

セイコーウォッチ株式会社

SEIKO

取扱説明書

INSTRUCTIONS

8B53 ソーラー電波ワールドタイム

C-4

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製品取扱上のご注意

警告

取り扱いを誤った場合に、重症を負うなどの重大な結果になる危険性が想定されることを示します。

- ・ 次のような場合、ご使用を中止してください
 - 時計本体やバンドが腐食等により鋭利になった場合
 - バンドのピンが飛び出してきた場合
 - ※ すぐに、お買い上げ店・弊社お客様相談窓口にご連絡ください。
- ・ 乳幼児の手の届くところに、時計本体や部品を置かないでください
 - 部品を乳幼児が飲み込んでしまう恐れがあります。
 - 万一飲み込んだ場合は、身体に害があるため、ただちに医師にご相談ください。

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注意

取り扱いを誤った場合に、軽症を負う危険性や物質的損害をこうむることが想定されることを示します。

- ・ 以下の場所での携帯・保管は避けてください
 - 揮発性の薬品が発散しているところ (除光液などの化粧品、防虫剤、シンナーなど)
 - 5℃～35℃から外れる温度に長期間なるところ
 - 高湿度なところ
 - 磁気や静電気の影響があるところ
 - ホコリの多いところ
 - 強い振動のあるところ
- ・ アレルギーやかぶれを起こした場合
 - ただちに時計の使用をやめ、皮膚科など専門医にご相談ください。
- ・ その他のご注意
 - 商品の分解・改造はしないでください。
 - 乳幼児に時計が触れないようにご注意ください。
 - ケガやアレルギーをひき起こすおそれがあります。

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Features

This solar radio-controlled watch is equipped with the time zone adjustment function.

- The watch can automatically display local time in different time zones around the world by selecting the time zone.
- Two sets of time displays are provided to indicate the respective local time in two different time zones at the same time.
- The watch indicates the precise time by automatically receiving radio signals on official standard frequencies. (The watch can receive official standard frequencies from Japan, Germany and the United States of America.)

Automatic Time Setting (Refer to page 126.) The watch maintains the precise time by automatically receiving radio signals on an official standard frequency. Manual reception of radio signals is also possible. The watch can receive official standard frequencies of Japan (from either of two transmitting stations) Germany, and the United States of America. (The watch is unable to receive radio signals outside the radio signal reception range of each standard frequency.)

Automatic Hand Alignment Function (Refer to page 152.) When the hand positions deviate to display incorrect time as a result of influence of various external sources, the watch automatically corrects the hand alignment itself.

Dual time display In addition to the main time display, the time in another region can be displayed in the 24-hour indication format by the sub dial located at the 6 o'clock position. (Refer to page 111.)

Time Zone Adjustment By selecting the time zone, the watch can display the local time in the selected time zone area. (Refer to page 110.)

Automatic Calendar The calendar adjusts odd and even months including February in leap years and the day.

Solar Rechargeable Battery A solar cell underneath the dial converts any form of light into "electrical energy" to power the watch and the power is stored in a secondary battery. Once fully charged, the watch continues to run for approximately nine months. (Refer to page 138.)

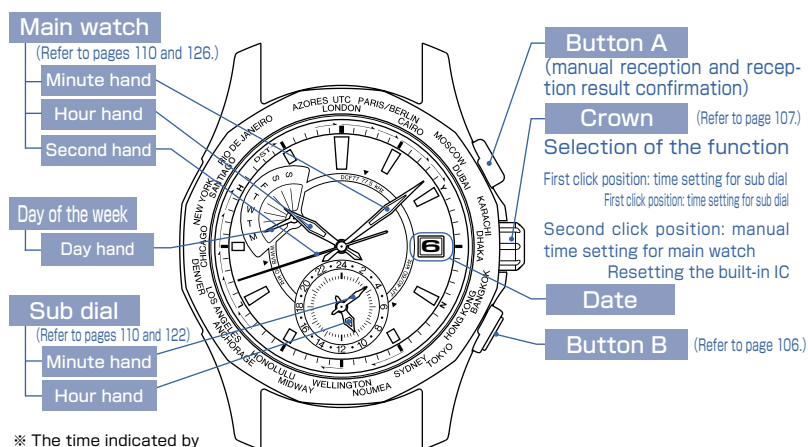
Power Save Function (Refer to page 142.) The Power Save mode is activated when the watch is left without an adequate light source.

Energy Depletion Forewarning Function (Refer to page 142.) The movement of the second hand indicates that the battery should be charged.

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Display and button operation



※ The time indicated by sub dial is displayed in the 24-hour indication format.

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Reception Level Display

[Automatic Reception and Manual Reception] Refer to page 145.

Displays receiving condition

- (H) ...High reception level
- (L) ...Low reception level
- (N) ...Unable to receive radio signals

Standard Frequencies Transmitting Station Display

[Reception Result Confirmation] Refer to page 128.

Displays received radio signals

- JJY (Japan)
- DFG77 (Germany)
- WWVB (The United States of America)

Reception Result Display

[Confirmation of reception result] Refer to page 128.

Displays successful/unsuccessful reception of radio signals

- (Y) ...Reception Successful
- (N) ...Reception Failed

Time Zone Display

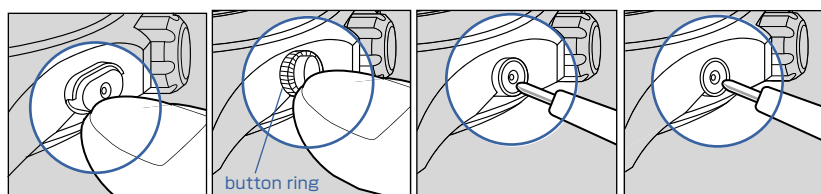
[Time zone selection] Refer to page 112

City names: 24 cities around the world
UTC: Coordinated Universal Time
DST, arrow mark: Daylight Saving Time

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How to use Button B

Button B is recessed in the watchcase to prevent accidental input. Types of buttons differ depending on the design of the watch



Upper half of Button B is covered. Press the lower half of Button B or press the hollow in the middle of the button using a long tapered tip.

Button B is Screw lock type. Unscrew the button ring by turning it counterclockwise. After using the button B, turn it clockwise while pressing it until it locks in place.

Button B is covered except the hollow in the middle of the button. Press the hollow using an object with a long tapered tip.

Button B is recessed in the watchcase. Press the hollow in the middle of the button using an object with a long tapered tip.

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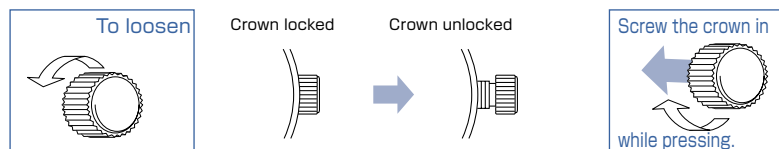
The screw lock type crown

The crown can be locked to prevent operating errors.

- Unscrew the crown before the crown operation.
- Screw in the crown when the operation is over.

[To unscrew the crown] Turn the crown counterclockwise (downward) to unscrew it. Now the crown can be operated.

[To screw in the crown] Turn the crown clockwise (upward) while gently pressing it in toward the watch body until it stops.



※ The crown can be pulled out after it is unscrewed.

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BEFORE USE

Confirm the following before use:

① Check the battery energy

Check the movement of the second hand, and charge the battery if energy is depleted.

Second hand movement	Step to be taken	Page
The second hand moves at one-second intervals. (Regular movement)	The battery is sufficiently charged.	—
The second hand moves at two-second intervals.	Sufficiently charge the battery until the second hand moves at one-second intervals.	P.138
The second hand moves at five-second intervals		
Stopped		

※ If the second hand does not resume its one-second interval movement after sufficient charging, refer to "Troubleshooting" on page 184.

② Confirmation of time, date and day of the week

If correct time, date and day of the week are indicated, use the watch as it is. If not, apply the following measures.

Radio signal reception range	Step to be taken	Page
Used within the radio signal reception range —Radio signal reception range P.136	Select the time zone Conduct the automatic radio signal reception. If radio signals are not receivable, manual setting should be conducted.	P.112 P.126 P.146
If used outside the radio signal reception range, —Radio signal reception range P.136	Select the time zone. Conduct the manual setting.	P.112 P.146

※ Even if radio signals are received ((Y)), when time, date and day of the week indicated are incorrect, please refer to "Troubleshooting" on page 186.

※ Turning the crown on this watch does not move the hands. For time adjustment, please refer to the above procedure.

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HOW TO USE THE WORLD TIME FUNCTION

World time function

The main watch can be easily set to local time in a different time zone by selecting a time zone. And the watch can display precise local time, date and day of the week in the region where radio signals are receivable.

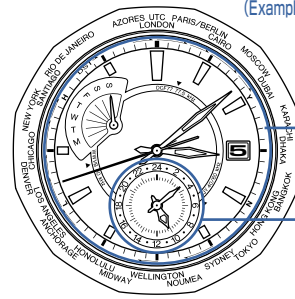
- ※ For the area where radio signals are receivable, refer to pages 116 to 119
- ※ Even if local radio signals for time adjustment are not receivable, the watch is operating, as a quartz watch, with an average error of plus/minus 15 seconds per month.

About sub dial

Sub dial indicates time on a 24-hour indication format and operates independent from the main watch. (Even if a time zone of the main watch is changed, the time indicated on the sub dial does not change.)

Dual time display

Simultaneous indication of two different times is available with the main watch and sub dial.



(Example of use) Main watch: Local time (respective area from around the world)
Sub dial: Home time (time of residing area)

Main watch: Local time (Honolulu)
Honolulu time (-19 hours) : 15 o'clock 8 minutes and 42 seconds
Date: 5th, Day of the week: Sunday

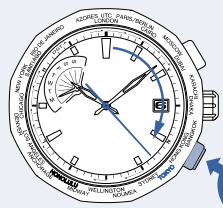
Sub dial: Home time (Japan)
Japan time: 10 o'clock and 8 minutes (24-hour indication format)

How to select the time zone

1 Press and hold Button B for 3 seconds.

The second hand displays the time zone currently selected.

When the time zone is Tokyo (second hand at the 23-second portion)



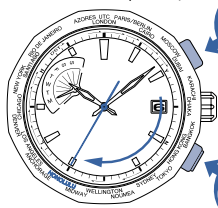
※ Button B is embedded to prevent from incorrectly being pressed. Refer to page 106.

Button B for 3 seconds

2 Press button A or B to select or change the time zone.

Each pressing of Button B advances the second hand to indicate the next time zone.

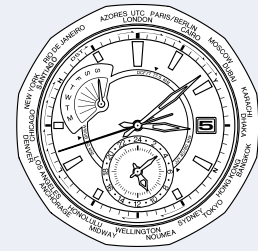
When the selected time zone is Honolulu, (second hand at the 35-second portion)



The movement of the hour and minute hands of the main watch are linked. (Buttons can be pressed continuously)

3 The watch displays the local time in the selected time zone.

Within 10 seconds after the hour and minute hands stop, the second hand starts moving.



※ If the watch is left untouched for 10 seconds during the operation, it automatically returns to the time display.

※Neither the buttons nor the crown can be operated while the date and/or day are moving.

The watch corrects the date and day of the week automatically. The time displayed by sub dial will remain unchanged.

※ If the selected time zone is outside the radio signal reception range, the watch cannot receive radio signals. Refer to "Time zone display" on pages 106 to 120.

What is a time zone?

What is a time zone?

Around the world, there are the time differences [time differences] based on [Coordinated Universal Time (UTC)]. The world is divided into 24 areas (time zones) having a time difference of 1 hour each. The time zone for which a 24 period (one day) corresponds to one complete rotation of the earth is internationally administered. And depending on the area, Daylight Saving Time (DST) is individually set.

[What is UTC (Coordinated Universal Time) ?]

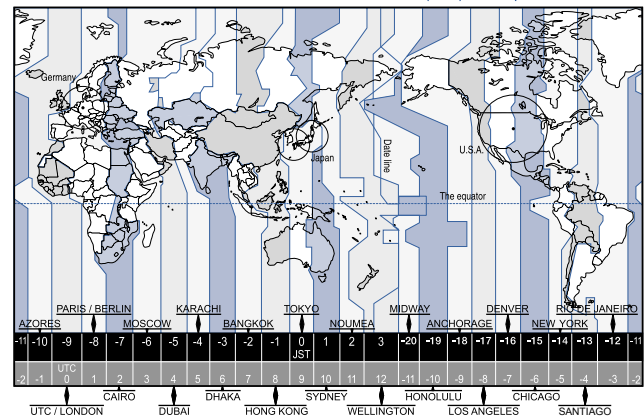
UTC is the universal standard time coordinated through international agreement. It is used as the official time around the world. UTC is determined by adding a leap second to GMT (Greenwich Mean Time), which is determined through astronomical measurement, in order to keep the precise time. Japan Standard Time (JST) is 9 hours ahead of UTC (+9 hours).

[What is Daylight Saving Time (DST) ?]

Daylight Saving Time is a system advancing the watch one hour to prolong daylight during longer daylight hours in summer. Daylight saving time has been adopted in about 80 countries, mainly in Europe and North America. The adoption and duration of Daylight Saving Time vary depending on the country.

※ The time differences and use of Daylight Saving Time in each area are subject to change according to the governments of the respective countries or regions.

Reference: Time difference between Coordinated Universal Time (UTC) and Japan Standard Time (JST)

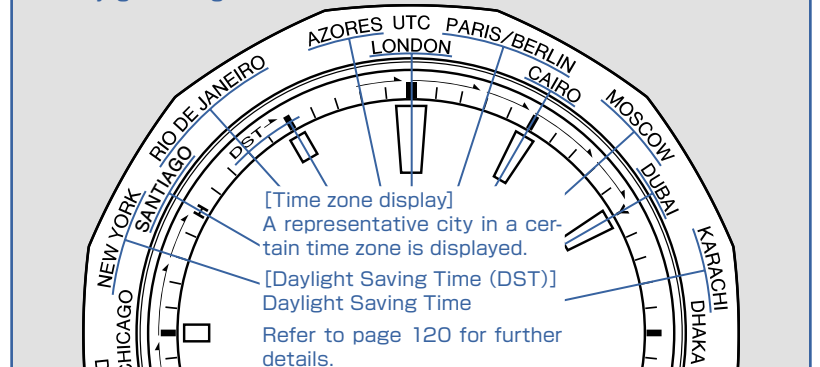


Time zone display

Position that the second hand indicates	Time zone / Names of representative cities (City with ★ mark: DST adopted)	City code	Time difference with Japan Standard Time	Receivable radio signal
48-second position	NEW YORK New York ★	NYC	-14 hours	WWVB
50-second position (10 o'clock position)	SANTIAGO Santiago ★	SCL	-13 hours	WWVB
53-second position	RIO DE JANEIRO Rio de Janeiro ★	RIO	-12 hours	-
55-second position (11 o'clock position)	(Rio de Janeiro) ※ 1		-11 hours	-
58-second position	AZORES Azores ★	PDL	-10 hours	-
0-second position (12 o'clock position)	UTC/LONDON UTC/London ★	UTC / LON	-9 hours	DCF77
3-second position	PARIS/BERLIN Paris ★ /Berlin ★	PAR	-8 hours	DCF77
5-second position (1 o'clock position)	CAIRO Cairo ★	CAI	-7 hours	DCF77
8-second position	MOSCOW Moscow ★	MOW	-6 hours	-
10-second position (2 o'clock position)	DUBAI Dubai	DXB	-5 hours	-
13-second position	KARACHI Karachi	KHI	-4 hours	-

- ※ In the case of Daylight Saving Time of Rio de Janeiro, please set the position for 55-second position.
- ※ If Daylight Saving Time is in effect in the time zone within the radio signal reception range, the time zone with "★" mark which is 1 hour ahead can be selected to set the precise time. Either automatic or manual reception is also available in these time zones if the watch is within the reception range. Refer to "How to set Daylight Saving time" on page 120.
- ※ Time zone displays may differ depending on the model.

While Daylight Saving Time is in effect, select the time zone 1 hour ahead by following the direction of the arrow mark (clockwise). The Daylight Saving Time is one hour ahead.

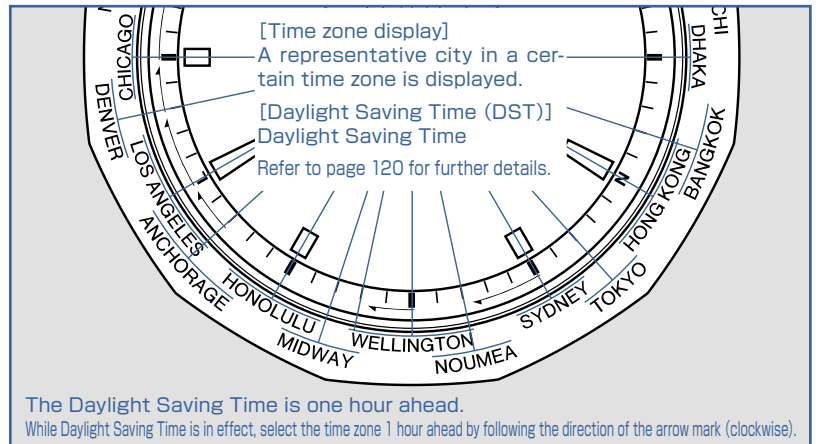


[Time zone display]
A representative city in a certain time zone is displayed.
[Daylight Saving Time (DST)]
Daylight Saving Time
Refer to page 120 for further details.

Time zone display (continued)

Position that the second hand indicates	Time zone / Names of representative cities (City with ★ mark: DST adopted)	City code	Time difference with Japan Standard Time	Receivable radio signal	
15-second position (3 o'clock position)	DHAKA	Dhaka	DAC	- 3 hours	-
18-second position	BANGKOK	Bangkok	BKK	- 2 hours	-
20-second position (4 o'clock position)	HONG KONG	Hong Kong	HKG	- 1 hour	JJY
23-second position	TOKYO	Tokyo	TYO	± 0 hour	JJY
25-second position (5 o'clock position)	SYDNEY	Sydney ★	SYD	+ 1 hour	JJY ○
28-second position	NOUMEA	Noumea	NOU	+ 2 hours	-
30-second position (6 o'clock position)	WELLINGTON	Wellington ★	WLG	+ 3 hours	-
32-second position	(Wellington) ※ 1			+ 4 hours	-
33-second position	MIDWAY	Midway Islands ★	MDY	- 20 hours	-
35-second position (7 o'clock position)	HONOLULU	Honolulu	HNL	- 19 hours	-
38-second position	ANCHORAGE	Anchorage ★	ANC	- 18 hours	-
40-second position (8 o'clock position)	LOS ANGELES	Los Angeles ★	LAX	- 17 hours	WWVB
43-second position	DENVER	Denver ★	DEN	- 16 hours	WWVB
45-second position (9 o'clock position)	CHICAGO	Chicago ★	CHI	- 15 hours	WWVB

※ In the case of Daylight Saving Time of Wellington, please set the position for 32-second position.
 ※ If Daylight Saving Time is in effect in the time zone within the radio signal reception range, the time zone with "○" mark which is 1 hour ahead can be selected to set the precise time. Either automatic or manual reception is also available in these time zones if the watch is within the reception range. Refer to "How to set Daylight Saving Time" on page 120.
 ※ Time zone displays may differ depending on the model.



How to set Daylight Saving Time

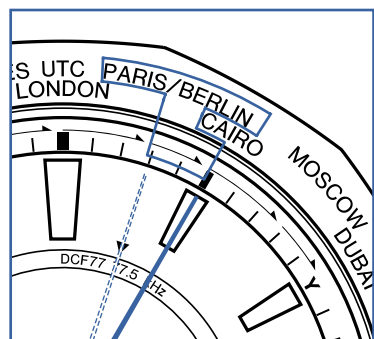
Daylight Saving Time is a system of advancing the watch one hour to prolong the daytime during longer daylight hours in summer.

While Daylight Saving Time is in effect, select the time zone 1 hour ahead.

Follow the direction of the arrow mark (clockwise) to advance the second hand for the length of one arrow mark.

Refer to "Time zone display" on pages 116 to 120.

Refer to "How to select the time zone" on pages 112 and 113.



EX.) To set the watch to Daylight Saving Time in the "PARIS/BERLIN" zone, please set it to the position of the "CAIRO" zone.

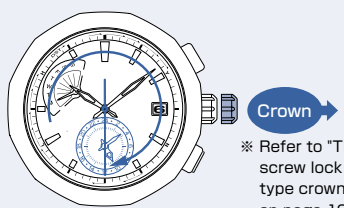
※ The time differences and use of Daylight Saving Time in each area are subject to change according to the governments of the respective countries or regions. (As of April 2007)

How to set the sub dial

The sub dial is adjustable for either the home time (time of residing area) or local time (local time in each time zone of the world).

1 Pull out the crown to the first click.

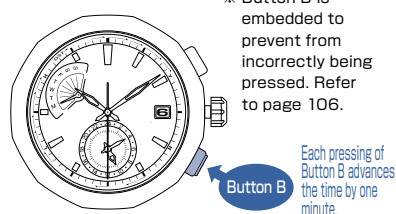
▶ Second hand rotates until it points to the 30-second position. (This position is for time setting for sub dial)



※ Refer to "The screw lock type crown" on page 107.

※ Both main watch and sub dial continue to operate even under the time setting mode for sub dial. (The second hand remains pointing at the 30-second position.)

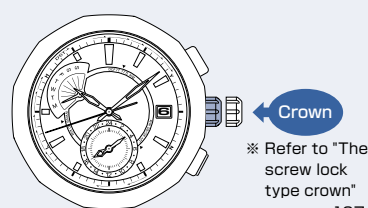
2 Press Button B to set the time.



※ Button B is embedded to prevent from incorrectly being pressed. Refer to page 106.

If Button B is kept pressed for two seconds, the hands advance rapidly. The hands keep advancing even if Button B is released. Press Button B again to stop the hands.

3 Push the crown back in to complete the time setting for sub dial.



※ Refer to "The screw lock type crown" on page 107.

※ Button A is not used for this procedure.

If Button A is pressed for 2 seconds during this operation, the time setting mode for sub dial will shift to the manual day setting mode (second hand at the 55-second position).

Further pressing of Button A for 2 seconds shifts the mode to manual date setting mode (second hand at the 13-second position).

By pressing Button A for 2 seconds again, the mode returns to the time setting mode for sub dial. (second hand at the 30-second position).

The sequence of the mode shift by pressing button A for 2 seconds is from sub dial to the day of the week to date.

Q & A for the world time function ①

Q: Will the watch be automatically set to the local time when it is moved to a place outside Japan in a different time zone?

A: The watch will not be automatically set to the local time if it is just moved to a place outside Japan in a different time zone. Select the time zone where you are when you are abroad.

If you select the time zone, the watch is automatically set to the local time. (The time difference can be adjusted in increments of 1 hour based on the Japan Standard Time.)

After selecting the time zone, if it is within the reception range of radio signals, you can leave the watch to receive the radio signal to set it to the precise time. (The receivable standard frequency can be changed by selecting a time zone.)

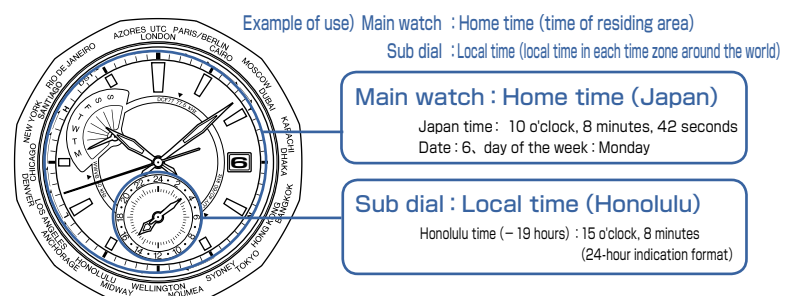
Q: Daylight Saving Time information should be contained in a standard frequency. Isn't it necessary to set summer time manually if the time zone within the radio signal reception range is properly selected?

A: Some areas or countries in a time zone may not have adopted Daylight Saving Time. Therefore the watch is designed so that Daylight Saving Time can be manually selected.

Q & A for the world time function ②

Q: Maintaining the main watch under home time (time of residing area), is it possible to allow the sub dial to display local time (local time in each time zone around the world)?

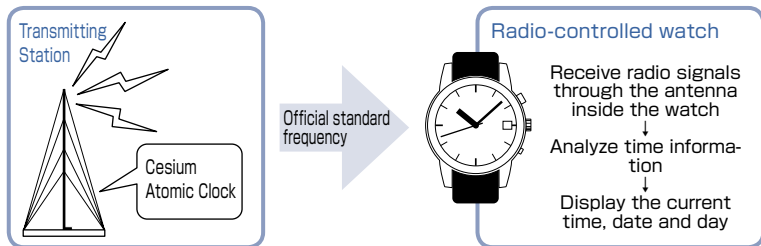
A: The sub dial can be adjusted to any discretionary time. Refer to "How to set the sub dial" on page 122.



HOW TO SET THE TIME, DATE AND DAY (radio signal reception)

● Mechanism of radio-controlled watch

The radio-controlled watch displays the precise time and date by automatically receiving and synchronizing itself with the radio signal of an official standard frequency.



Time signal transmitted by a standard frequency is based on a super accurate "Cesium Atomic Clock" that may have a 1 second loss or gain per one hundred thousand years.

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● How to set the time by receiving radio signals

The watch automatically receives radio signals at a pre-determined time to adjust the time, date and day of the week.

Place the watch in an appropriate location for easy reception at 2AM, 3AM and 4AM for automatic reception of radio signals and leave it unmoved. Refer to "About reception environment" on page 130.

Upon successful reception of radio signals, automatic reception is finished. After a successful reception of radio signals, the watch displays the precise time.

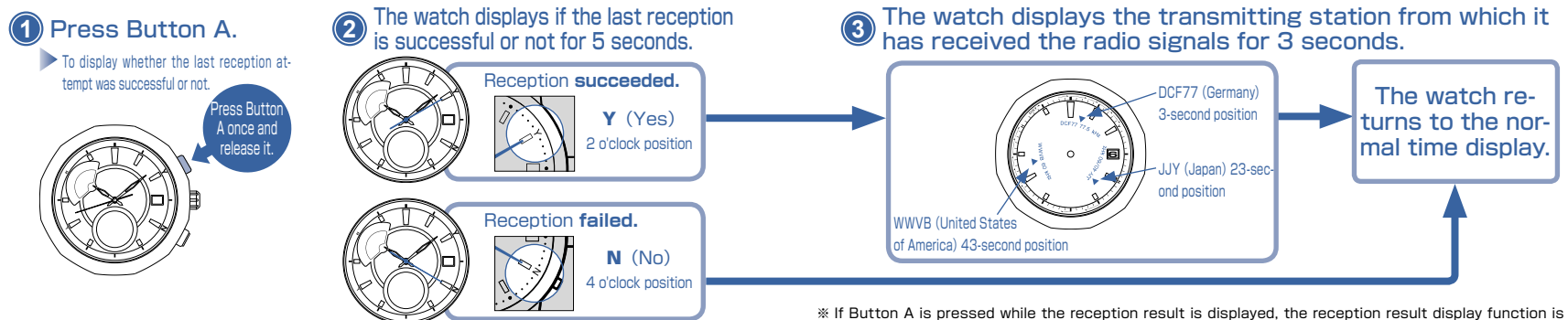
If automatic reception is obstructed due to environment, it is possible to conduct the manual reception of radio signals at any time. Refer to "Manual reception" on page 144.

※ If the selected time zone is outside the radio signal reception range, the watch cannot receive radio signals. Refer to "Time zone display" on page 116.
 ※ Successful radio signal reception depends on the reception environment for radio signals. Refer to "About reception environment" on page 130.
 ※ The watch cannot receive radio signals when it is outside the radio signal reception range. Refer to "Radio signal reception range" on page 134.

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How to check the reception result

The result of the last reception attempt of either automatic or manual reception is displayed. The second hand moves to display the reception result, and then it moves to display which radio signal the watch has received.



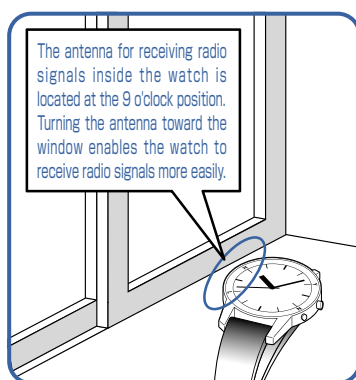
※ If Button A is pressed while the reception result is displayed, the reception result display function is cancelled and the display returns to the normal time display.

128

129

About reception environment

● To enable the watch to receive radio signals easily



Place the watch where it can receive radio signals more easily, such as by the window.

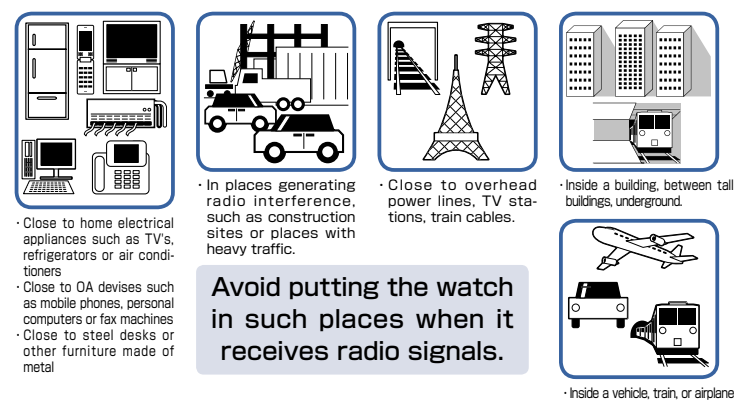
The watch is equipped with a built in antenna for radio reception.

The antenna is located at the 9 o'clock position of the watch. If you direct the antenna part outside the window or toward the radio transmission station, reception of radio signals will improve.

In order to secure a stable radio signal reception, keep the watch stationary without changing the direction of the watch or tilting it during radio signal reception.

130

● Conditions in which the watch may be unable to receive radio signals



Avoid putting the watch in such places when it receives radio signals.

• Inside a vehicle, train, or airplane

130

131

Suggestions for signal reception

● How to improve poor reception of the radio signals

In order to improve poor reception of radio signals, change the location or direction of the watch. Even in the same location, the radio reception environment changes depending on the time of the day. Due to the characteristics of radio signals, radio reception improves at night.

- Radio reception is not possible outside the radio signal reception range. Refer to "Radio signal reception range" on pages 134 to 137.
- Even within the radio signal reception range, radio reception may be obstructed depending on such conditions as weather, geography, building, direction, etc. Refer to "Conditions in which the watch may be unable to receive radio signals" on page 131.
- If the time zone is incorrectly selected, the watch cannot receive radio signals. Refer to "How to use the world time function" on page 110.

132

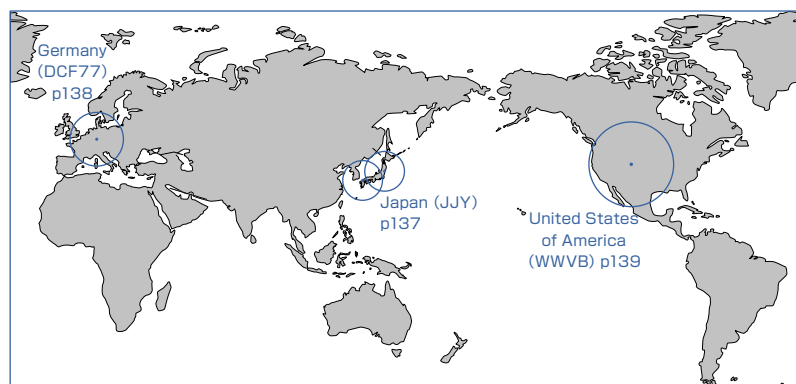
⚠ NOTICE

- The watch may display the wrong time if it fails to receive radio signals properly because of interference. The watch may also fail to receive radio signals properly depending on the location or radio wave receiving conditions. In this case, move the watch to another place where it can receive radio signals.
- When the watch is out of reception range, its accurate quartz movement will continue to keep the time.
- The time signal transmission may be stopped during maintenance of the facilities of each transmitting station or because of a lightning strike. In such a case, see each station's website for further information or contact SEIKO CUSTOMER SERVICE CENTER.
- Websites of transmitting stations (as of July, 2007)
 Japan: NICT (Japan Standard Time Group) <http://www.jiy.nict.go.jp/>
 Germany: PTB http://www.ptb.de/en/org/4/44/_index.htm
 The United States of America: NIST <http://www.boulder.nist.gov/timefreq/stations/www.htm>

133

Radio signal reception range

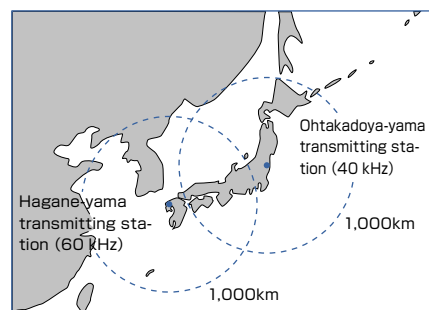
This watch can receive official standard frequencies of Japan, Germany, and the United States of America. The standard frequency to be received can be changed by selecting the time zone.



134

● Japan (JJY)

The reception range from each transmitting station is approximately 1,000 km (1,000 km radius of each station).



JJY is operated by the National Institute of Information and Communications Technology (NICT). JJY is transmitted from two stations in Japan. Each station transmits JJY in a different frequency. Fukushima (Ohtakadoya-yama transmitting station: 40 KHz) Kyushu (Hagane-yama transmitting station: 60 KHz)

※ Whether the watch succeeds in receiving radio signals or not depends on the receiving conditions. Refer to "About reception environment" on page 130.

135

Radio signal reception range (continued)

● Europe (Germany DCF77)

The reception range from the transmitting station is approximately 1,000 km (1,000 km radius of Mainflingen transmitting station). There are three time zones within the reception range.



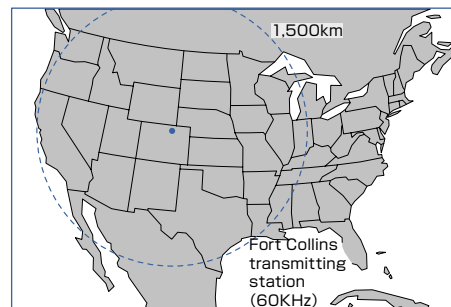
DCF77 is operated by PTB. Mainflingen transmitting station (77.5 KHz) in southeastern Frankfurt
 ※ PTB: Physikalisch-Technische Bundesanstalt

※ Whether the watch succeeds in receiving radio signals or not depends on the receiving conditions. Refer to "About reception environment" on page 130.

136

● The United States of America (WWVB)

The reception range from the transmitting station is approximately 1,500 km (1,500 km radius of Fort Collins radio station). There are four time zones within the reception range.



WWVB is operated by NIST. Fort Collins radio station (60KHz), Denver, Colorado
 ※ NIST: National Institute of Standards and Technology

※ If the condition is good in a range beyond 1,500km, there can be the case that the watch can receive radio signals.
 ※ Whether the watch succeeds in receiving radio signals or not depends on the receiving conditions. Refer to "About reception environment" on page 130.

137

ABOUT SOLAR POWER GENERATION

● How to charge the watch

This watch is a solar-powered watch, which contains a solar cell underneath the dial to convert any form of light into "electrical energy" and store the power in a secondary battery.

To enjoy optimal performance of this watch, it is recommended that the watch be kept sufficiently charged at all times.

To charge the watch, expose the dial (solar cell) to adequate light.



Before initially using the watch or when the watch has stopped as a result of complete depletion of stored power, charge the watch sufficiently referring to the next page.

138

● Standard charging time

Illumination (LUX)	Light source	Condition (Example)	Time required for fully charging the watch	Time required for charging the watch to start moving at one-second intervals*	Time required for charging the watch to run for one day
500	Incandescent light	60W 60cm	—	—	6 hours
700	Fluorescent light	General offices	—	—	4 hours
1,000	Fluorescent light	30W 70cm	—	40 hours	3 hours
3,000	Fluorescent light	30W 20cm	230 hours	6 hours	1 hour
5,000	Fluorescent light	30W 12cm	150 hours	4 hours	35 minutes
10,000	Fluorescent light	30W 5cm	60 hours	1.5 hours	15 minutes
10,000	Sunlight	Cloudy day	60 hours	1.5 hours	15 minutes
100,000	Sunlight	Sunny day (Under the direct sunlight on a summer day)	30 hours	30 minutes	3 minutes

★ The figures in the table above refer to the time required to charge the stopped watch by exposure to light until the watch moves at steady one-second intervals. Even if the watch is partially charged for a period shorter than the time provided in the above table, it will resume one-second interval movement, however, the one-second interval movement will change to two-second interval movement shortly. To avoid this and charge the watch to a sufficient level, use the charging time mentioned above as a measure.

※ The required charging time slightly varies depending on the model of the watch.

139

Overcharge prevention function

When the secondary battery is fully charged, the overcharge prevention function is automatically activated to avoid further charging. There is no need to worry about damage caused by overcharging no matter how much the secondary battery is charged in excess of the "time required for fully charging the watch".

※ Refer to "Standard charging time" on page 139 to check the time required for fully charging the watch.

▲ NOTICE

■ (Notes on charging the watch)

- When charging the watch, do not place the watch in close proximity to an intense light source such as lighting equipment for photography, spotlights or incandescent lights, as the watch may be excessively heated resulting in damage to its internal parts.
- When charging the watch by exposure to direct sunlight, avoid places that easily reach high temperatures, such as a car dashboard.
- Always keep the watch temperature under 60°C.

140

Energy depletion forewarning function

The energy depletion forewarning function is activated when the energy stored in the watch runs low. In such a case, the second hand moves at two-second intervals. If the watch continues to be in the state of two-second interval movement, the watch switches to five-second interval movement, followed by a completely stopped state.

If the energy depletion forewarning function is activated, charge the watch sufficiently.

How to charge the watch ... p138
 Standard charging time p139

※ Neither the buttons nor the crown can be operated while the second hand moves at two-second or five-second intervals (this is not a malfunction).

※ While the second hand moves at five-second intervals, the hour and minute hands, date and day stop operating.

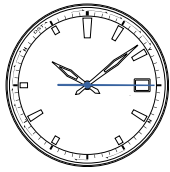
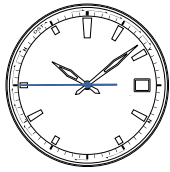
※ While the second hand moves at five-second intervals, the watch is unable to receive radio signals automatically. After the watch is charged sufficiently and the second hand returns to normal one-second interval movement, conduct the manual reception of radio signals to set the watch to the correct time. (Refer to "How to set the time, date and day" on page 126.)

※ After completing the radio signal reception, when the date and/or day are incorrect even if the correct time is displayed, check if the preliminary position of date or day are correct. (Refer to "How to set the preliminary positions" on page 156).

141

Power save function

When the watch is not exposed to an adequate light source, the power save function is automatically activated in order to reduce unnecessary energy consumption.

	Power Save One mode	Power Save Two mode
Condition	When the watch has not been exposed to an adequate light source for 72 hours or longer.	The Power Save One mode is prolonged and the watch has been insufficiently charged for a long time.
Symptom	 The second hand stops pointing to the 3 o'clock position and the hour and minute hands stop moving.	 The second hand stops pointing to the 3 o'clock position and the hour and minute hands stop moving.
Remedy	Expose the watch to adequate light for 5 seconds or longer. The hands will be fast-forwarded and the watch displays the current time.	After sufficiently charging the watch, reset the time if necessary.

142

Power Save One mode

- When the watch is not exposed to an adequate light source for 72 hours or longer, the watch enters "the Power Save One" mode.
- In this state, movement of the hour and minute hands, date and sub dial will cease, but the watch will continue to conduct automatic reception.
- To reset the watch to display the current time, expose it to adequate light for 5 seconds or longer.

Power Save Two mode

- If the Power Save One mode is prolonged and the watch continues to be insufficiently charged, and the stored power falls below a certain level, the watch automatically switches to "the Power Save Two" mode, to limit further energy consumption.
- In this state, movement of the hour and minute hands, date and sub dial remain stopped, and the watch will also stop conducting automatic reception.
- When the watch enters "the Power Save Two" mode, immediately charge the watch.

- ※ While the watch is being charged in the Power Save Two mode, the second hand moves at five-second intervals. During the five-second interval movement, neither the buttons nor the crown can be operated.
- ※ If "the Power Save Two" mode is prolonged, the amount of stored power drops and the internal time settings will be lost. In such a case, after completing battery charging, conduct the manual reception to set the watch to the correct time.

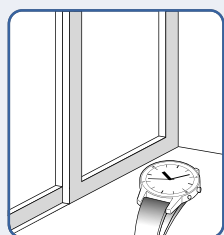
Refer to "How to set the time, date and day" on page 126.

143

ABOUT OTHER FUNCTIONS

Manual reception

1 Place the watch.



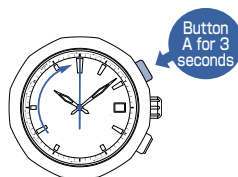
Place the watch where it can easily receive radio signals.

Refer to "To enable the watch to receive radio signals easily" on page 130.

144

2 Press and hold Button A for three seconds or longer.

- ▶ The second hand moves to the 0-second position and the watch automatically starts receiving radio signals.



- ※ When the second hand does not move to the 0-second position (when the watch cannot receive radio signals), refer to "Troubleshooting" on page 184.
- ※ If the selected time zone is outside the radio signal reception range, the watch cannot receive radio signals. Refer to "How to use the world time function" on page 110.
- ※ The watch cannot receive radio signals when it is outside the radio signal reception range. Refer to "Radio signal reception range" on page 134.

3 During reception of radio signals, wait keeping the watch stationary.

It takes 12 minutes at the longest depending on the radio signal condition.

During reception of radio signals, the second hand displays the condition of radio signal reception (radio reception level).

Reception level: High

H (High)

10 o'clock position



Reception level: Low

L (Low)

8 o'clock position



During reception of radio signals wait, keeping the watch stationary.

4 Upon completion of receiving radio signals, the second hand starts moving.

After finishing the signal reception, check if the reception was successful.

Refer to "How to check the reception result" on page 128.

Not receivable

N (No)

4 o'clock position



It returns to time display after 3 seconds.

The second hand moves every 1 minute to renew the reception level. (There are cases where in line with the movement of the second hand, the minute hand may move also by every 1 minute).

※ Depending on the environment, radio reception may be obstructed. Refer to "Conditions in which the watch may be unable to receive radio signals" on page 131.

145

How to manually set the time for main watch

When using the watch in places where it is unable to receive an official standard frequency, the time can be manually adjusted.

The watch moves depending on the quartz movement (loss/gain: ± 15 seconds per month).

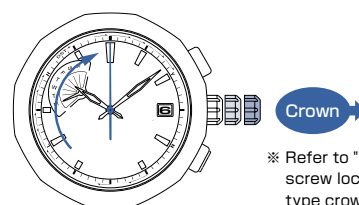
- When the time is set, date and day of the week are also adjusted accordingly in linkage.
- When the watch enters the manual time setting mode, the reception result data will be erased. When you check the reception result, the watch will display "N."
- After the manual time setting, if the watch successfully receives radio signals, the watch displays the time based on the time information it has received.

To use the watch in an area within radio signal reception range after manually setting the time, make sure to conduct manual reception. Refer to "Manual reception" on page 144.

146

1 Pull out the crown to the second click.

- ▶ The second hand rotates until it points to the 0-second position and stops to enter the manual time setting mode.



※ Refer to "The screw lock type crown" on page 107.

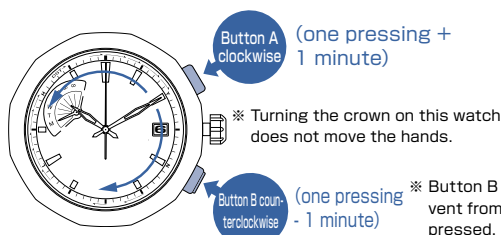
Continued to the next page.

- ※ When the crown is pulled out to the second click, the reception result data will be erased. When this happens, the reception result display will indicate only "N."

147

2 Press either Button A or B to set the time.

- ▶ Each pressing of Button A moves forward or backward the time by one minute.



Button A clockwise (one pressing + 1 minute)

※ Turning the crown on this watch does not move the hands.

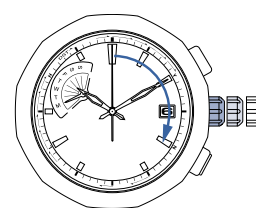
Button B counterclockwise (one pressing - 1 minute) ※ Button B is embedded to prevent from incorrectly being pressed. Refer to page 106.

If either Button A or Button B is kept pressed for two seconds, the hands advance rapidly. The hands keep advancing even if the button is released. Press the button again to stop the movement of the hands. ※ The moment the date changes is midnight. When setting the time, make sure that AM and PM is correctly set.

148

3 Push the crown back in simultaneously with a time signal to complete the setting

- ▶ The watch immediately resumes its normal movement.



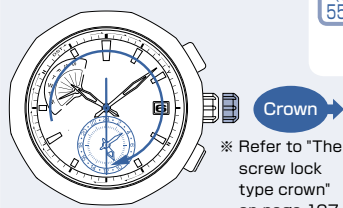
※ Refer to "The screw lock type crown" on page 107.

149

How to manually set the day and date

1 Pull out the crown to the first click.

▶ The second hand rotates until it points to the 30-second position and stops to enter the manual time setting mode for sub dial.

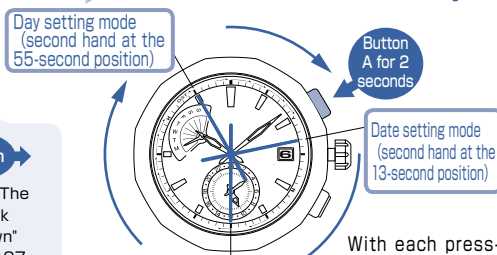


※ Refer to "The screw lock type crown" on page 107.

※ While the watch is in the manual time setting mode for sub dial, the main watch and sub dial are operating. (The second hand remains stopped.)

2 Keep pressing Button A for 2 seconds to select the setting mode.

▶ The location of the second hand indicates the selected setting mode.

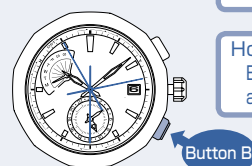


With each pressing of Button A for 2 seconds, the selected setting mode will change.

3 Press Button B to set the day and date.

How to set the day
Each pressing of Button B advances the day by one.

How to set the date
Each pressing of Button B advances the date by one.



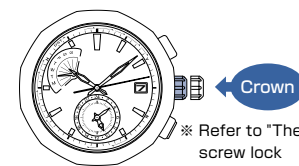
※ Button B is embedded to prevent from incorrectly being pressed. Refer to page 106.

To change the setting mode, repeat the procedure of STEP 2.

Keep pressing Button B for 2 seconds to fast-forward. Even if Button B is released, it continue fast-forwarding until Button B is pressed again to stop the movement.

4 Push the crown back in to complete the setting.

▶ The watch immediately displays the current time.



※ Refer to "The screw lock type crown" on page 107.

150

151

About preliminary positions

If the time is incorrect time after the built-in IC is reset or the watch succeeds to receive a proper radio signal, the preliminary position may be out of alignment.

The radio-controlled watch automatically sets itself to the precise time. However, if the preliminary hand positions are misaligned when the time is set, the watch cannot display the precise time even after it receives radio signals properly. It is like a scale which cannot display the correct weight because its hand is not set to the 0 position before weighting.

(When the watch successfully received radio signals but the incorrect time, date and day are displayed)

- Strong shocks can cause misalignment of the hand positions
The hand positions may move out of alignment due to strong shocks to the watch when the watch is dropped or hits against a hard surface.
- Strong magnetism can cause misalignment of the hand positions.
The hand positions may move out of alignment due to strong magnetism.

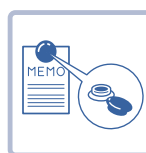
This watch features an automatic hand alignment function, which automatically corrects the position of the hands that are out of alignment.

The automatic hand alignment function performs periodic checks once every one minute for the second hand position and at 12 o'clock noon and midnight for the hour and minute hand positions.

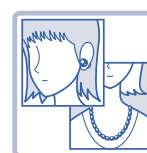
※ The preliminary positions of the hour and minute hands can also be manually corrected. Refer to page 158.
If the preliminary positions of the date and day go out of alignment, it is necessary to manually correct them. After resetting the built-in IC, make sure that the preliminary positions of date and day are corrected. Refer to "How to correct the preliminary position" on page 154.

152

Examples of common magnetic products that may affect watches



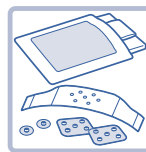
• Magnetic clips



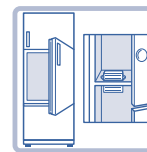
• Magnetic accessories



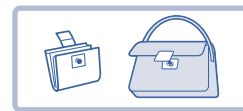
• Audio speakers, speakers of radios, earphones, mobile phones, etc.



• Magnetic therapy products (compress, bedclothes, hip belt, etc.)



• Magnets used in refrigerators or furniture



• Clasp of a handbag or a purse

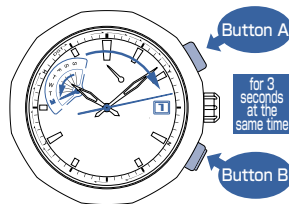
153

How to correct the preliminary positions

1 Keep pressing both Button A and B for 3 seconds at the same time.

▶ The second hand rotates until it points to the 13-second position and stops to enter the preliminary position setting mode for date.

Display	If the preliminary position is out of alignment
"1" is displayed.	If "1" is not displayed, it is necessary to correct the preliminary position for date.
"M (Monday)" is indicated.	If "M" is not indicated, it is necessary to correct the preliminary position for day.
The hour and minute hands stop showing the current hour (s) and minute (s).	If the current hour (s) and minute (s) are not displayed, it is necessary to correct the preliminary positions for hour and minute hands.



※ Button B is embedded to prevent from incorrectly being pressed. Refer to page 106.

154

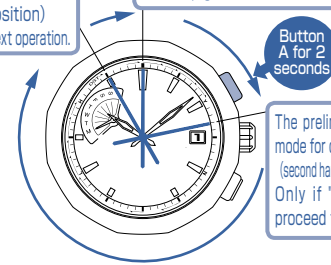
2 Keep pressing Button A for 2 seconds to select the setting mode.

▶ The location of the second hand indicates the selected setting mode.

※ If the watch is left untouched for 10 seconds, it automatically returns to the time display. If this happens, to restart the preliminary position setting, repeat the procedure from STEP 1 on page 154.

The preliminary position setting mode for day.
Refer to page 157.
(second hand at the 55-second position)
Only if "M" is not indicated, proceed to the next operation.

The preliminary position setting mode for hour and minute hands.
Refer to page 158. (second hand at the 0-second position)



With each pressing of Button A for 2 seconds, the selected setting mode will change.

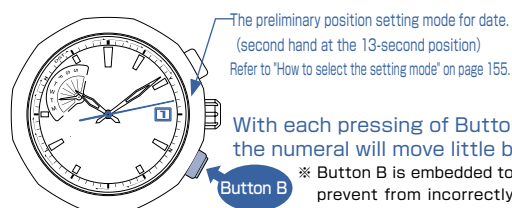
※ While the date and day are moving, this operation cannot be carried out

155

How to correct the preliminary positions (continued)

● Preliminary position setting for date

Press Button B to set the preliminary position for date to "1".



The preliminary position setting mode for date.
(second hand at the 13-second position)
Refer to "How to select the setting mode" on page 155.

With each pressing of Button B, the numeral will move little by little.

※ Button B is embedded to prevent from incorrectly being pressed. Refer to page 106.

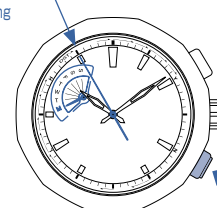
If Button B is kept pressed for two seconds, the numeral advances rapidly. The numeral keeps advancing even if Button B is released. Press Button B again to stop the numeral movement.

156

● The preliminary position setting mode for day.

Press Button B to set the preliminary position for day to "M (Monday)".

(second hand at the 55-second position)
Refer to "How to select the setting mode" on page 155.



With each pressing of Button B, the character will move little by little.

※ Button B is embedded to prevent from incorrectly being pressed. Refer to page 106.

If Button B is kept pressed for two seconds, the character advances rapidly. The character keeps advancing even if Button B is released. Press Button B again to stop the character movement.

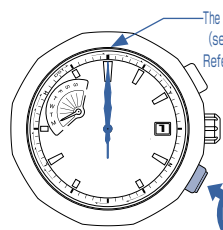
157

How to correct the preliminary positions (continued)

● The preliminary position setting mode for hour and minute hands

Press Button B once.

- ▶ The hour and minute hands automatically rotate and stop indicating 12 o'clock 00 minute.



The preliminary position setting mode for hour and minute hands (second hand stops pointing at the 0-second position)
Refer to "How to select the setting mode" on page 155.

※ If the watch is left untouched for 10 seconds during the operation or when the operation is completed, it automatically returns to the time display. If this happens, to restart the preliminary position setting, repeat the procedure from STEP 1 on page 154.

Press Button B once

※ Button B is embedded to prevent from incorrectly being pressed. Refer to page 106.

If no further operation is carried out within 10 seconds after the hour and minute hands move to the preliminary position, the hour, minute and second hands, date and day will move in order to display the current time based on the time data in memory.

158

TO PRESERVE THE QUALITY OF YOUR WATCH

Daily care

● The watch requires good daily care

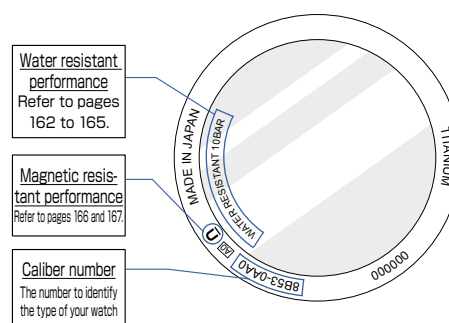
- Wipe away moisture, sweat or dirt with a soft cloth
- To clean the clearances (around the metallic band, crown or case back), a soft toothbrush is convenient.
- After soaking the watch in seawater, be sure to wash the watch in clean pure water and wipe it dry carefully.

● Turn the crown from time to time

- In order to prevent corrosion of the crown, turn the crown from time to time.
- The same practice should be applied to a screw lock type crown. (No need to pull out the screw lock type crown.)

160

● The case back shows the caliber and performance of your watch



※ The figure above is one example. Performance of your watch is different from above sample.

161

Water resistance

Refer the table below for the description of each degree of water resistant performance of your watch before using.
(Refer to "P.161")

Indication on the case back	Water resistant performance
No indication	Non-water resistance
WATER RESISTANT	Water resistance for everyday life
WATER RESISTANT 5 BAR	Water resistance for everyday life at 5 barometric pressures
WATER RESISTANT 10(20) BAR	Water resistance for everyday life at 10(20) barometric pressures.

162

Condition of Use
Avoid drops of water or sweat
The watch withstands accidental contact with water in everyday life. ⚠ WARNING Not suitable for swimming
The watch is suitable for sports such as swimming.
The watch is suitable for diving not using an air cylinder.

163

⚠ WARNING



Do not use the watch in scuba diving or saturation diving.

The various tightened inspections under simulated harsh environment, which are usually required for watches designed for scuba diving or saturation diving, have not been conducted on the water-resistant watch with the BAR (barometric pressure) display. For diving, use special watches for diving.

⚠ CAUTION

※ If the inner surface of the glass is clouded with condensation or water droplets appear inside of the watch for a long time, the water resistant performance of the watch is deteriorated. Immediately consult the retailer from whom the watch was purchased or SEIKO CUSTOMER SERVICE CENTER (listed on the end of a book).



Do not turn or pull out the crown when the watch is wet.

Water may get inside of the watch.

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⚠ CAUTION



Do not leave moisture, sweat and dirt on the watch for a long time.

Be aware of a risk that a water resistant watch may lessen its water resistant performance because of deterioration of the adhesive on the glass or gasket, or the development of rust on stainless steel.



Do not wear the watch while taking a bath or a sauna.

Steam, soap or some components of a hot spring may accelerate the deterioration of water resistant performance of the watch.





Do not pour running water directly from faucet.

The water pressure of tap water from a faucet is high enough to degrade the water resistant performance of a water resistant watch for everyday life.

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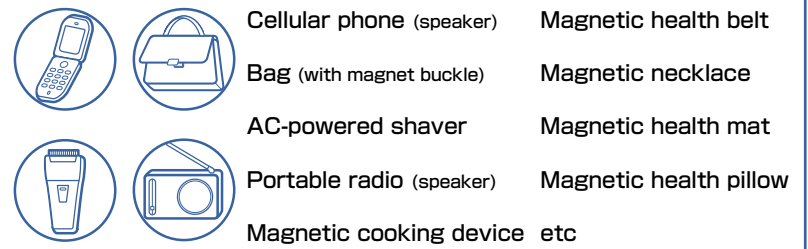
Magnetic resistance

Affected by nearby magnetism, a quartz watch may temporarily gain or lose time or stop operating.
 ※When the hand positions deviate to display incorrect time as a result of influence of magnetism, this watch automatically corrects the hand alignment itself. (Refer to p.152)

Indication on the case back	Condition of use
No indication	Keep the watch more than 10 cm away from magnetic products.
	Keep the watch more than 5 cm away from magnetic products. (JIS level-1 standard)
	Keep the watch more than 1 cm away from magnetic products. (JIS level-2 standard)

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Examples of common magnetic products that may affect watches



The reason why analogue quartz watch is affected by magnetism.

It is because the built-in motor of the watch, which harnesses magnetic power and external strong magnetism, affect each other to stop the motor or suppresses the turn of the motor.

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Band

The band touches the skin directly and becomes dirty with sweat or dust. Therefore, lack of care may accelerate deterioration of the band or cause skin irritation or stain on the sleeve edge. The watch requires a lot of attention for long usage.

• Metallic band

- Moisture, sweat or soil will cause rust even on a stainless steel band if they are left for a long time.
- Lack of care may cause a yellowish or gold stain on the lower sleeve edge of shirts.
- Wipe off moisture, sweat or soil with a soft cloth as soon as possible
- To clean the soil around the joint gaps of the band, wipe it out in water and then brush it off with a soft toothbrush.
(Protect the watch body from water splashes by wrapping it up in plastic wrap etc.)
- Because some titan bracelets use pins made of stainless steel, which has outstanding strength, rust may form in the stainless steel parts.
- If rust advances, pins may poke out or drop out, and the watch case may fall off the bracelet, or the clasp may not open.
- If a pin is poking out, personal injury may result. In such a case, refrain from using the watch and request repair.


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• Leather band

- A leather band is susceptible to discoloration and deterioration from moisture, sweat and direct sunlight.
- Wipe off moisture and sweat as soon as possible by gently blotting them up with a dry cloth.
- Do not expose the watch to direct sunlight for a long time.
- Please take care when wearing a watch with light-colored band, as dirt is likely to show up.
- Refrain from wearing a leather band watch other than Aqua Free bands while bathing, swimming, and when working with water even if the watch itself is water-resistant enforced for daily use (10-BAR water resistant).

• Polyurethane band

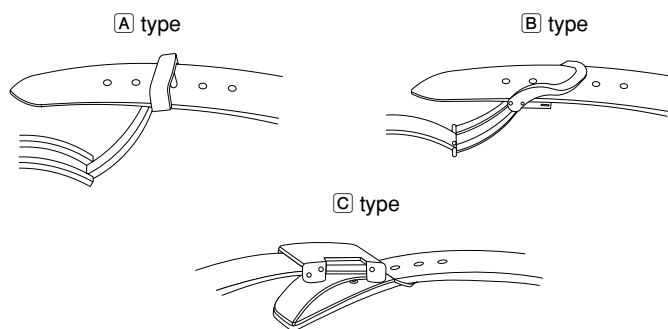
- A polyurethane band is susceptible to discoloration from light, and may be deteriorated by solvent or atmospheric humidity.
- Especially a translucent, white, or pale colored band easily adsorbs other colors, resulting in color smears or discoloration.
- Wash out dirt in water and clean it off with a dry cloth.
(Protect the watch body from water splashes by wrapping it up in plastic wrap etc.)
- When the band becomes less flexible or cracked, replace the band with a new one.

Notes on skin irritation and allergy	Skin irritation caused by a band has various reasons such as allergy to metals or leathers, or skin reactions against friction on dust or the band itself.
Notes on the length of the band	Adjust the band to allow a little clearance with your wrist to ensure proper airflow. When wearing the watch, leave enough room to insert a finger between the band and your wrist. 

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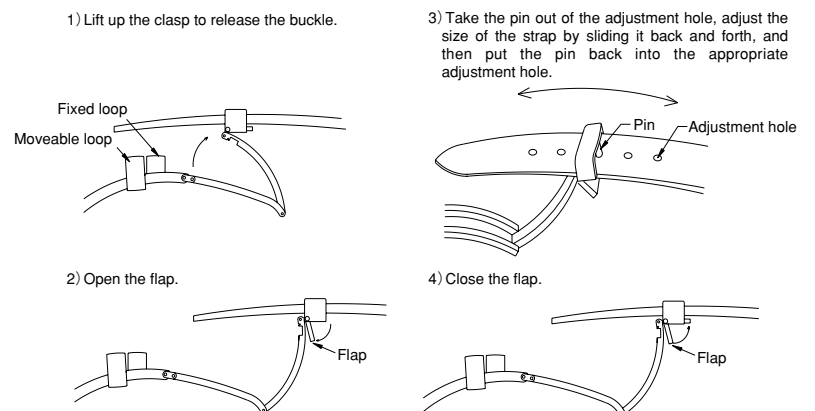
Special Clasps

There are 3 type of special clasps as described below; If the clasp of the watch you purchased is one of them, please refer to the indications.



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A Type

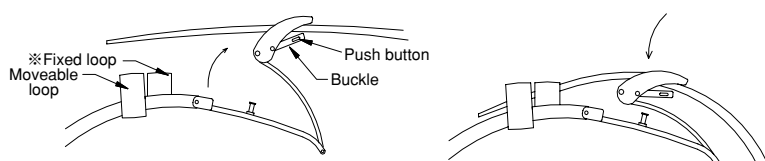


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B Type

1 How to wear or take off the watch

- 1) Press the button on both sides of the buckle; pull the buckle up. The band will automatically come out of the loop.
- 2) Place the tip of the band into the moveable loop and fixed loop, and fasten the clasp by pressing the frame of the buckle.

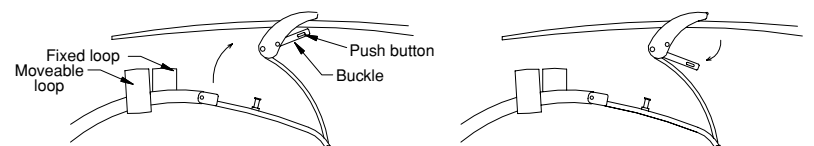


※No Fixed loop with Metal Bracelets.

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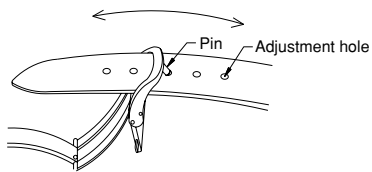
2 How to adjust the length of the leather band

- 1) With pressing buttons on both sides of the buckle, pull the leather band out of the moveable loop and fixed loop. Then open the clasp.
- 2) Press the push buttons again to unfasten the buckle.

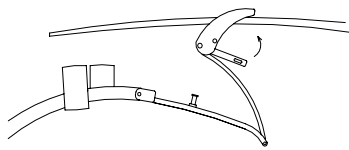


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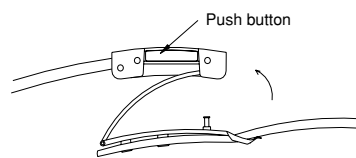
3) Pull the pin out of an adjustment hole of the band. Slide the band to adjust its length and find an appropriate hole. Place the pin into the hole.



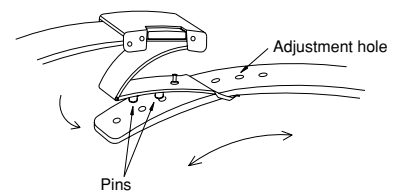
4) Fasten the buckle with pressing the push buttons.



1) Press the button on the buckle, and lift to open the clasp.



2) To adjust: Pull the pins out of the adjustment holes on the band. Slide the band to the appropriate length. Push the pins into the new holes on the band.



Lumibrite

Power source

[IF YOUR WATCH HAS LUMIBRITE]

LumiBrite is a luminous paint that is completely harmless to human beings and natural environment, containing no noxious materials such as radioactive substance.

LumiBrite is a newly-developed luminous paint that absorbs the light energy of the sunlight and lighting apparatus in a short time and stores it to emit light in the dark.

For example, if exposed to a light of more than 500 lux for approximately 10 minutes, LumiBrite can emit light for 3 to 5 hours.

Please note, however, that, as LumiBrite emits the light it stores, the luminance level of the light decreases gradually over time. The duration of the emitted light may also differ slightly depending on such factors as the brightness of the place where the watch is exposed to light and the distance from the light source to the watch.

<Reference data on the luminance>

(A) Sunlight

[Fine weather]: 100,000 lux [Cloudy weather]: 10,000 lux

(B) Indoor (Window-side during daytime)

[Fine weather]: more than 3,000 lux [Cloudy weather]: 1,000 to 3,000 lux

[Rainy weather]: less than 1,000 lux

(C) Lighting apparatus (40-watt daylight fluorescent light)

[Distance to the watch: 1 m]: 1,000 lux

[Distance to the watch: 3 m]: 500 lux (average room luminance) [Distance to the watch: 4 m]: 250 lux

- The battery used in this watch is a special secondary battery, which is different from ordinary batteries.
- Unlike an ordinary silver oxide battery, the secondary battery does not require periodic replacement.
- However, if the secondary battery is charged or discharged repeatedly over an extended period of time, its life may shorten.

(This condition changes depending upon usage condition and storage environment.)

- The secondary battery is an environmentally friendly, clean energy storage device.

⚠ NOTICE

- When replacing the secondary battery, make sure that the exclusive secondary battery for this watch is used. Installation of an ordinary silver oxide battery can generate heat that can cause bursting or ignition.
- Even when a silver oxide battery is substituted, electrical continuity cannot be obtained.

Guarantee

Within one year from the date of purchase, we guarantee free repair/adjustment service against any defects according to the following guarantee regulations, provided that the watch was properly used as directed in this instruction booklet.

● Guarantee coverage

- The watch body (movement·case) and metallic band.

● Exceptions from guarantee In following cases, repair/adjustment services will be at cost even within the guarantee period or under guarantee coverage.

- Change of leather/urethane/cloth band
- Troubles or damage caused by accidents or improper usage
- Scratches or grime caused by use
- Problems and damage caused by acts of god, natural disasters including fire, floods or earthquakes.
- The certificate of guarantee is valid only if all the necessary items are properly filled in. We will not honor an altered or tampered certificate of guarantee for free repair services.

Free repair services are guaranteed only under the period and conditions specified in the certificate of guarantee. It does not affect specific legal rights of a consumer. The certificate of guarantee is valid only in Japan.

● Procedure to claim free repair services

- For any defects under guarantee, submit the watch together with the attached certificate of guarantee to the retailer from whom the watch was purchased.
- If repair services cannot be provided by the retailer from whom the watch was purchased, contact SEIKO CUSTOMER SERVICE CENTER. In this case, the attached certificate of guarantee is also needed.

● Others

- The case, dial, hands, glass and bracelet, or parts thereof may be repaired with substitutes if the originals are not available. If necessary, movements will be replaced.
- For length adjustment service of a metallic band, ask the retailer from whom the watch was purchased or SEIKO CUSTOMER SERVICE CENTER. Other retailers may undertake the service on a chargeable basis.

After-sale service

● Repair parts

- The repair parts of this watch will be retained usually for 7 years.
- Some alternative parts may be used for repair if necessary.

● Notes on overhaul

Periodic inspection and adjustment by disassembly and cleaning (overhaul) is recommended approximately once every 3 to 4 years in order to maintain optimal performance of the watch for a long time. According to use conditions, the oil retaining condition of your watch mechanical parts may deteriorate, abrasion of the parts may occur due to contamination of oil, which may ultimately lead the watch itself to stop. As the parts such as gasket may deteriorate, water-resistant performance may be impaired due to intrusion of perspiration and moisture. Please contact the retailer from whom the watch was purchased for inspection and adjustment by disassembly and cleaning (overhaul). For replacement of parts, please specify "SEIKO GENUINE PARTS." When asking for inspection and adjustment by disassembly and cleaning (overhaul), make sure that the gasket and push pin are also replaced with new ones.

● Notes on guarantee and repair

- Contact the retailer the watch was purchased from or SEIKO CUSTOMER SERVICE CENTER for repair or overhaul.
- Within the guarantee period, present the certificate of guarantee to receive repair services.
- Guarantee coverage is provided in the certificate of guarantee. Read carefully and retain it.

Troubleshooting

Troubles		Possible causes	Solutions	Ref. page
Movement of the watch hands	The second hand moves at two-second intervals.	The energy depletion forewarning function is activated. (P.141)	Sufficiently charge the watch until it starts moving at one-second intervals.	P.138
	The second hand moves at five-second intervals.	If this function is activated even though you wear the watch everyday, the watch may be unable to receive sufficient light because it is concealed under a long sleeve shirt, etc.	Make sure that the watch is not concealed under a sleeve while you are wearing the watch. When taking the watch off, place the watch in a location as bright as possible.	
	The stopped second hand pointing to the 15-second position started moving.	The Power Save has been activated to limit energy consumption. (P.142) When the watch is used or stored continually under conditions where it cannot receive sufficient light, the power save function is automatically activated in order to reduce unnecessary energy consumption.	Wait until the watch returns to the current time display. Use the watch as it is (this is not a malfunction) .	—
	The stopped second hand pointing to the 45-second position started moving.	The Power Save has been activated to limit energy consumption. (P.142) When the watch is used or stored continually under conditions where it cannot receive sufficient light, the power save function is automatically activated in order to reduce unnecessary energy consumption.	1) Sufficiently charge the watch until it starts moving at one-second intervals. 2) Set the time, date and day.	P.138 P.126
	The watch hands were fast-forwarded even though no button had been pressed, and then the watch resumed regular movement.	The Power Save function has been activated. (P.142) The automatic hand alignment function has been activated. (P.152) When the hand positions deviate to display incorrect time as a result of influence of various external sources, the watch automatically corrects the hand alignment itself.	Use the watch as it is (this is not a malfunction) .	—

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Troubleshooting (continued)

Troubles		Possible causes	Solutions	Ref. page
Radio signal reception	The watch cannot receive radio signals.	The watch was moved while it was receiving radio signals.	Do not move the watch or do not change the orientation of the watch while it is receiving radio signals.	P.130
		The watch is in an environment where it is difficult to receive radio signals.	Place the watch where it can easily receive radio signals.	P.130 P.126
	The reception result display shows "N." (The reception failed.)	Radio signal transmission from the transmitting station was stopped for some reasons.	See the website of the transmitting station for the information concerning the transmission of time signals. Try to conduct the signal reception after a while.	P.127
		The selected time zone is out of the radio signal reception range.	1) Check if the selected time zone is within the radio signal reception range. If not, change the time zone to the one within the radio signal reception range. 2) Conduct the signal reception if necessary.	P.112 P.126
Charging the watch	The stopped watch was exposed to adequate light for a longer time than 'the time required for fully charging the watch,' however, it does not resume its normal one-second interval movements.	The light is too weak or the manner of lighting the watch has been altered while the watch is being charged.	Place the watch where it can be exposed to an adequate light source. Make sure that the manner of lighting the watch is not altered while the watch is being charged.	P.138
		The built-in IC has fallen into an unstable condition.	Reset the built-in IC.	P.190

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Troubleshooting (continued)

Troubles		Possible causes	Solutions	Ref. page
Incorrect display of time, misalignment of the hands of the main watch	The watch temporarily gains or loses time.	The watch receives a wrong radio signal because of a result of influence of various external sources.	1) Place the watch where it can receive radio signals more easily. 2) Conduct the manual reception if necessary.	P.130 P.144
		The watch has been left in extremely high or low temperatures for a long time.	1) When the watch returns to normal temperature, the condition will be corrected. 2) Conduct the manual reception if necessary. 3) If the watch hands are not set to current time even after conducting the manual reception, consult the retailer from whom the watch was purchased.	— P.144 —
	The time displayed on the watch is several hours before or ahead of the current time.	The watch is used in a place that does not belong to the selected time zone.	Select the time zone that represents the place where you wear the watch.	P.112
	The reception result display confirms successful reception but the incorrect time is displayed.	The hand positions deviate to display incorrect time as a result of influence of various external sources. The preliminary positions of the hands go out of alignment. P.152	1) Automatic hand alignment will be activated to correct the hand positions. Use the watch as it is.	P.152
	The second hand is not correctly positioned in the reception result display or reception level display.	The second hand is out of preliminary position. This happens when the position of the second hand deviates to display incorrect time as a result of influence of various external sources. P.152	2) If the second hand position cannot be corrected after resetting the preliminary position, reset the built-in IC. 3) If problem still persists, consult the retailer from whom the watch was purchased.	P.190 —

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Troubleshooting (continued)

Troubles		Possible causes	Solutions	Ref. page
Misalignment of the date	The reception result display confirms successful reception, and the correct time is displayed, but the wrong date is displayed.	The date is out of preliminary position. This happens when the date is out of preliminary position as a result of influence of various external sources or after the built-in IC is reset.	Check if the date is set to the correct preliminary position. If not, correct the preliminary position for date.	P.154
Misalignment of the day	The reception result display confirms successful reception, and the correct time is displayed, but the wrong day is displayed.	The day is out of preliminary position. This happens when the day is out of preliminary position as a result of influence of various external sources or after the built-in IC is reset.	Check if the day is set to the correct preliminary position. If not, correct the preliminary position for day.	P.154
Wrong display of the sub dial	The sub dial is set to the time shown by the main watch, but the sub dial displays the wrong time.	There is no preliminary setting mode for sub dial. This happens when the hands of sub dial are out of alignment as a result of influence of various external sources.	Reset the time for sub dial.	P.122
Operation	The crown or buttons cannot be operated.	The stored electric power is running short. Date and day are moving right after a setting is carried out by the crown or button operation.	Sufficiently charge the watch until it starts moving at one-second intervals. Wait for a while without doing anything.	P.122 —
	You get lost in the middle of the operation.	-----	Leave the watch as it is for a while. The watch resumes regular movement. If the crown is pulled out, push it back in. After a while, carry out the setting procedures again from the beginning.	—
Others	Blur on the dial glass persists.	Small amount of water has got inside the watch due to deterioration of the gasket, etc.	Contact the retailer from whom the watch was purchased.	—

* For the solution of troubles other than the above, consult the retailer from whom the watch was purchased.

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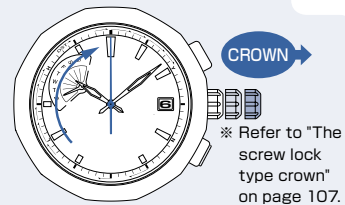
Abnormal display or improper function

● How to reset the built-in IC

When the watch shows an abnormal display or does not properly function, or does not move at one-second intervals even after being sufficiently charged, follow the instructions below to reset the built-in IC. Then the watch will resume its normal operation.

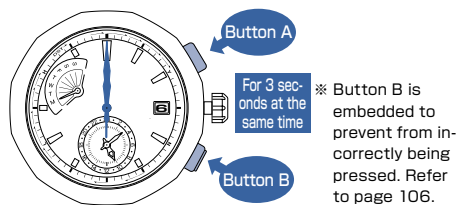
① Pull out the crown to the second click.

▶ The second hand rotates and stops pointing to the 0 second position.



② Keep pressing both Button A and B for 3 seconds at the same time.

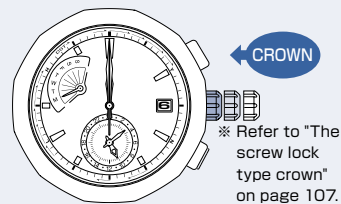
▶ After the second hand rotates a full circle, the hour and minute hands advance rapidly until they point to the 12 o'clock position and stop.



The date and day remain unchanged.

③ Push the crown back to complete.

▶ The watch immediately starts moving.



After the built-in IC is reset, the watch is set to the time zone "TOKYO."

④ Make sure to carry out the following operations after resetting the built-in IC

1. Set the preliminary positions of the date and day. Refer to "How to correct the preliminary positions" on page 154.

2. Conduct manual reception. (Manually receive the radio signals) Refer to "Manual reception" on page 144.

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Specifications

1. Main functions Main watch with 3 hands (Hour, Minute and Second hands), Date display, Retrograde day indicator, Sub dial with 2 hands (Hour and Minute hands)
2. Frequency of crystal oscillator 32,768 Hz (Hz = Hertz ... Cycles per second)
3. Loss/gain (monthly rate) Less than 15 seconds (If time setting by automatic radio signal reception is not conducted and the watch is worn on the wrist within normal temperature range between 5°C and 35°C)
4. Operational temperature range Between -10°C and +60°C
5. Driving systems Step motor (hour and minute hands)
Step motor (second hand)
Step motor (date, day and hour and minute hands for sub dial)
6. Duration of operation Approximately 9 months (Fully charged, the Power Save not activated)
※ If fully charged and the Power Save is activated, the watch continues to run for approximately two years
7. Time setting by receiving the radio signal Automatic reception (at 2:00 AM, 3:00 AM and 4:00 AM, attempts of reception depends on radio wave receiving conditions)
※ After having received the radio signal, the watch moves depending on the quartz movement until the next reception.
8. IC (Integrated Circuit) Oscillator, frequency divider and driving circuit C-MOS-IC, 3 pieces
※ The specifications are subject to change without prior notice for product improvements.

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全国共通フリーダイヤル 0120-612-911

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