CSB7X52-1208

SEIKO

ASTRON
GPS
SOLAR

7X52 GPS SOLAR
基本操作マニュアル
Basic Manual

SEIKO WATCH CORPORATION

Printed in Japan

English

CONTENTS

English

Features

This is a GPS* solar watch.

This watch has the following features.

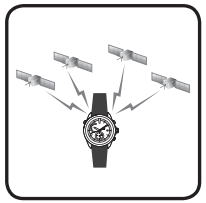
* GPS is an abbreviation for Global Positioning System.

This watch can be set to the precise local time by just one button operation anywhere in the world.

This watch quickly adjusts the time by receiving GPS signals from GPS satellites.
This watch responds to a total of 39 time zones around the world.

When the region or time zone where the watch is used is changed, please carry out operation of "time zone adjustment."

→ How to adjust the time P.40

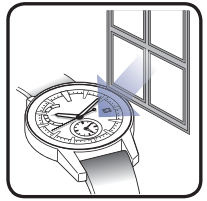


This watch operates by solar charging.

Expose the dial to light to charge the watch.
Once fully charged, the watch runs for approximately six months.

When the energy stored in the watch runs out completely, it takes time to fully charge the watch, so please keep in mind to charge the watch regularly.

→ How to charge the watch P.37
→ Standard charging time P.37



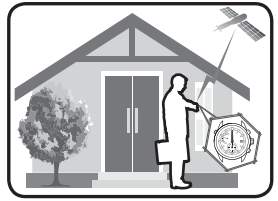
This watch automatically adjusts the time in accordance with action patterns during use.

When the watch has sensed sufficient brightness under an open sky, it automatically receives GPS signals from GPS satellites. This function enables the watch to automatically adjust the time precisely even while you are using the watch.

→ Automatic time adjustment P.46

* This watch is unable to receive GPS signals when the energy stored in the watch is low.

→ Check the Charging Status P.36



※ Unlike navigation equipment, this GPS solar watch is not designed to constantly receive GPS signals from GPS satellites without any operation.This watch receives GPS signals only in the time zone adjustment mode, automatic or manual time adjustment mode.

English

The following functions are included

When the region or time zone where the watch is used is changed

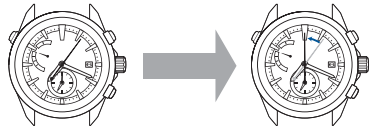
Adjust the time zone.
The watch displays the precise local time.

→ Time zone adjustment P.39

To set only the time

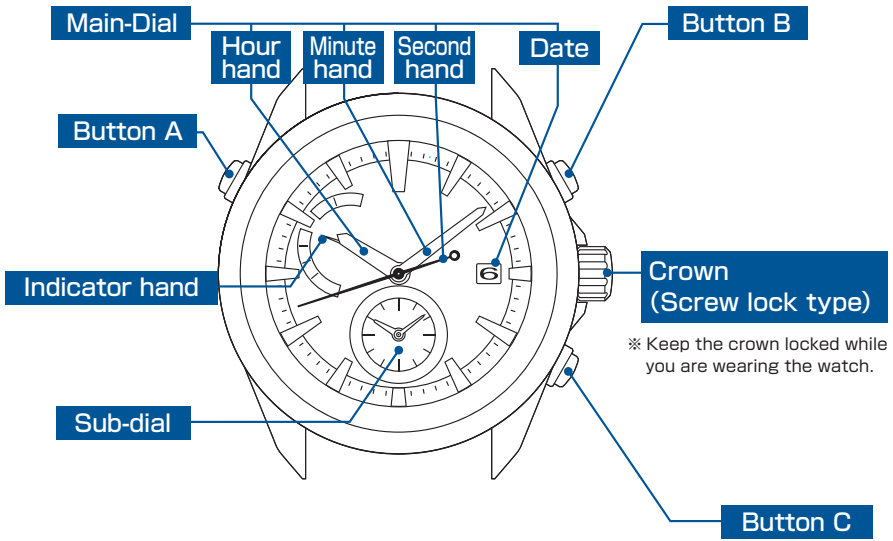
The watch displays the precise time of the time zone that is set by operation of "manual time adjustment."

→ How to manually adjust the time P.45
→ Check the time zone setting P.40



English

Names of the parts



Continued on the following page

English

Indicator hand display and reception result display

Display of charging status

Hand position	F (full)	Level position (middle)	E (low)
Display			

Check the charging status. → P.36
How to charge the watch → P.37

Display of in-flight mode (✈)

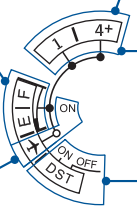
Hand position	In-flight mode (✈) status	Reset in-flight mode (✈) ※It is displayed only while the in-flight mode is set.
Display		

In-flight mode(✈) → P.42

Display of Daylight Saving Time (DST)

Hand position	ON	OFF
Display		

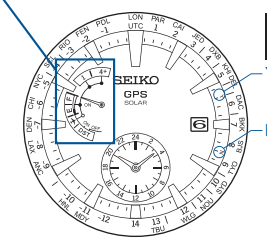
Check Daylight Saving Time (DST) → P.41
Set Daylight Saving Time (DST) → P.41



Display of receiving process

Receiving process	1 (time adjustment)	4+ (time zone adjustment)	Receiving leap second data
Display			

Check the reception result → P.47 Automatic time adjustment → P.46
Manual time adjustment → P.44～45 Receive leap second data → P.48
Time zone adjustment → P.39～40



Display of reception result

Y ··· Reception successful (12-sec position)
N ··· Reception failed (18-sec position)

【Checking the reception result】 → P.47

※ Position of each display may differ depending on the model (design).

Continued on the following page

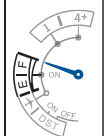
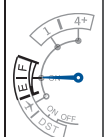
Check the charging status

The indicator hand position shows whether this watch is able or unable to receive GPS signals. In addition, for the low charging state, the movement of the second hand shows the energy depletion state in further detail.

＊GPS radio signal reception requires a lot of energy. Keep in mind to regularly charge the watch by expose to light.
→ About charging P.37

Reception is allowed

Reception is not allowed

Indicator display	Charging status	Solution
	F (full)	Reception is allowed.
	Level position (middle)	Reception is allowed, but keep in mind to charge the watch.

Indicator display	Movement of second hand	Charging status		Solutions
	One-second interval movement 	E (low)	The watch is unable to receive GPS signals, but has energy to operate.	Charge the watch at least until the indicator hand points to the level position so that the watch is able to receive GPS signals.
	Two-second interval movement 		The watch is unable to receive GPS signals, and does not have energy to operate. (The energy depletion forewarning function is activated. → P.49)	Continue to charge the watch at least until the indicator hand points to the level position so that the watch is able to continuously operate and receive GPS signals.
	Five-second interval movement 			
	—	The charging status is not displayed for the in-flight mode (✈)		Reset the in-flight mode (✈) as long as possible. → Reset the in-flight mode (✈) P.42 When the indicator hand points to "E," charge the watch following the above.

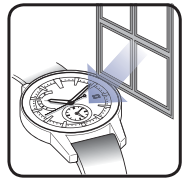
Continued on the following page

About charging

How to charge the watch

Expose the dial to light to charge the watch.

Under the following situations, the energy of the watch is likely to be depleted, resulting in stoppage of the watch.
- The watch is concealed under a sleeve.
- The watch is used or stored under conditions where it cannot be exposed to light for a long time.



To ensure optimal performance of the watch, make sure that the watch is kept sufficiently charged at all time.

※When charging the watch, make sure that the watch is not heated to a high temperature. (The operational temperature range is between -10 ℃ and + 60 ℃.)

※When first using the watch or starting to use the watch after it has stopped because of the energy depletion, sufficiently charge the watch referring to the table on the page below.

Standard Charging Time

For an approximate time required to charge the watch, refer to the table at the right.

GPS signal reception consumes a lot of energy. Keep in mind to charge the watch by expose to light so that the indicator hand points to the "level position (middle)" or "F (full)." (If the charging status is displayed as "E (low)," the reception will not start even with operation of GPS signal reception.) → Check the charging status. P.36

Illumination lx (LUX)	Light source	Condition (Example)	From the state where the watch is stopped (not charged)		In the state where the hand moves (the watch is charged)
			To fully charged	To 1sec Interval movement is secured	To move for 1day
700	Fluorescent light	General offices	–	–	6.5 h
3000	Fluorescent light	30W 20cm	530 h	32 h	1.4 h
10,000	Sunlight Fluorescent light	Cloudy day 30W 5cm	135 h	5 h	22 min
100,000	Sunlight	Sunny day(Under the direct sunlight on a summer day)	65 h	1.5 h	6 min

The figures of "Time required for charging the watch to start moving at 1-sec intervals" are estimations of time required to charge the stopped watch by exposing it to light until it moves at steady 1-sec intervals. Even if the watch is partially charged for a shorter period, the watch will resume 1-sec interval movement. However, it may shortly return to 2-sec interval movement. Use the charging time in this column as a rough guide for sufficient charging time.

※ The required charging time slightly varies depending on the design and the dial color of the watch.

Continued on the following page

English

English

Place where GPS signals can be easily received/Place where GPS signals cannot be received

There are places where GPS signals can be easily received and places where GPS signals cannot be received.

○ Easy to receive

・Outdoors under an open sky with good visibility

△ Difficult to receive

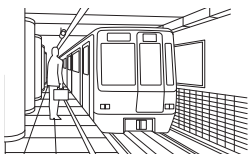
・The smaller the sky, the more difficult it is to receive GPS signals. In addition, it will also be difficult to receive GPS signals, if there is something that obstructs the GPS signals during reception (in particular, during time zone adjustment).

Examples:

- ・Between tall buildings
- ・Near wooded area
- ・Station/Airport
- ・Indoors with windows
  - ※ Radio signals cannot be received depending on window glass type. Refer to the "× Cannot receive."

× Cannot receive

・The sky cannot be seen or only part of the sky can be seen.
・There is something hindering the reception.



Examples:

- ・Indoors without windows
- ・Underground
- ・During passage of a tunnel
- ・Through special glass with thermal emission shield effect, etc.
- ・Close to equipment generating noise or performing wireless communications

English

Time Zone Adjustment (When the region or time zone where the watch is used is changed)

■ Time zone adjustment

The time zone where you are is localized to adjust the watch to the precise current time by receiving GPS signals.

→ How to adjust the time zone P.40

※Failure or success of reception depends on the reception environment. → Place where GPS signals can be easily received/Place where GPS signals cannot be received P.38
※Even when the reception is successful, Daylight Saving Time (DST) cannot be automatically set. Set DST manually. → Set Daylight Saving Time (DST) P.41
※GPS signal reception consumes a lot of energy.
Keep in mind to regularly charge the watch by expose to light so that the indicator hand points to the "level position (middle)" or "F (full). If the charging status is displayed as "E (low)," the reception will not start even with operation of GPS signal reception.

Precautions on time zone adjustment

If the time zone is adjusted near a time zone boundary, the time of the adjacent time zone may be displayed.
In some areas the boundaries observed by the watch may not exactly correlate to the actual time zone markers on the land.
This does not indicate a malfunction.
In this case, set the time zone in the manual time zone setting mode.

→ How to manually set the time zone P.43

When the time zone is adjusted while traveling on land, avoid time zone boundaries to carry out time zone adjustment in the representative cities in the time zone whenever possible.
In addition, when the watch is used near time zone boundaries, make sure to check the time zone setting, and manually set the time zone as necessary.

Continued on the following page

English

How to adjust the time zone

1

Move to the outdoors under an open sky with good visibility where GPS signals can be easily received.

2 Continue to press Button B (6 sec), and then release it when the second hand moves to the 30-sec position.

※ Although the second hand moves to the 0-sec position 3 sec after pressing Button B, continue to press it.

When the second hand has reached the 30-sec position, reception is started. The indicator hand points to "4+.

※ While the indicator hand points to "E" or ✈ reception is not started even with operation for reception.
When the hand points to "E," charge the watch by expose to light.
When the hand points to ✈ reset the in-flight mode (✈).
→How to reset in-flight mode (✈) P.42

3 Direct the watch face upward and wait

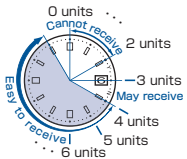
※Please note that it may be difficult to receive GPS signals while you are in motion.

It takes a maximum of 2 min to complete reception.

※ It depends on the receiving conditions.

<Display during reception>

The second hand indicates ease of receiving (= number of GPS satellites from which GPS signals are received).



※Even when the hand points to 4 units or more, reception may not be allowed.

※To cancel the reception, press Button A.

4 When the second hand points to "Y" or "N," reception is completed.

The reception result is displayed for 5 seconds. Then, the hour and minute hands move, and the time and date are adjusted.

Reception result display	Y: Successful	N: Failed
Display		

Check that the reception is successful after the watch returns to the time display mode.
→Check that the reception was successful P.35

Check the time zone setting.

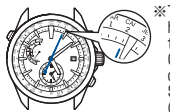
The currently set time zone is displayed for 5 seconds.

1 Press Button C once and then release it

※By continuing to press Button C, the watch enters operation of the manual time zone setting.

2 Check the time zone setting (within 5 seconds)

The second hand indicates the currently set time zone.
[Example] Time zone setting: +2 hours CAIRO



※The indicator hand indicates the ON/OFF setting of Daylight Saving Time (DST).

※After 5 sec have elapsed or when Button A is pressed, the watch returns to the time display mode.

※To change the time zone setting

- When you are in a place where GPS signals can be easily received
→How to adjust the time zone P.40
- When you are in a place where GPS signals cannot be received
→How to manually set the time zone P.43

English

Set Daylight Saving Time (DST)

Daylight Saving Time (DST)

Depending on the area, Daylight Saving Time (DST) is individually set.
Daylight Saving Time means summer time, which is a system to lengthen daylight time by advancing 1 hour when daylight time is long 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.
※Daylight Saving Time is subject to change owing to circumstances of the country or region.

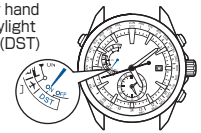
Check Daylight Saving Time (DST) setting

Daylight Saving Time (DST) setting is displayed for 5 seconds.

1 Press Button A once and then release it

2 Check Daylight Saving Time (DST) setting (within 5 seconds)

The indicator hand indicates Daylight Saving Time (DST) setting.
[Example] DST setting: ON



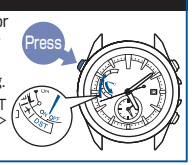
※After 5 sec have elapsed or when Button A is pressed, the watch returns to the time display mode.

Turn ON Daylight Saving Time (DST)

※ON/OFF of the DST is not automatically changed over even with operation of time zone adjustment/manual time zone setting.When traveling to a region where Daylight Saving Time (DST) is not adopted from a region where it is adopted, turn off the DST setting.

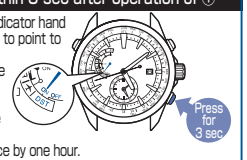
1 Press Button A

The indicator hand moves to indicate the current DST setting.
<When DST setting is OFF>



2 Continue to press Button C (3 sec) within 5 sec after operation of ①

The indicator hand moves to point to "ON," and the hour and minute hands advance by one hour.



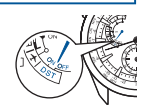
3 When the hour and minute hands stop moving, the DST setting mode is automatically completed after approximately 5 sec.

The watch returns to the time display mode.
The indicator hand returns to display the charging status.

※The time at which the watch returns to the time display mode varies depending on the position of the indicator hand.
※The watch returns to the time display mode even by pressing button A within 5 sec after the hour and minute hands stop moving.

Turn OFF Daylight Saving Time (DST)

Carry out operation of ① to ③ in the state where Daylight Saving Time (DST) setting is ON.
In operation of ②, adjust the indicator hand to the "OFF" position as shown in the figure at the right.
The hour and minute hands return by one hour.



English

In-flight mode (✈) (When boarding)

In-flight mode (✈)

Set to the in-flight mode (✈) where the reception may influence operation of other electronics devices in an airplane, etc.
In the in-flight mode (✈) the GPS signal reception (time zone adjustment, manual time adjustment, and automatic time adjustment) does not work.

< In-flight mode (✈) >
The indicator hand points to ✈

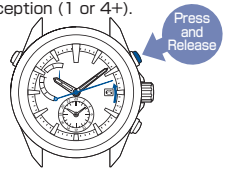
※When the in-flight mode (✈) is reset, the indicator hand indicates the charging status.

Set to the in-flight mode (✈)

※When 5 seconds or longer have elapsed after operation of ①, the watch automatically returns to the time display mode. When the watch returned to the time display mode, restart operation from ①.

1 Press Button B and then release it.

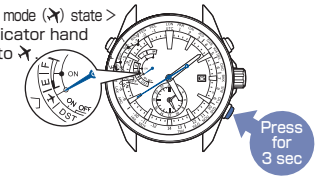
The second hand indicates the reception result (Y or N), and the indicator hand points to the type of reception (1 or 4+).



2 Continue to press Button C (3 sec) within approximately 5 sec after operation of ①.

The second hand stops at the 40-sec position, and the indicator hand points to ✈

< In-flight mode (✈) state >
The indicator hand points to ✈



3 In-flight mode (✈) setting automatically ends after 5 sec

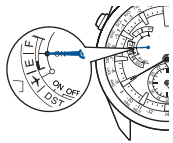
The watch returns to the time display mode.

When the in-flight mode (✈) is brought about, the indicator hand points to ✈ even after the watch has returned to the time display mode.

→ Manual time zone setting (To set the watch to the local time of the destination in an airplane, etc.) P.43

Reset the in-flight mode (✈)

Carry out operation of ① to ③.
In ②, when the indicator hand points to "● ON" in the figure at the right, the in-flight mode (✈) can be reset.



English

Manual time zone setting (To set the watch to the local time of the destination in an airplane, etc.)

Manual time zone setting

In places where the time zone cannot be adjusted, the time zone can be set manually.

※ Refer to "Set Daylight Saving Time (DST) P.41," to set Daylight Saving Time (DST).

How to manually set the time zone

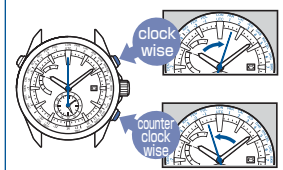
1 Continue to press Button C (3 sec), and when the second hand has stopped, release it.

The second hand moves to display the currently set time zone.

※If the time for pressing is short, the watch will enter operation for checking the time zone setting, so make certain to press the button for 3 sec.

2 Press Button B or Button C to adjust the second hand to the time zone of the destination

When the button is pressed once, the second hand moves to the next zone.



<Display of the indicator hand>
Displays ON/OFF setting of Daylight Saving Time (DST).

DST	ON	OFF
Display	ON OFF DST	ON OFF DST

※If Daylight Saving Time (DST) is not correct, change over ON/OFF with reference to "Set Daylight Saving Time (DST) P.11" after operation of ③.

3 When the hour and minute hands stop moving, press Button A

The second hand starts moving.
※During movement of the date, the buttons and crown cannot be operated.

※If the second hand is stopped for one minute or longer, the watch will automatically return to the time display mode.

English

Manual time adjustment (To set only the time)

Manual time adjustment

The watch can be set to the precise current time of the currently set time zone. (The time zone is not changed.)

→ How to manually adjust the time P.45
→Check the time zone setting P.40

※In the manual time adjustment, the precise time of the currently set time zone is displayed.
When the region or time zone where the watch is used is changed, adjust the time zone.
→ How to adjust the time zone P.40
(If the time zone is adjusted, the time zone setting, time and date will be adjusted, so it is not necessary to manually adjust the time immediately thereafter.)

※Daylight Saving Time (DST) is not automatically set. Carry out the setting manually
→ Set Daylight Saving Time (DST) P.41

※Failure or success of reception depends on the reception environment.
→ Place where GPS signals can be easily received/Place where GPS signals cannot be received P.38

※At the time when the reception was successful by manually adjusting the time, automatic time adjustment may be performed. For details, refer to "Automatic time adjustment P.46＜When it is difficult to exposure to light＞

※GPS signal reception consumes a lot of energy.
Keep in mind to charge the watch regularly by expose to light so that the indicator hand points to the "level position (middle)" or "F (full)."
(When the charging status becomes "E (low)," the reception will not start even with operation of GPS radio signal reception.) → Check the charging status P.36

English

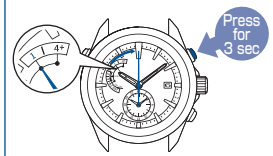
How to manually adjust the time

1

Move to the outdoors under an open sky with good visibility where GPS signals can be easily received.

2 Continue to press Button B (3 sec), and then release it when the second hand moves to the 0-sec position.

When the second hand has reached the 0-sec position, reception is started.
The indicator hand points to "1."



※While the indicator hand points to "E" or ✈, reception is not started even with operation for reception.
When the hand points to "E," charge the watch by expose to light.
When the hand points to ✈, reset the in-flight mode (✈)

3 Direct the watch face upward and wait

It takes up to 1 min to complete reception.
※The reception time depends on the reception conditions.

<Display during reception>
The second hand indicates ease of receiving (= number of GPS satellites from which GPS signals are received).

※To acquire only time information, the number of satellites necessary for reception is one.

Number of acquired satellites	1	0
Display		
State	Easy to receive	Cannot receive

※To cancel the reception, press Button A.

4 When the second hand points to "Y" or "N," reception is completed.

The reception result is displayed for 5 seconds.
Then, the hour and minute hands move, and the time and date are adjusted.

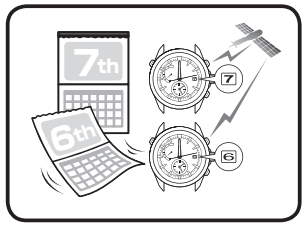
Reception result display	Y: Successful	N: Failed
Display		

Check that the reception is successful after the watch returns to the time display mode.

When the time is not correct even if "Y" is displayed, the time zone may not correspond to the region where you are.
→Check the time zone setting. P.40

English

Automatic time adjustment



This watch can be set to the precise current time by automatically receiving GPS signals by exposure to bright light outdoors under an open sky to adjust the time.
In addition, when the watch is concealed under a sleeve and the dial is not exposed to sufficient light even if outdoors under an open sky, the watch stores the time of the previous successful manual time adjustment (or time zone adjustment), and automatically starts time adjustment at the same time.

※The automatic time adjustment is performed at most one time per day. Therefore, even if automatic time adjustment has failed, the next automatic time adjustment will be performed the next day or thereafter.
※If the energy is sufficiently charged, automatic reception will be performed every day.

During reception, the hands move in the same manner as the manual time adjustment.
→How to manually adjust the time P.44~45

※The time zone is not adjusted in the automatic time adjustment.
When the region where the watch is used is changed, please carry out time zone adjustment. How to adjust the time zone P.40

< When it is difficult to expose to light sufficiently >
Even if outdoors under an open sky, when the watch is concealed under a sleeve in winter time, etc., in an area where the daylight hours are short, or when the watch is not likely to be exposed to sufficient light for a long time due to bad weather, the watch is designed to allow for automatic time reception at the time when the manual time adjustment was successful the last time.
When the watch is exposed to the operating environment above, automatic time adjustment is likely to be successful by making manual time adjustment successful in time periods where the watch is frequently used in a place where GPS signals can be easily received under an open sky.
→How to manually adjust the time P. 45

However, as the watch judges to start automatic time adjustment taking into consideration the following conditions, the watch does not necessarily start automatic time adjustment by exposure to bright light.
・Charging status
・Past reception status

※When the indicator hand points to "E (low)," or in the in-flight mode (✈), automatic time adjustment does not work.
When the indicator hand points to "E," charge the watch by expose to light.
※When the energy is reduced, the period for which automatic time adjustment is not performed becomes longer. Keep in mind to charge the watch regularly.
※If the time zone adjustment or manual time adjustment is performed before the automatic time adjustment is started, the automatic time adjustment is not performed on that day.

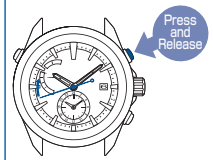
English

Reception result display (Check that reception was successful)

The type of reception and reception result (success or failure) of the last GPS signal reception is displayed for 5 seconds.

1 Press Button B once and then release it

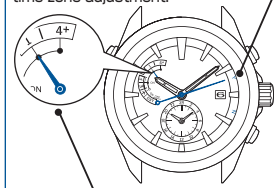
The second hand and indicator hand display the reception result.



※When Button B is kept pressed, the watch enters the Manual time adjustment operation.

2 Check that reception was successful (within 5 sec)

The second hand displays the reception result (success/failure). The indicator hand displays which of the last GPS signal reception was performed for time adjustment or time zone adjustment.



Second hand: Reception result (success/failure)

Result	Successful	Failed
Display		
Position	Y 12-sec position	N 18-sec position

Indicator hand:
Reception method (manual time adjustment or time zone adjustment)

Type	1 (Manual time adjustment)	4+ (Time zone adjustment)
Display		

※After 5 seconds have elapsed or when Button A is pressed, the watch returns to the time display mode.

※The time at which the watch returns to the time display mode varies depending on the position of the indicator hand.

When the reception result is Y

・The reception was successful.
Use the watch as it is.

When the reception result is N

・The reception has failed.
Move to the outdoors where GPS signals can be easily received as necessary to receive GPS signals.

※When approximately 5 days have elapsed after successful reception, the reception result display becomes "N."
※Even under a state where GPS signal cannot be received, the watch operates with quartz accuracy (at loss/gain ±15 seconds per month).

When the reception has failed in any way, manually set the time and date.

→How to manually set the time P.52
→How to manually set the date P.53

English

Leap second (Automatic leap second reception function)

Leap second

The leap second is to compensate for deviations from the universal time (UT) which is astronomically determined and the "International Atomic Time (TAI).
"1 second" may be added (deleted) once a year or every few years.

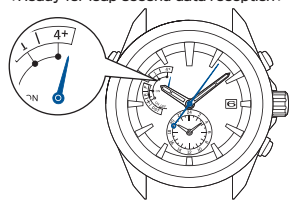
Automatic leap second reception function

A leap second is automatically added by receiving "leap second data" from GPS signals at the time of leap second addition.

※ "Leap second data" includes information about future leap second addition and current leap second data.

Reception of leap second data

<Ready for leap second data reception>



The indicator hand displays as shown at the right when GPS signals are received (time zone adjustment or time adjustment) around June or December (display of being ready for leap second data reception or receiving leap second data). At this time, the second hand points to any of the 0 to 18-sec positions to indicate the waiting time until the leap second data reception by minutes. The waiting time is subtracted for each minute, and when the second hand points to the 0-sec position, the leap second data reception is started. It is recommended you move to a place where GPS signals can be easily received.

※The position of the second hand is an indication of the time until the leap second data reception is started.
(When the second hand points to the 6-sec position, it means that the reception will be started approximately 6 sec later.)
※At this time, the second hand does not move at 1-sec intervals, however, it does not mean a failure.

The second hand moves in the same manner as the manual time adjustment during the leap second data reception.

When the leap second data reception is completed, after the reception result is displayed, the second hand starts moving at 1-sec intervals.
The indicator hand also returns to display the charging status. Use the watch as it is.

※The leap second data reception is performed every half a year regardless of leap second addition.

When GPS signals are received under the following conditions, the leap second data reception is also started.

- GPS signals are received after the system reset
- GPS signals have not been received for a long time
- Leap second data reception has failed

(Leap second data reception is performed again during the next GPS signal reception. It is repeated until the leap second data reception is successful.)

English

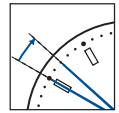
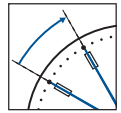
Energy depletion forewarning function (Second hand movement and watch state)

Movement of the second hand shows the state of the watch (working functions).

2-sec interval movement/5-sec interval movement are brought about

When the energy stored in the watch runs low, the energy depletion forewarning function will work.
When the energy stored in the watch runs low, charge the watch by expose to light.

※ When the energy depletion forewarning function works, the watch does not operate even with operation of the buttons and crown. (Be assured that it does not mean a failure)

	2-sec interval movement	5-sec interval movement
State	The second hand moves at 2-sec intervals. 	The second hand moves at 5-sec intervals. 
Restriction on function/display	・Reception is not started even with operation of GPS signal reception. ・Automatic time adjustment does not work.	・The hour hand, minute hand, date, and sub-dial stop. ・Reception is not started even with operation of GPS signal reception. ・Automatic time adjustment does not work.
Solution	①First, charge the watch by expose to light until the second hand moves at 1-sec intervals. ②Keep in mind to charge the watch until the indicator hand points to the "level position (middle)" or "F (full)." (If the indicator hand points to "E," GPS signals cannot be received.)	①Charge the watch until the indicator hand points to the "level position (middle)" or "F (full)." ②Carry out time zone adjustment to set the time.

Continued on the following page

English

Power save function (The second hand stops at the 15-sec position/45-sec position)

When the watch is not exposed to light for a long time, the power save function will work.

	Power Save 1	Power Save 2
State	The second hand stops pointing at the 15-sec position. 	The second hand stops pointing at the 45-sec position. 
Restriction on function/ display	・The hour hand, minute hand, date, and sub-dial stop. ・Automatic time adjustment is not performed.	・The hour hand, minute hand, date, and sub-dial stop.(Date displays "1.") ・Reception is not started even with operation of GPS signal reception. ・Automatic time adjustment is not performed. ・The indicator hand points to "E."
Cause	When the watch is exposed to a state without receiving an adequate light source for 72 hours or longer.	When the watch is in an insufficient charging state for a long time.
Solution	When the watch is exposed to an adequate light source for more than 5 seconds, or when any button is pressed, it displays the current time again after the second hand is rapidly advanced.	①Charge the watch sufficiently until the charging status is displayed as the "level position (middle)" or "F (full)." ②Carry out time zone adjustment to set the time.

Power Save 2

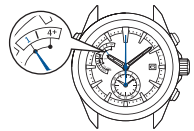
※ While the watch is being charged, the second hand moves at " 5-sec Intervals." During the "5-sec Interval Movement," neither the buttons nor the crown can be operated.

※ If the " Power Save 2" mode is prolonged, the stored power amount drops and the internal current time information stored will be lost.

The second hand stops at the 0-sec or 5-sec position (automatic time adjustment)

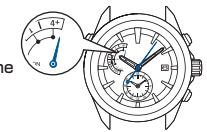
Automatic time adjustment is being performed.
The indicator hand points to "1."

It takes up to 1 min to complete reception.



The second hand is stopped between the 0-sec to 18-sec positions (Ready for leap second data reception)

The watch is ready for leap second data reception. The second hand indicates the waiting time until the leap second data reception by minutes.
→ Automatic leap second reception function P.48



English

When the watch is unable to receive GPS signals

Points to be checked

When the watch does not start receiving or is unable to receive GPS signals even with operation of GPS signal reception, the following can be considered.

●Reception is not started even with operation of GPS signal reception (time zone adjustment/manual time adjustment).
・Check the indicator hand position.

●Reception is not possible even with operation of GPS signal reception (time zone adjustment/manual time adjustment) (The reception result is displayed as "N.")
・ove to a place where GPS signals can be easily received.

●The second hand stops at the 45-sec position before the reception is completed (The watch enters the power save 2 state)
・If GPS signal reception is performed under low temperatures (0° C or less) in a state where the charging capacity and/or charging efficiency are lowered, the reception will be stopped, and the watch may enter the power save 2 state.
If this occurs frequently, consult the retailer from whom the watch was purchased.
GPS signal reception consumes a significant amount of energy. Keep in mind to charge the watch regularly by expose to light.

Reception is not allowed

Indicator display	Charging status	In-flight mode (✈)
	E (low)	
Display		
Solution	Charge the watch by expose to light until the indicator hand points to the "level position (middle)" or "F (full)."	Reset the in-flight mode (✈) → P.42

Manual time/date setting (Adjust the time under a condition in which the watch is unable to receive GPS signals)

Manual time/date setting

When a problem cannot be solved even by carrying out the "■ Points to be checked," or time is gained or lost under a condition in which the watch is unable to receive GPS signals and the watch is unable to receive GPS signals continuously, set the time and date manually.

・When using the watch again under a condition in which the watch is able to receive radio signals, receive radio signals to set the time.
・When adjusting the time, the date will be accordingly adjusted.

Continued on the following page

English

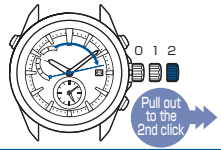
How to manually set the time

1 Unlock the crown

Unlock the crown

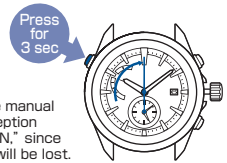
2 Pull out the crown to the second click

The second hand moves to the 13-sec position and stops.



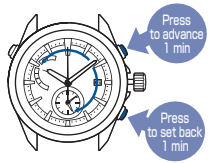
3 Continue to press Button A (3 sec) and then release it when the hand moves to the 0-sec position

The second hand moves to stop at the 0-sec position. The watch enters the manual time setting mode.



※When the watch enters the manual time setting mode, the reception result will be displayed as "N," since the reception results data will be lost.

4 Press Button B or Button C to set the time



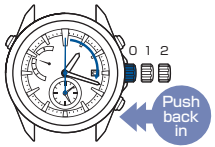
When the button is kept pressed for 2 seconds or longer, the hour/ minute hands will start to move continuously, and when it is pressed again, they stop moving.

※The hands will not move by turning the crown.

※The point in which the date changes is at 0:00 AM (12:00 PM). Set the time taking into consideration AM or PM.

5 Push the crown back (in simultaneously with a time signal)

Operation has been completed.



※Lock the crown.

While pressing the crown in

※ Even if GPS signals cannot be received, the watch can be used with the same accuracy as a normal quartz watch. (at loss/gain ±15 seconds per month on average)
※ If the watch receives GPS signals after manual time setting, it displays the received time.

English

How to manually set the date

When the date is not automatically changed under a condition in which the watch is unable to receive GPS signals (when changing from months with 30 days or less to months with 31 days), set the date manually.

- The date can be set independently regardless of the time.
- When using the watch again under a condition in which the watch is able to receive GPS signals, receive GPS signals to set the time and date.

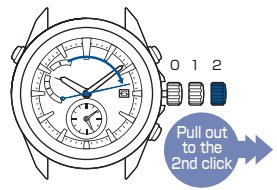
※When the date is not correct even when the watch has successfully received GPS signals, the preliminary position of the date may be misaligned.

1 Unlock the crown

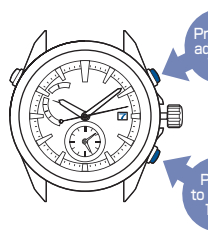
Unlock the crown

2 Pull out the crown to the second click

The second hand moves to the 13-sec position and stops.



3 Press Button B or Button C to set the date



※When the watch enters the manual time setting mode, the reception result will be displayed as "N," since the reception results data will be lost.

※The date will not move by turning the crown.

※During movement of the date, the buttons cannot be operated.

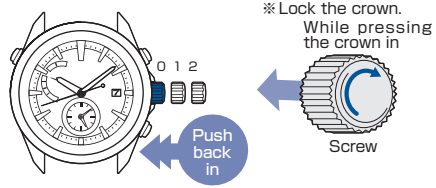
When the button B is kept pressed for 2 seconds or longer, the date will start to move continuously. Press the button B again to stop.

4 Push the crown back in

Operation has been completed.

※Lock the crown.

While pressing the crown in



English

When the time/date or indicator hand position is misaligned

Points to be checked

●Reception was successful (the reception result is displayed as "Y"), but time has gained or lost.

- Check the time zone setting. → P.40
  If the currently set time zone does not correspond to the region where you are, set the time zone by either of the following operations.
  Place where GPS signals can be easily received
  → How to adjust the time zone P.40
  Place where GPS signals cannot be received
  → How to manually set the time zone P.43
- Check Daylight Saving Time (DST) setting → P.41
  If Daylight Saving Time (DST) setting does not correspond to the addition conditions of Daylight Saving Time (DST) of the region where you are, set Daylight Saving Time (DST) with reference to "Set Daylight Saving Time (DST) P.41
- Automatic time adjustment function may not have been activated for a few days.
  → Automatic time adjustment P.46
  The automatic time adjustment function is unlikely to be activated due to low energy stored in the watch or depending on the environment. To immediately adjust the time, refer to the "How to adjust the time zone P.40.]

Preliminary position

When the watch is unable to display the precise time or date even when it has successfully received GPS signals, the preliminary position may be misaligned.

The preliminary position is misaligned due to the following reasons.

Strong impact such as dropping or hitting

Things around you which generate magnetism
→ Examples of common magnetic products that may affect watches

Automatic hand position alignment function

The hour, minute, and second hands have an "automatic hand position adjustment function," which automatically corrects an incorrect preliminary position.
The automatic hand position adjustment function is activated once a minute for the second hand and at 12:00 both for the AM and PM for the hour and minute hands.

※ This function works when the preliminary hand position is misaligned due to external factors such as strong impact or magnetic influence. It does not work to adjust accuracy of the watch or slight misalignment which may occur during the manufacturing process.
※ The preliminary positions of the hour/minute hands can be manually adjusted. → Adjust the preliminary position of the date, indicator hand, and hour/minute hands P.55

Adjusting the preliminary position of the date and indicator hand

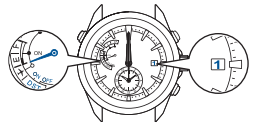
Since the preliminary position of the date and indicator hand is not automatically adjusted, it must be adjusted manually.

→ Adjust the preliminary position of the date, indicator hand, and hour/minute hands P.55

English

Preliminary position of this watch

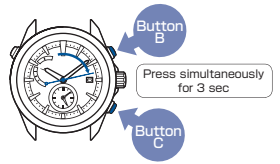
The preliminary position of the date is "1" (1st).
The preliminary position of the indicator hand is between "E" (low) and ✈.
The preliminary position of the hour/minute hands is "0:00 am."



Adjust the preliminary position of the date, indicator hand, and hour/minute hands

1 Continue to press Button B and C simultaneously (3 sec), and then release it when the second hand moves to the 13-sec position

The watch enters the mode to adjust the preliminary position of the date.
The date moves, and stops at the preliminary position.

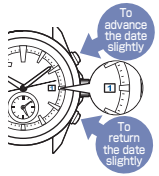


※Never pull the crown out.
※When the date is continuously stopped for 1 minute or longer, the watch returns to the time display mode. When the watch has automatically returned to the time display mode, restart operation
※During movement of the date, the buttons cannot be operated.

2 Press Button B or C to set the date to "1."

Adjust the date so that the position of "1" will locate at the center of the window.

※If "1" is displayed, go to operation of ③.



If the button is kept pressed for two seconds or longer, the date will move continuously. Press the button again to stop the date.

3 Continue to press Button A (2 sec) and release it when the second hand moves to the 55-sec position

The watch enters the mode to adjust the preliminary position of the indicator hand.

※If no operation is performed for more than 1 minute or when Button A is pressed once, the watch returns to the time display mode. When the watch has returned to the time display mode, restart operation.

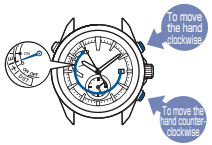
Continued on the following page

English

4 Press Button B or C to adjust the indicator hand as shown in the figure

Adjust the indicator hand to the position as shown in the figure.

※If the indicator hand points as shown in the figure, go to operation of ⑤.



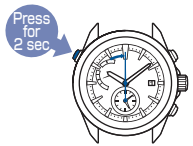
If the button is kept pressed for 2 seconds or longer, the hand will move continuously. Press the button again to stop the hand.

※The indicator hand makes one complete turn, but this does not mean a failure.

5 Continue to press Button A (2 seconds) and release it when the second hand moves to the 0-second position.

The watch enters the mode to adjust the preliminary position of the hour/minute hands.

※It the watch displays the precise time, go to operation of ⑦.



6 Press Button B once and then release it

The hour/minute hands move, and stop at "00:00 am."

7 When operation is completed, press Button A and release it

The mode to adjust the preliminary position is completed, and the second hand and the hour/minute hands start moving.

※If no operation is performed for more than 1 minute or when Button A is pressed once, the watch returns to the time display mode. When the watch has returned to the time display mode, restart operation.

English

In case of an abnormal movement (resetting the built-in IC)

In the case that the watch moves abnormally or that the watch does not move at 1-sec intervals even after fully charging the battery, perform the procedures from ① to ⑨ to re-establish normal function.

The watch can be recovered to the initial state by the system reset when trouble occurs. (② ~ ④)

After that, adjust the preliminary position of the date and indicator hand (⑤ ~ ⑨) and set the time (⑩) before use.

■ Reset the system (② ~ ④)

1 Unlock the crown

Unlock the crown

2 Pull out the crown to the second click

The second hand stops at the 13-sec position.

3 Continue to press Button A and C simultaneously for 2 sec, and then release them

When the buttons are released, the second hand makes one complete turn, and stops at the 0-sec position. After that, the hour/minute hands move and stops at 00:00.

4 When the hands stop at 00:00:00, push the crown back in

The second hand moves from 00:00:00.

※Lock the crown.

While pressing the crown in

※After the system reset, the time zone is set to UTC/LON.

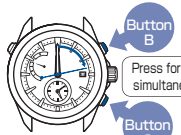
Continued on the following page

English

Set the date to "1" (1st) (⑤, ⑥)

5 Continue to press Button B and C simultaneously (3 sec) and release them when the second hand moves to the 13-sec position

The watch enters the mode to adjust the preliminary position of the date.

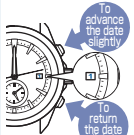


※Never pull the crown out.

※During movement of the date, the buttons cannot be operated.

6 Press Button B or C to set the date to "1"

Adjust the date so that the position of "1" will locate at the center of the window.



※If "1" is displayed, go to operation of ⑦.

If the button is kept pressed for 2 seconds, the date moves continuously. Press the button again to stop the date.

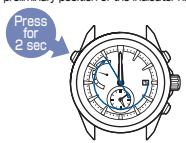
※If the date is stopped continuously for 1 minute or longer, the watch automatically returns to the time display mode. When the watch has returned to the time display mode, restart operation.

※If no operation is performed for more than 1 minute or when Button A is pressed once, the watch returns to the time display mode. When the watch has returned to the time display mode, restart operation.

Set the indicator hand to "E" (⑦ ~ ⑨)

7 Continue to press Button A (2 sec), and release it when the second hand moves to the 55-sec position

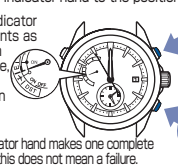
The watch enters the mode to adjust the preliminary position of the indicator hand.



8 Press Button B or C to adjust the indicator hand as shown in the figure

Adjust the indicator hand to the position as shown in the figure.

※If the indicator hand points as shown in the figure, go to operation of ⑨.

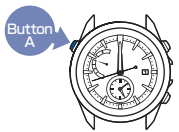


If the button is kept pressed for 2 seconds, the hand moves continuously. Press the button again to stop the hand.

※The indicator hand makes one complete turn, but this does not mean a failure.

9 When operation is completed, press Button A and then release it

The mode to adjust the preliminary position is completed, and the second hand and hour/minute hands start moving.



※If no operation is performed for more than 1 minute or when Button A is pressed once, the watch returns to the time display mode. When the watch has returned to the time display mode, restart operation.

Set the time (⑩)

10 Set the time by receiving GPS signals

After operation of ① to ⑨ is completed, make sure to set the time.

When you are in a place where GPS signals can be easily received (P. 13), adjust the time zone.
→ How to adjust the time zone P.40

If GPS signals are received after the system reset, leap second data are also received. → P.48

When you are in a place where GPS signals cannot be received
① Carry out manual time zone setting → P.43
② Manually set the time → P.52
③ Manually set the date → P.53

When the time and date are set, operation is completed.

English

SPECIFICATIONS

1.Basic function	Main-dial ; three hands (hour/minute/second hands), date display, indicator hand, sub-dial ; two hands (hour/minute hands)
2.Frequency of crystal oscillato	32,768 Hz (Hz = Hertz ... Cycles per second)
3.Loss/gain (monthly rate)	Loss / gain ± 15 seconds on a monthly rate (Except the case when the watch is used without an automatic time setting by receiving GPS signal and when it is worn on the wrist within a normal temperature range between 5℃ and 35℃).
4.Operational temperature range	Between − 10℃ and +60℃
5.Driving system	Step motor (hour/minute/second hands of main-dial, date, indicator hand, hour/minute hands of sub-dial)
6.Power source	Secondary battery, 1 piece
7.Duration of operation	Approximately 6 months (Fully charged, and the Power Save is not activated). ※ If the Power Save is activated after it is fully charged, the watch continues to run for approximately 2 years at maximum.
8.GPS signal reception function	Time zone adjustment, manual time adjustment, automatic time adjustment
9.IC (Integrated Circuit)	Oscillator, frequency divider and driving circuit C-MOS-IC, 4 pieces

※ The specifications are subject to change without prior notice for product improvement.