

Thank you for your purchase of this Citizen watch.

Before using the watch, read this instruction manual carefully to ensure correct use.

After reading the manual, store it in a safe place for future reference.

Be sure to visit the Citizen website at <http://www.citizenwatch-global.com/>.

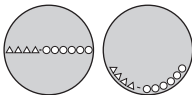
Here you will find a variety of information such as electronic setting guides, answers to frequently asked questions, Eco-Drive recharging information and more.

To check the movement number

A case number—4 alphanumeric characters and 6 or more alphanumeric characters—is engraved on the case back. (Figure on the right)

The first 4 characters of the case number represent the movement number of the watch. In the example on the right, “△△△△” is the movement number.

Engraving position example



The engraving position may differ depending on watch model.

Safety precautions — IMPORTANT

This manual contains instructions that should be strictly followed at all times not only for optimal use, but to prevent any injuries to yourself, other persons or property. We encourage you to read the entire booklet (especially, pages **86 - 99**) and understand the meaning of the following symbols:

- Safety advisories are categorized and depicted in this manual as follows:

 DANGER	Highly likely to cause death or serious injury
 WARNING	Can cause serious injury or death
 CAUTION	Can or will cause minor or moderate injury or damage

- Important instructions are categorized and depicted in this manual as follows:
(Following symbols are examples of Pictograms.)

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

Precautions to be taken when diving



PROHIBITED Do not use this watch while diving when...

- Do not use your watch while diving when the watch stops or exhibits any abnormal operation.



CAUTION Diving with the watch

- Persons using the diver's watch are strongly recommended to receive proper instruction and training pertaining to diving and observe those rules at all times.
- Please use this watch properly only after you fully understand the operating procedures and cautions.

Using this watch other than as indicated in this instruction manual may result in failure of the watch to function properly.

- Check the water-resistant indications on the watch face or the case back. Never dive beyond the indicated depth.



CAUTION Before diving

- Check items below before diving
 - Check to see if the watch is sufficiently charged and the insufficient charge warning (2-second interval movement) is not activated.
 - Make sure that the watch is running correctly (check the movements of the time/calendar/second hand)
 - Check to see if the crown is properly pushed in and the screw down push button is securely locked.

Precautions to be taken when diving

- Make sure that the band is firmly anchored to the watch body.
- Make sure that there are no cracks or other damage to the watch band or the glass face.
- Make sure that the register ring rotates properly.

**CAUTION****During diving**

- Do not push any push buttons or pull out the crown in the water. Operating any of them in water may cause trouble including deterioration of water resistance.
- Be careful not to hit the watch against hard objects such as equipment or rocks.

**CAUTION****After diving**

- Check to see if the crown is pushed in and the screw down push button is locked before removing the sea water, dirt, and sand attached to the watch with fresh water. Then, wipe the fresh water.

Features



■ **Satellite Wave-GPS**

Receives location and time information sent from GPS satellites and adjusts the time and calendar on the watch automatically.



■ **200 m water resistant watch for diving**

This watch has 200 m water resistance and can be used for air diving with an air tank (SCUBA diving). (You cannot use it for saturation diving using helium gas.)

It conforms with the standard of ISO 6425: 2018.

■ **Diving mode**

It prevents wrong operation of the watch during diving; it also halts some functions such as satellite signal reception to keep the current time indicated.

■ **Eco-Drive**

No periodical battery replacement is needed. This watch is fueled by light.

- **Light-Level Indicator**

Indicates current power generation amount.

It can be used as a reference for choosing a good charging place.

- **World time**

Indicates the time around the world by choosing one of 38 time zones.

- **±5-second average monthly accuracy**

Keeps high accuracy without time signal reception.

- **Perpetual calendar**

No need for monthly and leap-year date correction until February 28, 2100.

* “Eco-Drive” is an original technology of Citizen.

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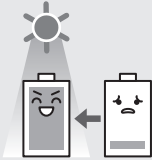
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Before using this watch



This watch has a rechargeable cell which is charged by exposing the dial to light. Expose the dial to direct sunlight regularly to charge the watch. For details of charging, see pages **48** -.

- Especially, satellite signal reception is power consuming. Take care.

After unpacking, the following must be done before using the watch:

- 1 Checking the current power reserve (page 20)**
- 2 Setting the world time (page 26)**
- 3 Receiving the satellite time signal (page 37)**

Band adjustment

We recommend seeking the assistance of an experienced watch technician for sizing of your watch. If adjustment is not done correctly, the bracelet may unexpectedly become detached leading to loss of your watch or injury (excluding products containing the band adjustment tool).

Consult an authorized service center.

Protective stickers

Be sure to remove any protective stickers that may be on your watch (case back, band, clasp, etc.). Otherwise, perspiration or moisture may enter the gaps between the protective stickers and the parts, which may result in a skin rash and/or corrosion of the metal parts.

How to use a specially designed crown/button

Some models are equipped with a specially designed crown and/or push button to prevent accidental operation.

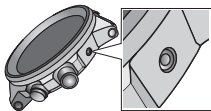
Screw down crown/button

Unlock the crown/button prior to operate your watch.

	Unlock		Lock	
Screw down crown		Rotate the crown counterclockwise until it releases from the case.		Push the crown in to the case. With gentle pressure towards the case, rotate the crown clockwise to secure it to the case. Be sure to tighten firmly.
Screw down push button		Rotate the locking screw counterclockwise, and loosen until it stops.		Rotate the locking screw clockwise, and tighten firmly.

Recessed button

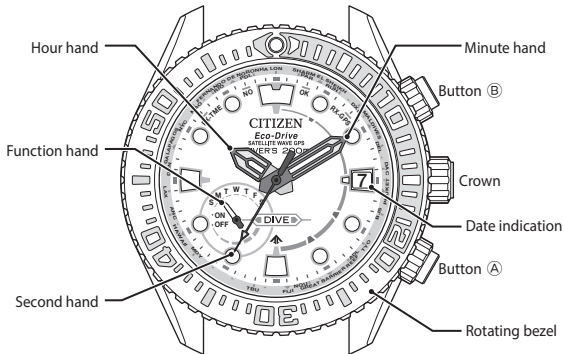
Press the button with a non-marring narrow-tipped object.



- Metal objects may cause marring or scratching of the button.

Component identification

Hands and buttons



Indication

RX-TME: Reception-in-progress indication
(time)

RX-GPS: Reception-in-progress indication
(location information)

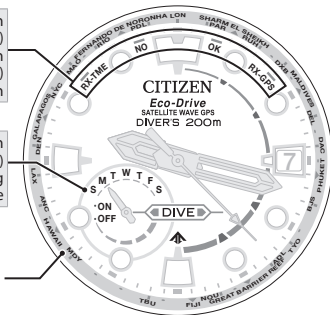
OK/NO: Reception result indication

S/M/T/W/T/F/S: Day-of-week indication
Power reserve indication (in five levels)

ON/OFF: Summer time (DST) setting

DIVE: Diving mode

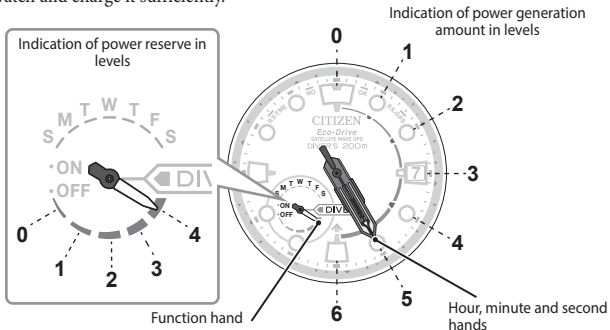
Place name/time zone



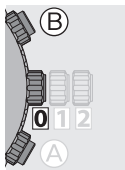
- The illustrations in this instruction manual may differ from the actual appearance of your watch.
- A solar cell is placed under the dial.

Checking the power reserve and power generation amount

Always care about the current power reserve and charging environment of the watch and charge it sufficiently.



Make sure that the watch is not wet before operating it.



1 Push the crown in to position 0.

2 Press and release the upper right button (B).

The power reserve and power generation amount at the moment of pressing the button are indicated in level.

- Power reserve level (function hand): page **20**
- Level of power generation amount (hour, minute and second hands): page **22**

3 Press and release the upper right button (B) to finish the procedure.

The hands returns to current time indication.

- They return to current time indication automatically in about 10 seconds.

■ Indication of power reserve in levels

Level	4	3	2	1	0
Indication	See “Indication of power reserve in levels” on page 18 .				
Duration	24 - 19 months	19 - 14 months	14 - 5 months	5 months - 5 days	5 days or shorter
Meaning	Power reserve is sufficient.	Power reserve is OK.		Power reserve is getting low.	Insufficient charge warning has started.
	OK for normal use.			Charge immediately.	

CAUTION

- At the level 0, the second hand starts to move once every two seconds (insufficient charge warning function, page **50**). Some functions become unavailable while this function is activated. For details, see page **51**.
- The function hand points to “OFF” and does not indicate the level of power reserve when temperature of the watch is too high or too low.
(non-chargeable state)
Check it again at a location of suitable temperature.

Indication of power generation amount in levels

The level of power generation amount means power being generated by the solar cell represented in 7 levels (0 - 6).

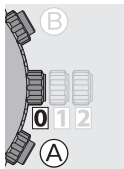
Level	6	5	4	3	2	1	0
Indication	See “Indication of power generation amount in levels” on page 18 .						
Meaning	Sufficient power generation for charging.		Charge in a brighter location where the level of power generation amount reaches “5” or “6”.				

CAUTION

- The level of power generation amount indicated is that of the moment you operate the watch for its indication. The level indication does not reflect change of the level after your operation.
- The level may vary even under the same brightness due to the entry angle of light to the dial of the watch or other elements. The level may also vary depending on difference of models.
- The light level indication of “6”, indicates light being received is equivalent to a cloudy outdoors (about 10,000 lux illuminance) or a brighter location.
- Use the level of power generation amount as a general reference only.

Checking the reception result of the satellite signal

Make sure that the watch is not wet before operating it.



- 1 Push the crown in to position 0.**
- 2 Press and release the lower right button A.**
The previous reception result is indicated.

OK	The watch face shows a semi-circular scale with 'NO' on the left, 'OK' in the center, and 'RX-GPS' on the right. The needle points to 'OK'. The text 'CITIZEN Eco-Drive' is visible at the bottom of the scale.	Reception was successful.
NO	The watch face shows a semi-circular scale with 'RX-TIME' on the left, 'NO' in the center, and 'OK' on the right. The needle points to 'NO'. The text 'CITIZEN Eco-Drive' is visible at the bottom of the scale.	Reception failed.

- The indication shows the result of the last reception, regardless types of received information, or information of location or time.

3 Press and release the lower right button (A) to finish the procedure.

The hands return to current time indication.

- They return to current time indication automatically in about 10 seconds.

About the reception result

The previous reception result is stored for 6 days and “NO” is indicated after that.

Setting the world time

This watch can indicate the time around the world according to which of 38 time zones (offsets from UTC — Coordinated Universal Time) is chosen.

You can set offsets from UTC through any of the two ways below.

How to set	What to set
Obtaining location information from satellite signals	A time zone is set automatically and time and calendar are adjusted based on the chosen zone. (page 34)
Setting the time zone manually	A time zone is chosen manually. (page 36)

- Summer time (DST) information is not contained in the satellite signal. Adjust the setting manually before and after the summer time (DST) period. (page **44**)

Checking the current time zone setting

Make sure that the watch is not wet before operating it.



1 Pull the crown out to position **1**.

The second hand indicates the current world time setting and the function hand indicates the current summer time (DST) setting.

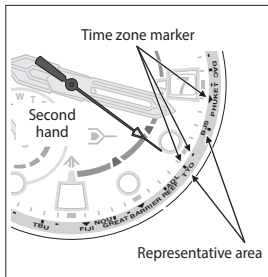
- See also “How to read indication of the world time setting” (page **28**) and “Table of time zones and representative areas” (page **29**).

2 Push the crown in to position **0** to finish the procedure.

The second hand returns to indicate the second.

How to read indication of the world time setting

The watch has 38 time zone markers with several representative area names. A time zone is set by pointing the second hand at one of the markers.



On the illustration in the left, the second hand points to 21 seconds and time zone setting is “+9”.

- Time zones are represented by offsets from UTC.
- Time zone markers and area names may differ from the illustration in some models.

Table of time zones and representative places

- Countries or regions may change time zones for various reasons.
- The offsets in the table are based on the standard time.

Time zone	Second hand	Area name	Representative area
0	0	LON	London
+1	2	PAR	Paris
+2	4	SHARM EL SHEIKH/ SSH	Sharm El Sheikh, Athens
+3	6	RUH	Riyadh
+3.5	7	—	Tehran
+4	8	DXB	Dubai
+4.5	9	—	Kabul
+5	10	MALDIVES/ MLE	Maldives, Karachi

Setting the world time

Time zone	Second hand	Area name	Representative area
+5.5	12	DEL	Delhi
+5.75	13	—	Kathmandu
+6	14	DAC	Dhaka
+6.5	15	—	Yangon
+7	16	PHUKET/HKT	Phuket, Bangkok
+8	18	BJS	Beijing/Hong Kong
+8.75	20	—	Eucla
+9	21	TYO	Tokyo
+9.5	23	ADL	Adelaide
+10	25	GREAT BARRIER REEF/—	Great Barrier Reef, Sydney
+10.5	26	—	Lord Howe Island

Time zone	Second hand	Area name	Representative area
+11	27	NOU	Noumea
+12	29	FIJI/NAN	Fiji Islands, Auckland
+12.75	31	—	Chatham Islands
+13	32	TBU	Nuku'alofa
+14	34	—	Kiritimati
-12	36	—	Baker Island
-11	38	MDY	Midway
-10	40	HAWAII/HNL	Hawaii, Honolulu
-9.5	41	—	Marquesas Islands
-9	42	ANC	Anchorage
-8	44	LAX	Los Angeles

Setting the world time

Time zone	Second hand	Area name	Representative area
-7	46	DEN	Denver
-6	48	GALAPAGOS/SCY	Galápagos Islands, Chicago
-5	50	NYC	New York
-4	52	MAO	Manaus
-3.5	53	—	St. John's
-3	54	RIO	Rio de Janeiro
-2	56	FERNANDO DE NORONHA/FEN	Fernando de Noronha
-1	58	PDL	Azores

- Even when choosing a time zone of a summer time area during summer time period, apply its standard offset from UTC for world time setting; activate summer time (DST) setting (page **44**) to apply summer time.

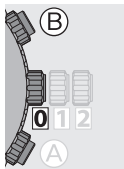
Obtaining location information from satellite signals

A time zone is set automatically and time and calendar are consequently adjusted based on the chosen zone.

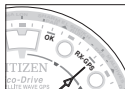
Make sure that the watch is not wet before operating it.

It is recommended to receive the satellite signals outdoors with the wide-open sky. For details of signal reception, see "Information on satellite signal reception" (page **54**).

- It may take 30 seconds - 2 minutes to obtain location information.



- 1 Push the crown in to position 0.**
- 2 Press and hold the upper right button (B) for 4 seconds until the second hand points "RX-GPS".**
 - Release the button as the hand points "RX-GPS". Reception starts.



After finishing the reception, the second hand indicates the new setting or “NO” of the reception result and returns to indicate the second.

- To cancel the reception, press and hold any button until the second hand returns to indicate the second.

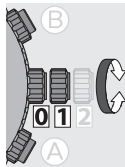
About obtaining location information

The time zone may not set appropriately when location information is obtained in a border of time zones, even if the information is correct.

- You can also execute time zone setting manually. (page **36**)
- The information of the time zones and its applicable areas is that as of September 2019.

Setting the time zone manually

Make sure that the watch is not wet before operating it.



1 Pull the crown out to position 1.

The second hand indicates the current world time setting and the function hand indicates the current summer time (DST) setting (page 44).

2 Rotate the crown to choose a time zone.

Time indication changes.

- See also “How to read indication of the world time setting” (page 28) and “Table of time zones and representative areas” (page 29).

3 Push the crown in to position 0 to finish the procedure.

The second hand returns to indicate the second.

Receiving time information

It is recommended to receive the satellite signals outdoors with the wide-open sky. For details of signal reception, see "Information on satellite signal reception" (page **54**).

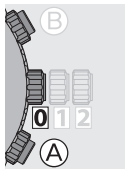
You can use the three types of reception below to receive time information. You can also check the result of the previous reception (success or fail). (page **24**)

Type	Use	Time required (approx.)
Time reception	Normal reception for time and calendar adjustment (page 38)	3 - 30 seconds
Leap second reception	Reception when the leap second has been updated (page 40)	36 seconds - 13 minutes
Automatic time reception	Reception executed automatically when some conditions are fulfilled (page 42)	3 - 30 seconds

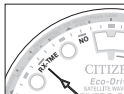
Time reception (time required: about 3 - 30 seconds)

Make sure that the watch is not wet before operating it.

- location information is not obtained while receiving time information. Execute world time setting (page 26) beforehand.
- It may take more time for reception when difference in time is large or calendar was set manually.



- 1 Push the crown in to position 0.**
- 2 Press and hold the lower right button (A) for 2 seconds until the second hand points "RX-TIME".**
 - Release the button as the hand points "RX-TIME". Reception starts.



After finishing reception, the second hand indicates the reception result (page **24**) and returns to normal movement.

- To cancel the reception, press and hold any button until the second hand returns to normal movement.

When the time or calendar is still incorrect even after reception

Check the settings of world time (page **26**) and summer time (DST) (page **44**). If the time is still incorrect after that, execute leap second reception (page **40**). The leap second may be updated.

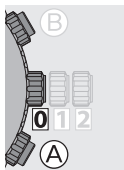
- Summer time (DST) information is not contained in the satellite signal.

Leap second reception (time required: about 36 seconds - 13 minutes)

Reception to be executed when the leap second has been updated.

Make sure that the watch is not wet before operating it.

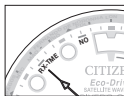
- You can also execute leap second setting manually. (page 59)



1 Push the crown in to position 0.

2 Press and hold the lower right button (A) for 7 seconds.

Release the button after the second hand points "RX-TME" and turns fully around to point "RX-TME" again. Reception starts.



After finishing reception, the second hand indicates the reception result (page **24**) and returns to normal movement.

- To cancel the reception, press and hold any button until the second hand returns to normal movement.

When the time or calendar is still incorrect even after reception

Check the settings of world time (page **26**) and summer time (DST) (page **44**).

- Summer time (DST) information is not contained in the satellite signal.

Automatic time reception

The watch starts time reception automatically when the conditions belows are fulfilled:

- The watch has not received satellite signals for 6 days or more.
- The watch dial is being exposed to strong direct sunlight for 20 seconds or more.
- The crown is in position .
- The time on the watch is between 6:00AM and 6:00PM.
- The second hand does not move in two-second interval (page **50**).
- The watch is not in the diving mode.

About automatic time reception

Automatic time reception may be delayed in the following cases:

- The second hand moved in two-second interval (shows insufficient charge warning) after the last reception.

Automatic time reception is executed 6 days or more after the insufficient charge warning stopped by charging the watch.

- Time zone setting was changed.

Automatic time reception is executed 6 days or more after the moment of the changing of the setting.

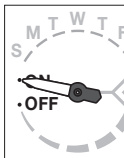
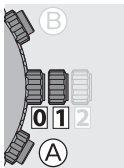
Switching summer time (DST) and standard time

Summer time (Daylight Saving Time: DST) is a system adopted in some countries/ areas to gain an extra daylight during summer.

This watch can display summer time (DST) or standard time according to the city selected for world time.

- Summer time (DST) information is not contained in the satellite signal. Adjust the setting manually before and after the summer time (DST) period.
- The summer time (DST) period varies depending on the country or area.
- The summer time (DST) rules may change depending on the country or area.

Make sure that the watch is not wet before operating it.



1. Pull the crown out to position **1**.

The second hand indicates the current world time setting and the function hand indicates the current summer time (DST) setting.

- When you rotate the crown, the time zone setting changes.

2 Press and release the lower right button **A**.

Summer time (DST) setting	Time indicated
ON	Summer time (DST)
OFF	Standard time

- Each time you press the button, ON and OFF changes alternately.

3 Push the crown in to position **0** to finish the procedure.

The second hand returns to indicate the second.

Using the diving mode

By using the diving mode, you can prevent unintended operation of buttons and deactivate the signal reception function.

In the diving mode, the following functions are deactivated:

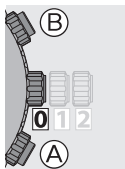
- Checking the power reserve, power generation amount and reception result
- Satellite signal reception (including automatic time reception)
- Power save function, automatic hand correction function

CAUTION

Make sure that the watch just after turning into the diving mode is running correctly, especially when you use it for diving.

If the second hand is moving once every two seconds (insufficient charge warning function), you cannot use the diving mode.

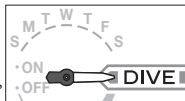
Make sure that the watch is not wet before operating it.



- 1 Push the crown in to position 0.**
- 2 Press and release both the lower right button (A) and upper right button (B) simultaneously.**

The hands temporarily show 0:00:00, then the function hands points “DIVE” and the watch turns into the diving mode.

- When the hands are kept stopped, deactivate the diving mode and try again.



Deactivating the diving mode

Press and release both the lower right button (A) and upper right button (B) at the same time to deactivate the diving mode.

- Changing the position of the crown also deactivates the diving mode.

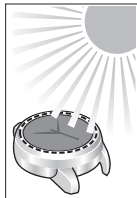
Charging your watch

This watch has a solar cell under the dial and stores the power generated by the cell in its built-in rechargeable cell.

The cell is charged by exposing the dial to light such as direct sunlight or fluorescent lamps.

For optimal performance, be sure to:

- **Put the watch in a location where the dial is exposed to bright light such as by the window even when it is not used.**
- **Expose its dial to direct sunlight for 5 or 6 hours at least every half-a-month.**
- **Avoid leaving it in dark places such as in a drawer for long periods of time.**



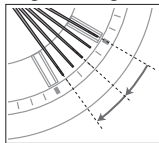
CAUTION

- This watch contains a large-capacity rechargeable cell for performing power-consuming satellite signal reception. This large capacity cell takes more time to charge than those found in other Eco-Drive watches.
 - If the surrounding temperature falls below 0°C (32°F) or exceeds 40°C (104°F), the **“Charge suspension temperature detection function”** will activate and charging will not be possible.
 - Do not charge the watch at a high temperature (about 60°C (140°F) or higher) as doing so may cause movement malfunction.
 - If the watch is obscured from light by long sleeves frequently, supplemental charging may be needed to ensure continual operation.
-
- The watch stops charging automatically after finishing (overcharging prevention function). The function prevents damage to performance of the watch and rechargeable cell due to overcharging.

When the watch reaches a low charge state (insufficient charge warning function)

When the power reserve becomes low, the second hand moves once every two seconds. This is the insufficient charge warning function. Be sure to fully charge your watch immediately as outlined below.

- When the watch is sufficiently charged, the second hand will move normally.
- If you do not charge the watch for 5 days or longer after the insufficient charge warning movement has begun, the watch will be depleted of all power and stop.



CAUTION

- If you do not charge the watch for 30 days after it has stopped, recharging will not be possible (over discharge detection function).
- Consult an authorized service center if no hands start to move even after charging a stopped watch for one day or more exposing to direct sunlight.

During the insufficient charge warning state

The time and date is indicated correctly.

Operations below are available:

- Checking power generation amount
- Setting the world time
- Adjusting the time and calendar manually

You cannot execute operations other than above such as obtaining location information, receiving satellite time signals or using the diving mode.

Charging time by environment

Below are the approximate charging times when exposing to light continuously. Please use this table as a reference only.

Environment	Illuminance (lx)	Charging time (approx.)		
		To work for one day	To start working normally when the cell is discharged	To become fully charged when the cell is discharged
Outdoors (sunny)	100,000	2 minutes	4.5 hours	30 hours
Outdoors (cloudy)	10,000	25 minutes	45 hours	300 hours
20cm (7-7/8 inches) away from a fluorescent lamp (30W)	3,000	1.5 hours	150 hours	–
Interior lighting	500	7.0 hours	–	–

- **Exposing to direct sunlight is recommended to charge your watch.** A fluorescent lamp or interior lighting does not have sufficient illumination to charge the rechargeable cell efficiently.

Power save function

The hour, minute and second hands stop automatically to save power as 3 days passed after stopping power generation.

- The watch is still running internally to keep the time and calendar correctly even after the power save function has activated.
- The power save function is not activated when the position of the crown is **1** or **2** or the watch is in the diving mode.
- The power save status ends and the hands return to indicate the current time as the watch is operated or the dial is exposed to light and power generation starts.

Duration without additional charging after charging the watch fully

About 2 years in normal use.

- When receiving time signals every 6 days.
- It keeps running for up to 7 years if the power save function is activated and all hands stop.

Information on satellite signal reception

This watch receives time information from satellites to indicate the time and calendar.

It also obtains location information from them to indicate time appropriate in the area where it is actually used.

For receiving the satellite signal smoothly

Satellite signal reception is power consuming. Take care of power reserve when executing reception.

- This watch keep moving in average monthly accuracy of ± 5 seconds even without receiving the satellite time signal.
- Use the function to see the result of the previous reception (success or fail) (page **24**) effectively to try to execute reception in best frequency.

Cautions regarding receiving the satellite signal

Do not perform signal reception while operating a vehicle as doing so is extremely dangerous.

- If the second hand is moving once every two seconds (insufficient charge warning function), you cannot perform satellite signal reception. Charge the watch sufficiently before attempting signal reception.
- Even when this watch receives the signal successfully, the accuracy of the displayed time will be dependent on the reception environment and internal processing.
- The automatic correction feature of this watch is supported until 28/2/2100.
- Summer time (DST) information is not contained in the satellite signal. Adjust the setting manually before and after the summer time (DST) period. (page **44**)

When receiving the satellite signal

- As shown in the picture below, make sure you are in an area with few surrounding trees, buildings, or other objects which may obstruct the satellite signal. Face the dial towards the sky and perform signal reception.
- For successful reception there should be a clear view of the sky as depicted in the illustration when attempting to receive the satellite signal.
- Reception may fail due to the positions of satellites when you try to receive their signals.



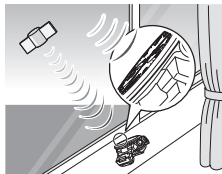
Receiving signals indoors near a window

Place the watch near a window with a wide view of the sky and orient the dial in an obliquely upward direction to the sky.

- Signal reception from some satellites is required for obtaining location information. So it is possible that location information cannot be obtained in an environment where time information can be received.

Outdoor signal reception is recommended for obtaining location information.

- It may be difficult to receive satellite signals through special types of window glass.



Poor reception areas

It may be difficult to receive the satellite signal under certain environmental conditions or in certain areas.

Areas with obstructions above the watch	Nearby objects which emit magnetism or noise
• Indoors or underground • Areas surrounded by tall buildings or trees • When the weather is cloudy or rainy, or during a thunderstorm etc.	• High-voltage electric cables, railway lines /overhead cables, airports, and transmission facilities • Electrical appliances and OA equipment • Mobile telephones in the process of calling/transmitting • Mobile telephone base stations etc.

■ Checking and adjusting the leap second setting

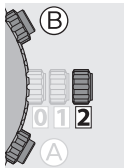
This watch displays the time by applying the leap second to the International Atomic Time information received from satellites.

- The leap second may be applied once a few years and the leap second setting on the watch must be adjusted each time it applied.
- The leap second setting can be adjusted by executing leap second reception (page **59**). It can also be set manually.

You can find a list of leap seconds at the homepage of IERS (INTERNATIONAL EARTH ROTATION & REFERENCE SYSTEMS SERVICE).

http://hpiers.obspm.fr/eop-pc/earthor/utc/TAI-UTC_tab.html

Make sure that the watch is not wet before operating it.



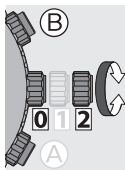
1 Pull the crown out to position 2.

The second hand points to 0 second.

2 Press and hold upper right button (B) for 2 seconds or more.

Using the “0:00:00” position as the starting point, the minute and second hands indicate the leap second setting.

When the leap second setting is “-37 seconds”	When the leap second setting is “-65 seconds”
The watch face shows the minute hand pointing to 0 and the second hand pointing to 37. The 'DIVE' mode is selected, and the 'ON/OFF' switch is in the 'ON' position.	The watch face shows the minute hand pointing to 1 and the second hand pointing to 5. The 'OK' button is pressed, and the 'RX-GPS' indicator is lit.
The hands point to “0 minute 37 seconds”.	The hands point to “1 minute 5 seconds”.



- 3 Turn the crown to adjust the setting if it is not correct.**
 - Adjustable range is from 0 to -90 seconds.
- 4 Push the crown in to position 0 to finish the procedure.**

Checking and adjusting the rollover number setting

In order for this watch to correctly process the week information received from the satellite (week numbers), a rollover number for each time period is set. The rollover numbers will be updated automatically.

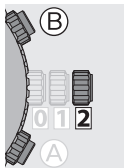
If the rollover number setting is incorrect, the time and date may not be indicated accurately. Check the rollover number setting and adjust it if it is incorrect.

- Week numbers are the numbers from 0 to 1023 assigned to weeks and it rotates in about a 20-year cycle.

Table of rollover number and time period

Time period (Coordinated Universal Time, GMT)	Rollover number
22/8/1999 (Sun) 0:00 –	0
7/4/2019 (Sun) 0:00 –	1
21/11/2038 (Sun) 0:00 –	2
7/7/2058 (Sun) 0:00 –	3
20/2/2078 (Sun) 0:00 –	4
6/10/2097 (Sun) 0:00 – 22/5/2117 (Sat) 23:59	5

Make sure that the watch is not wet before operating it.



1 Pull the crown out to position 2.

The second hand points to 0 second.

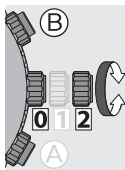
2 Press and hold upper right button (B) for 2 seconds or more.

The second and minute hands indicate the leap year setting.

3 Press and hold the upper right button (B) for 7 seconds or more while the leap second setting is indicated.

The second hand indicates the current rollover number setting.





4 Turn the crown to adjust the setting if it is not correct.

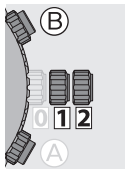
- Adjustable range is from “0” to “5”.
- See “Table of rollover number and time period” on page 63.

5 Push the crown in to position 0 to finish the procedure.

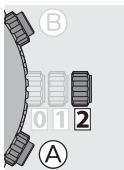
Adjusting the time and calendar manually

- Execute world time setting (page **26**) beforehand.

Make sure that the watch is not wet before operating it.

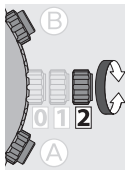


- 1 Pull the crown out to position 1.**
- 2 Press and hold the upper right button (B) until the second hand points to 30 seconds.**
- 3 Pull the crown out to position 2.**
The second hand points to 0 second.



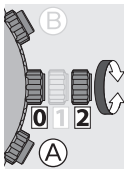
4 Press and release the lower right button (A) repeatedly to change the hand/indication to be corrected.

- Each time you press button (A), the target changes as follows:
Minute → hour → date → year/month → day of week →
(back to the top)
- The hands and indications slightly moves when selected to show they become adjustable.



5 Rotate the crown to adjust the hand/indication.

- Year and month are indicated with the second hand. Set them referring to “Month and year indications” on the page **70**.
- Date indication changes to the next as the function hand rotates 5 times.
- When you rotate the crown quickly a few times, the hand/indication will move continuously. To stop the rapid movement, rotate the crown in either direction.



6 Repeat steps 4 and 5.

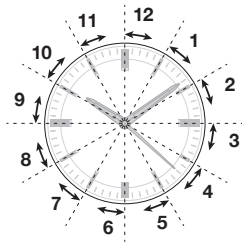
7 Push the crown in to position **0** in accordance with a reliable time source to finish the procedure.

The second hand starts moving from 0 second.

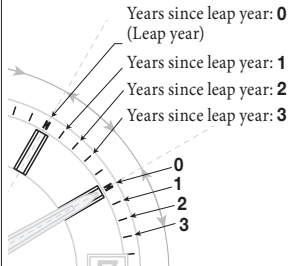
Month and year indications

Set the year and month with the position of the second hand.

“Month” corresponds to one of the 12 zones shown in the figure below. Each number means month.

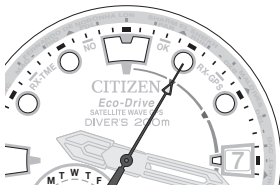


“Year” corresponds to the years since leap year and is indicated with markers in the zone of each month.



Adjusting the time and calendar manually

Year					Years since leap year	Second hand position
2020	2024	2028	2032	2036	0 (Leap year)	Hour marker
2021	2025	2029	2033	2037	1	1st min. marker
2022	2026	2030	2034	2038	2	2nd min. marker
2023	2027	2031	2035	2039	3	3rd min. marker

**Ex.: Position of the second hand when setting 1 2020**

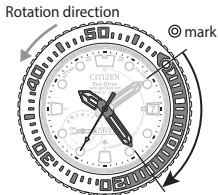
You can find that the years since leap year of 2020 is "0" from the table and the second hand must be set to the 1st minute marker of 1 zone.

Using the rotating bezel

You can find the elapsed time of diving or remaining time to a target time by minute.

- To prevent accidents, the rotating bezel moves counterclockwise only.

Finding the elapsed time



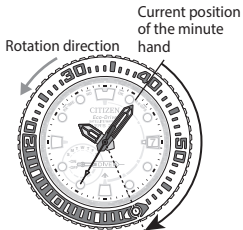
- 1 Rotate the rotating bezel to set the © mark to the current position of the minute hand.**

- Suppose the position of the © mark as 0 minute.

- 2 Read the position of the scale on the rotating bezel which the minute hand points to find the elapsed time.**

- 15 minutes has passed in the illustration.

Finding the remaining time



Remaining time

From the position of the minute hand to that of the ◎ mark (target time)

- 1 Rotate the rotating bezel to set the ◎ mark to the target time.**
 - The target time is set to 20 minutes after the current time in the illustration.
- 2 Read the time between the current position of the minute hand and that of the ◎ mark to find the remaining time.**

Troubleshooting

Checking and correcting the reference position

If the time or calendar is not shown correctly even after proper reception of the time signal, check whether the reference position is correct.

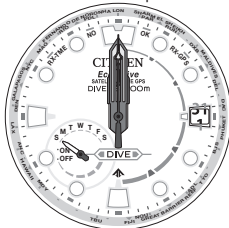
- If the hands and indication do not reflect the correct reference position, the time and calendar will not be indicated accurately even if the satellite signal is received.

What is the reference position?

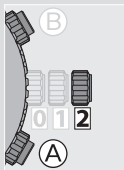
The base position of all hands and calendar to properly indicate the various functions of this watch.

- Hour, minute and second hands: 0 hours 0 minutes 0 seconds
- Date indication: midway between “31” and “1”
- Function hand: “S” (Sunday)

Correct reference positions



Make sure that the watch is not wet before operating it.



1 Pull the crown out to position 2.

2 Press and hold the upper right button A for 4 seconds.

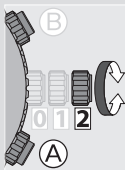
The hands and indication start to move to the current reference positions stored in memory.

- Release the button as the hands start to move.
- Some hands show special movement to adjust their position.

3 Check the current reference position.

Refer to the figure on the previous page.

Correct	Push the crown in to position 0 and press and release the lower right button A to finish the procedure.
Wrong	Proceed to step 4 in the next page and correct the reference position.



4 Press and release the lower right button (A).

The function hands move slightly.

5 Press and release the lower right button (A) repeatedly to change the hand/indication to be corrected.

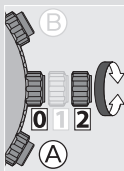
- Each time you press button (A), the target changes as follows.

Date indication/function hand → hour hand → minute hand → second hand → (back to the top)

- The hands slightly move when selected to show they become adjustable.

6 Rotate the crown to adjust the hand/indication.

- When you rotate the crown quickly a few times, the hand/indication will move continuously. To stop the rapid movement, rotate the crown in either direction.



- 7 Repeat steps 5 and 6.**
- 8 Push the crown in to position 0.**
- 9 Press and release the lower right button A to finish the procedure.**
 - The watch returns automatically to the time indication as about 2 minutes passed without any operation.

Symptom and remedies

Symptom	Remedies	Page
Problems with satellite signal reception		
Reception is unsuccessful.	When the second hand moves once every two seconds, the watch cannot receive signals. Charge the watch.	50
	Deactivate the diving mode.	46
	Avoiding places where the satellite signal may be obstructed and objects which emit noise such as mobile telephone base stations or transmission facilities, face the dial towards the sky and start reception.	58
	Remove the watch from your wrist and try again.	—
	If the remedies above do not solve the problems, consult an authorized service center.	—

Symptom	Remedies	Page
Problems with satellite signal reception (continued)		
Automatic time reception does not work correctly.	Deactivate the diving mode.	46
The correct time and calendar are not indicated after successful reception.	Check the world time setting.	26
	Check the summer time (DST) setting.	44
	Execute leap second reception if the time and calendar is still incorrect even after executing time reception.	40
	Check and adjust the settings of leap second and rollover number.	59, 62
	Check and correct the reference position.	74

Symptom	Remedies	Page
Movement of a hand seems strange		
The power reserve is not indicated.	Charging may be stopped. (non-chargeable state) Check it again at a location of suitable temperature.	48
The second hand moves once every two seconds.	Charge the watch.	50
The second hand does not move.	Push the crown in to position  .	—
No hands move.	Push the crown in to position  and press and release the lower right button  .	—
	Deactivate the diving mode.	46
	Charge the watch under direct sunlight until the second hand moves normally.	52
	If the remedies above do not solve the problems, consult an authorized service center.	—

Symptom	Remedies	Page
Time/calendar is abnormal.		
Time/calendar is incorrect.	Check the world time setting.	26
	Check the summer time (DST) setting.	44
	Receive the satellite signal to adjust the time and calendar.	37
	Check and correct the reference position.	74
	Adjust the time and calendar manually.	66
Time is incorrect though the world time setting is correct and reception of the satellite signal succeeded.	Check the summer time (DST) setting.	44
	Check and correct the leap second setting.	59
	Check and correct the reference position.	74

Symptom	Remedies	Page
Charging and other problems		
The watch does not work even though it is charged.	If the surrounding temperature falls below 0°C (32°F) or exceeds 40°C (104°F), the “Charge suspension temperature detection function” will activate and charging will not be possible.	48
	If the watch does not work after exposing the dial to direct sunlight for more than one day, it is possible that the rechargeable cell has over discharged and “Over discharge detection function” may prevent charging it. Consult an authorized service center.	50

Symptom	Remedies	Page
Charging and other problems (continued)		
The watch stops immediately after it is charged.	Charge the watch for 2 to 3 days under direct sunlight. If the second hand starts moving once every two seconds the watch is being charged correctly. Continue charging even when the second hand starts moving normally. If no change can be seen, consult an authorized service center.	—

Resetting the watch - All Reset

When the watch does not work properly, you can reset all the settings. If the power reserve is insufficient, charge the watch first.

Be sure to perform the following operations after All Reset.

1. Correct the reference positions.

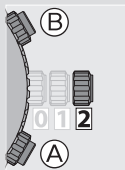
After All Reset, the watch is in the reference position adjustment mode. Refer to step 5 and after on “Checking and correcting the reference position” (page **74**).

2 Set the world time.

Obtaining location information: See page **34**.

When you set it manually, execute also time and calendar setting (page **37** or **66**).

Make sure that the watch is not wet before operating it.



- 1 Pull the crown out to position 2.**
- 2 Press and hold buttons (A) and (B) at the same time for 3 seconds or more and release them.**

As you release the buttons, the hands move slightly to indicate that reset completed.

The setting values after All Reset	
Calendar	January of leap year (5-second position)
World time	Time zone (offset) 0 (LON), London
Summer time (DST)	OFF at all time zones
Leap seconds	No change after All Reset
Rollover number	

Eco-Drive watch handling precautions

<Always Make Sure to Recharge Frequently>

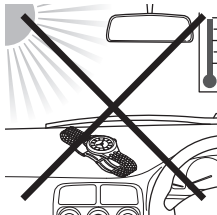
- For optimal performance, your watch should remain fully charged.
- Long sleeves may inhibit light transmission to your watch. This may result in your watch losing charge. In these cases supplemental charging may be necessary.
- When you take off the watch, place it in a bright location to ensure optimal performance.

CAUTION Recharging Precautions

- Do not charge the watch at a high temperature (about 60 °C (140 °F) or higher) as doing so may cause the movement to malfunction.

Examples:

- Charging the watch too close to a light source which generates a large amount of heat such as an incandescent lamp or halogen lamp.
 - * When charging under an incandescent lamp, be sure to leave 50 cm (20 inches) or more between the lamp and the watch to avoid exposing the watch to excessive heat.
- Charging the watch in a location where the temperature may become extremely high such as on the dashboard of a vehicle.



<Replacement of Rechargeable Cell>

- This watch utilizes a special rechargeable cell that does not require periodical replacement. However power consumption may increase after using the watch for a number of years due to wear of internal components and deterioration of oils. This may cause stored power to be depleted at a faster rate.

WARNING Handling of Rechargeable Cell

- The rechargeable cell should never be removed from the watch.
If for any reason it becomes necessary to remove the rechargeable cell from the watch, keep out of the reach of children to prevent accidental swallowing.
If the rechargeable cell is accidentally swallowed, consult a doctor immediately.
- Do not dispose of the rechargeable cell with ordinary garbage. Please follow the instructions of your municipality regarding collection of batteries to prevent the risk of fire or environmental contamination.

**WARNING Use Only the Specified Battery**

- Never use a battery other than the rechargeable cell 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 conventional watch 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 rechargeable cell, always make sure to use the designated rechargeable cell.

Water resistance

WARNING Water Resistance

- This is a water-resistant watch for SCUBA diving. Refer to the table below to use it correctly.
- Diver's water-resistant watches can be used only for SCUBA diving using an air tank and not for saturation diving using a helium gas tank.

Name	Indication	Specification	
	Dial or Case back		
Water-resistant watch for SCUBA diving	DIVER'S 200 m DIVER'S WATCH 200m	200 m water resistant	

- The packing used for this watch is a consumable part and will deteriorate over long-term use. Deterioration may lead to water penetration, causing the watch to malfunction or stop. Consult an authorized service center for inspection (for a charge) every 2 or 3 years, and replace the packing, glass or other parts as necessary.

Water-related use						
						
Minor exposure to water (washing face, rain, etc.)	Swimming and general washing work	Skin diving, marine sports	SCUBA diving using an air tank	Saturation diving using helium gas	Operate the crown or button when the watch is wet	
OK	OK	OK	OK	NO	NO	

Precautionary items and usage limitations

CAUTION To Avoid Injury

- 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.
- 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.
- Take off your watch before going to bed.

CAUTION Precautions

- 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 (use the crown and/or buttons) the watch when it is wet. Water may enter the watch causing damage to vital components.
- If water enters the watch or the watch fogs up and does not clear up even after a long time, consult your dealer or an authorized service center for inspection and/or repair.
- Even if your watch has a high level of water resistance, please be careful of the following.
 - If your watch is immersed in sea water, rinse thoroughly with fresh water and wipe with a dry cloth.
 - Do not pour water from a tap directly onto your watch.
 - Take off your watch before taking a bath.
- 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, push button, etc.) may come off.

 CAUTION When Wearing Your Watch

<Band>

- Leather bands and rubber (urethane) bands will deteriorate over time due to perspiration dirt. Because of the natural materials, leather band will be worn, deformed, and discolored over time. It is recommended to replace the band periodically.
- The durability of a leather band may be affected when wet (fading, peeling of adhesive), owing to the properties of the material. Moreover, wet leather may cause a rash.
- Do not stain a leather band with substances containing volatile materials, bleach, alcohol (including cosmetics). Discoloration and premature aging may be occurred. Ultraviolet light such as direct sunlight may cause discoloration or deformation.
- It is recommended to take off the watch if it gets wet, even if the watch itself is water-resistant.
- Do not wear the band too tightly. Try to leave enough space between the band and your skin to allow adequate ventilation.
- 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 removable, caution is required when wearing your watch with items that tend to easily transfer color (articles of clothing, purses, etc.). In addition, the band may be deteriorated by solvents or moisture in the air. Replace with a new one when it has lost elasticity or become cracked.

⚠ CAUTION When Wearing Your Watch (continued)

- Please request adjustment or repair of the band in the following cases:
 - You notice an abnormality with the band due to corrosion.
 - The pin of the band is protruding.
- We recommend seeking the assistance of an experienced watch technician for sizing of your watch. If adjustment is not done correctly, the bracelet may unexpectedly become detached leading to loss of your watch or injury.
Consult an authorized service center.

<Temperature>

- The watch may stop or the function of the watch may be impaired in extremely high or low temperature. Do not use the watch in places where the temperature is outside the operating temperature range as stated in 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 keeping time accurately.
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.

<Strong Shock>

- Avoid dropping the watch or subjecting it to other strong impact. It may cause malfunctions and/or performance deterioration as well as damage to the case and bracelet.

<Static Electricity>

- The integrated circuits (IC) used in quartz watches are sensitive to static electricity. Please note the watch may operate erratically or not at all if exposed to intense static electricity.

<Chemicals, Corrosive Gasses and Mercury>

- If paint thinner, benzene or other solvents or products containing these solvents (including gasoline, nail-polish remover, cresol, bathroom cleaners and adhesives, water repellent, etc.) are allowed to come into contact with the watch, they may discolor, dissolve or crack the materials. Be careful when handling these chemicals. Contact with mercury such as that used in thermometers may also cause discoloration of the band and case.

<Protective Stickers>

- Be sure to remove any protective stickers that may be on your watch (case back, band, clasp, etc.). Otherwise, perspiration or moisture may enter the gaps between the protective stickers and the parts, which may result in a skin rash and/or corrosion of the metal parts.

**CAUTION Always Keep Your Watch Clean**

- Rotate the crown while it is pressed in fully and press the buttons periodically so they do not become stuck due to accumulations of foreign matter.
- The case and band of the watch come into direct contact with the skin. Corrosion of the metal or accumulated foreign matter may result in black residue coming from the bracelet when exposed to moisture or perspiration. Be sure to keep your watch clean at all times.
- Be sure to periodically clean the bracelet and case of your watch to remove accumulated dirt and foreign matter. In rare circumstances, accumulated dirt, foreign matter may cause irritation with the skin. If you notice this, discontinue wearing the watch and consult your physician.
- Be sure to periodically clean foreign matter and accumulated materials from the metal band, synthetic rubber strap (polyurethane) and/or metal case using a soft brush and mild soap. Be careful not to allow moisture on the case if your watch is not water resistant.
- Leather bands may become discolored by perspiration or dirt. Always keep your leather band clean by wiping with a dry cloth.

Caring for Your Watch

- Wipe any dirt or moisture such as perspiration from the case and crystal with a soft cloth.
- For metallic, plastic or synthetic rubber (polyurethane) band, clean it with soap and a soft toothbrush. Be sure to thoroughly rinse the band after cleaning to remove any soap residue.
- For a leather band, wipe off dirt using a dry cloth.
- 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.

<When Luminous Paint is used for your watch>

The paint on the dial and hands helps you with reading the time in a dark place. The luminous paint stores light (daylight or artificial light) and glows in a dark place. It is free from any radioactive substance or any other material harmful to a human body or environment.

- The light emission will appear bright at first and then diminish as time passes.
- The duration of the light (“glow”) will vary depending on the brightness, types of and distance from a light source, exposure time, and the amount of the paint.
- The paint may not glow and/or may dissipate quickly if exposure to light was not sufficient.

Specifications

Model	F158	Type	Analog solar-powered watch
Timekeeping accuracy (without reception)	Average monthly accuracy: ±5 seconds when worn at normal operation temperatures between +5°C (41°F) and +35°C (95°F)		
Operating temperature range	-10°C (14°F) to +60°C (140°F)		
Display functions	• Time: Hours, minutes, seconds • Calendar: Date, day of week		• Power reserve: 5 levels • Power generation amount: 7 levels
Duration	• When fully charged, the watch runs without additional charging in normal use: Approximately 2 years • When saving power: Approximately 7 years • Power reserve upon insufficient charge warning function: Approximately 5 days		
Battery	Rechargeable cell (lithium button cell), 1pc.		

Additional functions	• Solar power function • Overcharging prevention function • Insufficient charge warning function (two-second interval movement) • Over discharge detection function • Charge suspension temperature detection function • Uncharged state indication function • Power reserve indication (in five levels) • Light-Level Indicator (power generation amount indication function in seven levels) • Power save function • Satellite time signal reception function • Location information obtainment function • Confirming reception status (RX-TME/RX-GPS)	• Indicating the result of the last reception (OK/NO) • Diving mode (DIVE) • World time — 38 time zones (27 place names) • Summer time (DST) (ON/OFF) • Perpetual calendar (until February 28th, 2100) • Antimagnetic feature/ Impact detection function/ Automatic hand correction function (for hour, minute and second hands)
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Specifications and contents of this booklet are subject to change without prior notice.