubleshooting

<Radio wave reception function>

Problem	Check	Remedy
The watch does not receive radio waves.	<ul style="list-style-type: none"> Does the second hand move to the RX (reception standby) position? 	<ul style="list-style-type: none"> Press and hold the lower right button (A) until the second hand indicates the RX (reception standby) position, and then release.
The watch can receive the radio wave, but it does not show the correct time.	<ul style="list-style-type: none"> Is the reference position set correctly? Check the reference position. (p.74) 	<ul style="list-style-type: none"> If the reference position is not correctly set, adjust it as indicated in "Adjusting the Reference Position Manually". (p.94)

Problem	Check	Remedy
Radio wave cannot be received. (where reception is possible)	<ul style="list-style-type: none"> Are there objects nearby that could block radio waves or generate noise? Are you attempting to receive the radio wave in a location far from a window? 	<ul style="list-style-type: none"> Avoid objects that block radio waves or generate noise. Try to receive radio waves by pointing the 9:00 position of the watch in the direction of the radio wave transmitter. Find a location such as window that is conducive to radio wave reception and change the watch location, direction and angle. (p.80)
	<ul style="list-style-type: none"> Are you moving the watch while receiving the radio wave and the second hand is indicating RX, H, M or L? 	<ul style="list-style-type: none"> Do not move the watch until the radio wave has been properly received (until normal hand movement returns). (Reception can take from about 2 minutes to a maximum of 13 minutes.)

<Eco-Drive>

Problem	Check	Remedy
<ul style="list-style-type: none"> • The second hand is moving at 2-second intervals. • The watch has stopped. • The watch does not work even after charging. 	<ul style="list-style-type: none"> • Did you charge the watch sufficiently in sunlight? 	<ul style="list-style-type: none"> • Charge the watch sufficiently, as indicated in "Guide to Charging Time". (p.104) • If the watch does not work even after charging, contact your a Citizen Consumer Help Desk or your nearest Customer Support Center. (p.125)

Problem	Check	Remedy
<ul style="list-style-type: none"> • The hands moved forward quickly at the moment that the watch was removed from a desk or drawer. 		<ul style="list-style-type: none"> • This is because the power saving function was canceled when the watch was exposed to light, and the hands moved forward quickly to the current time. It is ready to use. (p.100)

Precautionary Items and Usage Limitation

WARNING Water Resistance

- Water-resistance for daily use (to 3 atmospheres) means that the watch may be worn while washing your face or in the rain, but is not to be immersed in water.
- Upgraded water resistance for daily use (up to 5 atmospheres) means that the watch may be worn while swimming, but is not to be worn while skin diving or scuba diving.
- Upgraded water-resistance for daily use (to 10/20 atmospheres) means that the watch may be worn while skin diving, but not while scuba or saturated diving using helium gas.

Name	Indication	Specification
	Dial or Case back	
Everyday-use water-resistant watch	WATER RESIST (ANT)	Water-resistant to 3 atmospheres
Upgraded every-day use water-resistant watch	WATER RESIST (ANT) 5 bar	Water-resistant to 5 atmospheres
Upgraded every-day use water-resistant watch	WATER RESIST (ANT) 10/20 bar	water-resistant to 10 or 20 atmospheres

Water-related use				
				
When water is simply splashed on to the watch (washing your face or in rain)	Swimming and general washing work (kitchen work /swimming, etc)	Water sports and skin diving (without air tank)	Scuba diving (with air tank)	Operate the crown or button when the watch is wet
○	×	×	×	×
○	○	×	×	×
○	○	○	×	×

- Refer to the watch dial and the case back for the indication of the water resistance of your watch. The following chart provides examples of use for reference to ensure that your watch is used properly.
- WATER RESIST (ANT) xx bar may also be indicated as W.R. xx bar. (The unit “bar” is roughly equal to 1 atmosphere.)

 **CAUTION**

- Always use the watch with the crown pushed in (normal position). If the crown is of the screw-lock type, make sure it is securely locked.
- Do not operate the crown or button when the watch is wet. Water may penetrate into the watch, causing deterioration of water resistance.
- The durability of a leather band may be affected when wet, owing to the properties of the material. In the case of a watch of upgraded water resistance for daily use that is frequently used in water, fading, peeling of adhesive or other problems may occur. It is therefore recommended to use another type of band (metal or rubber watchband).
- If a watch of upgraded water resistance for daily use is immersed in sea water or subjected to excessive perspiration, thoroughly rinse with fresh water and wipe completely dry with a soft cloth.
- If water enters the watch or the watch fogs up and does not clear up even after a long time, consult your dealer or Citizen Consumer Help Desk, your nearest Customer Support Center for inspection and/or repair.
- 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, buttons, etc.) may come off.

 **CAUTION** **Handling the Band (Putting on and Taking off Band)**

- Be careful when putting on and taking off your watch, since there is a risk of damaging your fingernails, depending on the manner in which the band is fastened.

 **CAUTION** **When Wearing your Watch**

- Be particularly careful when wearing your watch while holding a small child, to avoid injury.
- Be particularly careful when engaged in strenuous exercise or work, to avoid injury to yourself and others.
- Do NOT wear your watch while in a sauna or other location where your watch may become excessively hot, since there is the risk of burns.
- The rubber(urethane) band may be stained by dyes or soil present in or on clothing or other accessories. Since these stains may not be able to be removed, caution is required when wearing your watch with articles that tend to easily transfer color (articles of clothing, purses, etc.).



CAUTION Always Keep your Watch Clean

- Small amounts of dirt may become trapped in the tiny gap between the crown and case, making it difficult to pull out the crown. It is recommended to occasionally turn the crown in its normal position to remove any dirt.
- The case and band of the watch come into direct contact with the skin in the same manner as undergarments. Corrosion of the metal or unnoticed soiling such as that caused by perspiration and dirt can soil sleeves and other portions of clothing. Keep your watch clean at all times.
- Wearing this watch may cause itching or rash if you have sensitive skin or certain physical conditions. If you think there is something wrong, discontinue wearing the watch immediately and consult your physician.
Possible causes of rashes include:
 1. Allergy to certain metal or leather
 2. Rust, dirt or perspiration present on the watch's body or band
- Leather bands may become discolored by perspiration or dirt. Always keep your leather band clean by wiping with a dry cloth.
- Do NOT wear the band too tightly. Try to leave enough space between the band and your skin to allow adequate ventilation.

<Caring for your Watch>

- Wipe any dirt or moisture such as perspiration from the case and crystal with a soft cloth.
- Remove any dirt from a leather band with a dry cloth.
- For a metallic, plastic or rubber watchband, wash any dirt off with water. Remove the small amounts of dirt trapped between the crevices of the metallic band with a soft brush.
- Do NOT use solvents (such as paint thinner or benzene) for cleaning, since they may mar the surface of the band.

<When equipped with Natural Light>

- “Natural Light” is a paint that uses a substance that emits no hazardous radiation at all, and is not harmful to human beings or to the environment. It emits light stored during exposure to daylight or artificial light.
However, the brightness of the light will diminish as the watch remains in darkness. In addition, depending on the brightness of the daytime light source and the distance between the watch and the light source, the length of time the watch emits light will vary.
Note that if the light stored in the watch is insufficient, the watch may not emit much light or will lose brightness quickly.

<Temperature>

- The function of the watch may be impaired or the watch may even stop if the ambient temperature is outside the range of -10°C to +60°C. Avoid using the watch in a manner outside the range of the specifications.

<Magnetism>

- Analog quartz watches are powered by a step motor that uses a magnet. Subjecting the watch to strong magnetism from the outside can cause the motor to operate improperly and prevent the watch from indicating the correct time. Do not allow the watch to come into close proximity to magnetic health devices (magnetic necklaces, magnetic elastic bands, etc.) or the magnets used in the latches of refrigerator doors, clasps used in handbags, the speaker of a cell phone, electromagnetic cooking devices and so on.

<Static Electricity>

- The integrated circuits (IC) used in quartz watches are sensitive to static electricity. Please note that the watch may not indicate the correct time if exposed to intense static electricity.

<Strong Shocks>

- Do not allow the watch to be dropped or subjected to strong impacts.

<Chemicals and Corrosive Gasses>

- If paint thinner, benzene or other solvents or products containing these solvents (including gasoline, nail-polish remover, cresol, bathroom cleaners and adhesives) are allowed to come into contact with the watch, they may discolor, dissolve or crack the materials. Be careful when handling these chemicals.

<Storage>

- If you will not be using your watch for an extended period of time, carefully wipe off any perspiration, dirt or moisture and store in a proper location, avoiding locations subject to excessively high or low temperatures and high humidity.
- If you will not be using your watch for an extended period of time, it is recommended to store the watch while avoiding direct sunlight as much as possible. In addition, continuous operation time will be longer if you set your watch to the reference position check mode before storing.

16. Specifications

1. Cal. No.: H116
2. Type: Analogue solar powered watch
3. Time accuracy: Without reception (when watch is not receiving a radio wave)
Average monthly deviation: ± 15 seconds (when used in room temperature $+5^{\circ}\text{C}$ to $+35^{\circ}\text{C}$)
4. Acceptable temperature range: -10°C to $+60^{\circ}\text{C}$
5. Display function:
 - Time: Hour, minute, second, and 24-hour hands
 - Date
6. Additional functions:
 - Radio wave reception function (automatic reception, on demand reception, recovery automatic reception)
 - Radio wave transmitter automatic selection function (only when receiving radio wave from Japan)
 - Reception standby indication function (RX)
 - Reception level indication function (H, M, L)
 - Reception status confirmation function (H, M, L or NO)
 - JIS Type-1 antimagnetic watch
 - Impact detection function
 - Hand correction function

Perfex
パーフェックス

- Dual time function
- Time difference correction function
- Reference position checking/correction function
- Solar power function
- Power saving function
- Insufficient charge warning function (2-second interval movement)
- Overcharging prevention function

7. Operation time:

- Time from a full charge until the watch stops without charging:
 - About 6 months
 - About 2.5 years (when in the power saving mode)Operating time may vary depending on the various factors such as how many times radio wave reception has been performed.
- Time from insufficient charge warning to watch stopping:
 - About 2 days

8. Battery: Secondary battery 1

* Specifications may change without notice.

Warranty and After-Sales Service

<Free guarantee>

In the case a malfunction has occurred during the course of normal use while the watch is still under warranty, the watch will be repaired free of charge in accordance with the conditions of the warranty included with this manual.

<Stock period of repair parts>

Citizen's standard period for stocking repair parts for each model is generally seven years. When and exterior parts such as a watch case, glass, face, hand, button and band is damaged, a spare parts with a different appearance may sometimes be used.

<Repair period>

You can make use of fee-charging repair within the parts stock period after expiration of free guarantee. Please take the watch to the store where you bought it and ask whether it can be repaired because various use conditions may result in much difference in damage. Moreover, there will be cases that the recovery of the original high accuracy is difficult when the accuracy of the watch is reduced after a long period of use.

<When shifting or receiving as a present>

In the event that you move or you have received the watch as a gift and are not able to bring your watch to the store where you purchased it for after service, you should bring it to Citizen Consumer Help Desk or your nearest Customer Support Center.

<Periodic inspection (Charge basis)>

You should have your watch inspected (Charge basis) every 2-3 years in order to extend it's life and safety.

The water resistant capability of the water resistant watch reduces year by year.

Replacement of parts are required to maintain the water resistant capability.

Especially in the case of water resistant diving watches, there may be a danger, so have it inspected regularly.

When replacing parts, request for genuine parts. When necessary replace packing and springs, as it may sometimes be necessary to inspect other parts or to make repairs in addition to replacing parts, please ask for more detailed information on repair or replacement expenses at the store where it was purchased, Citizen Consumer Help Desk, your nearest Customer Support Center.

<Repairs>

With the exception of the band, all repairs performed on this watch are to be performed by the manufacturer to maintain watch quality. This is because special techniques and equipment are required for performing repairs, inspections and maintenance. Please contact Citizen Consumer Help Desk or your nearest Customer Support Center representative when requesting repair of your watch.

<Inquiries on other matters>

If you have any questions on the guarantee, repair and other matters, please ask at the store where you purchased your watch or Citizen Consumer Help Desk, your nearest Customer Support Center.

To Customers with Reception Problems

The weather and radio wave conditions at the time of reception can determine whether or not the radio wave reception is successful. However, sometimes customers may not be able to successfully receive the radio wave even after trying many times. We offer support for such customers, for example by sending them a map showing the direction of the radio wave transmitter. If you have problems in receiving the radio wave, please contact the Citizen Consumer Help Desk. We will only use your personal information for radio wave reception support, and will never use it for any other purpose.



Please Direct Inquiries To:

Citizen Consumer Help Desk  **0120-78-4807**

Business hours: 9:30-17:30 (Monday thru Friday excluding holidays)

Calls can also be made by cell phone or PHS.

<Customer Support Centers>

SAPPORO SUPPORT SERVICE

Kita 14-Joy, Nishi 2-6, Kita-ku, Sapporo (〒001-0014)

TEL: 011-709-1121

SENDAI SUPPORT SERVICE

2F Sendai Jyozenji Bldg., 3-4-33, Kokubun-cho, Aoba-ku, Sendai (〒980-0803)

TEL: 022-263-3140

TOKYO SUPPORT SERVICE

2F Citizen Nakano Bldg., 5-68-10, Nakano, Nakano-ku, Tokyo (〒164-8726)

TEL: 03-6327-3894

NAGOYA SUPPORT SERVICE

2F Kamimaezu-hayashi Bldg., 1-4-5, Kamimaezu, Naka-ku, Nagoya (〒460-0013)

TEL: 052-350-1755

OSAKA SUPPORT SERVICE

3-8-9 Minami-Senba, Chuo-ku, Osaka (〒542-0081)

TEL: 06-6252-1432

HIROSHIMA SUPPORT SERVICE

4F Sumitoh Hiroshima Bldg., 9-21, Kyoubashi-cho, Minami-ku, Hiroshima (〒732-0828)

TEL: 082-568-9093

FUKUOKA SUPPORT SERVICE

8-18 Kami-kawabata-cho, Hakata-ku, Fukuoka (〒812-0026)

TEL: 092-281-4310