2503

SEIKO

ASTRON

GPS
SOLAR

3X32

HANDY MANUAL

SEIKO WATCH CORPORATION

<English>

Thank you very much for choosing a SEIKO watch.
For proper and safe use of your SEIKO watch, please read carefully the instructions in this booklet before using it.

For details, please read the
“3X32 (GPS Solar) Complete User Guide”
(https://www.seikowatches.com/global-en/customerservice/instruction/).

* Length adjustment service for metallic bands is available at the retailer from whom the watch was purchased. If you cannot have your watch repaired by the retailer from whom the watch was purchased because you received the watch as a gift, or you moved to a distant place, please contact SEIKO CUSTOMER SERVICE CENTER. The service may also be available on a chargeable basis at other retailers, however, some retailers may not undertake the service.

* If your watch has a protective film for preventing scratches, make sure to peel it off before using the watch. If the watch is used with the film on it, dirt, sweat, dust, or moisture may be attached to the film and may cause rust.

CONTENTS

1 Features

This is a GPS solar watch.

This watch has the following features.

GPS signal reception

The time on the watch can be adjusted to the current time with just one button operation*, anywhere in the world.

* DST (daylight saving time or "summer time") is set manually

This watch quickly adjusts the time by receiving GPS signals from GPS satellites. This watch responds to all the 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."

Solar charging Function

This watch operates by solar charging.

Expose the dial to light to charge the watch. The watch will operate for about 6 months on a full charge.

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.

Automatic time adjustment function

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.

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

* 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.

Standard Charging Time

Charge the watch using the times below as a guide.

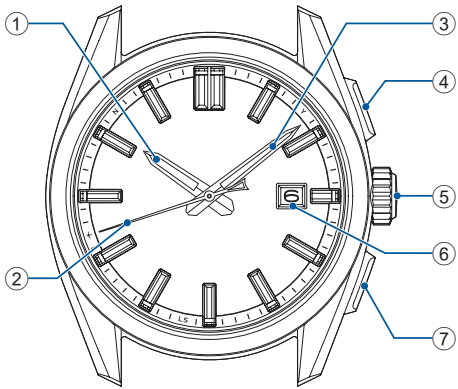
GPS signal reception consumes considerable energy. Expose the watch to light frequently, and charge the watch so that the energy level is "middle" or "full". (If the energy level is "low", reception will not begin even if GPS signal reception is operated.)

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 one-second interval movement is secured	To move for one day
700	Fluorescent light	General offices	-	-	3.5 hours
3,000	Fluorescent light	30 W 20 cm	250 hours	9.5 hours	1 hour
10,000	Sunlight Fluorescent light	Cloudy day 30 W 5 cm	75 hours	3 hours	15 minutes
100,000	Sunlight	Sunny day (Under the direct sunlight on a summer day)	30 hours	1.5 hours	10 minutes

The figures of "Time required for charging the watch to start moving at one-second intervals" are estimations of time required to charge the stopped watch by exposing it to light until it moves at steady one-second intervals. Even if the watch is partially charged for a shorter period, the watch will resume one-second- interval movement. However, it may shortly return to two-second-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 model.

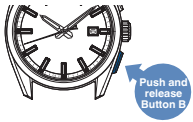
2 Names of the parts



① Hour hand
② Seconds hand
③ Minute hand
④ Button A
⑤ Crown
⑥ Date
⑦ Button B

* The orientation and design of the display may vary depending on the model.

3 Check the charging status



When Button B is pushed and released, the seconds hand moves, allowing you to check the energy level.

* The energy level is displayed in four stages.

We recommend that you check the “energy level” on a <u>regular basis to ensure that the watch does not do into a low energy state.</u>

○ Reception is allowed

Seconds hand display	Charging status	Solution
	full	Reception is allowed. Use the watch as it is.
 	middle (two levels)	Reception is allowed, but keep in mind to charge the watch.

✕ Reception is not allowed

Seconds hand display	Charging status		Solution
	low	The watch is unable to receive GPS signals, but has energy to operate.	To enable reception, charge the watch until the energy level is at least “middle”.

The movement of the seconds hand	Charging status	Solution
2-second interval movement 	The energy level is in a very “low” state. * If the energy depletion forewarning function is activated, the “charging status” cannot be displayed.	To keep the watch operating and also enable reception, continue charging the watch until the energy level is at least “middle”.
5-second interval movement 		

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

4 Time zone

Time zone

Based on Coordinated Universal Time (UTC), the standard time commonly used is adopted by countries and regions around the world.
Standard time is determined by nations and regions, with “time zone” used to refer to the whole of a region that uses the same standard time. At present, the globe is divided into 38 time zones (as of October, 2024).

DST (Daylight Saving Time)

Depending on the area, DST (Daylight Saving Time) 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.
The adoption and duration of daylight saving time vary depending on the country.

* DST (daylight saving time or “summer time”) in each region may be changed by countries and regions.

Coordinated Universal Time (UTC)

UTC is the universal standard time coordinated through an international agreement. This is used as the official time for recording time around the world. The time obtained by adding a leap second to the “International Atomic Time (TAI)” determined based on the atomic clock around the world and coordinated in order to compensate for deviations from universal time (UT) which is astronomically determined is the UTC.

5 List of time differences around the world (for reference)

This is a list of time differences around the world.
When performing manual time difference setting (selection), refer to the crown rotation direction.

DST (Daylight Saving Time) has been adopted in countries marked with a ★.
In the Lord Howe Island time zone in Australia with a ☆ mark, the time is advanced by 30 minutes while DST (Daylight Saving Time) is in effect.

Representative city names…
All global time zones

Time difference from UTC:
+14 hours ~ –12 hours

Operation of the crown when manually setting the time difference

Turning the crown to the right moves the time forward.

Turning the crown to the left moves the time backward.

City name	UTC ± hours
★London	0
★Paris/ ★Berlin	+1
★Cairo	+2
Jeddah	+3
Tehran	+3.5
Dubai	+4
Kabul	+4.5
Karachi	+5
Delhi	+5.5
Kathmandu	+5.75
Dhaka	+6
Yangon	+6.5
Bangkok	+7
Beijing	+8
Eucla	+8.75
Tokyo	+9
★Adelaide	+9.5
★Sydney	+10
☆Lord Howe Island	+10.5

City name	UTC ± hours
Nouméa	+11
★Wellington	+12
★Chatham Islands	+12.75
Nuku'alofa	+13
Kiritimati	+14
Baker Island	-12
Midway islands	-11
Honolulu	-10
Marquesas Islands	-9.5
★Anchorage	-9
★Los Angeles	-8
★Denver	-7
★Chicago	-6
★New York	-5
Santo Domingo	-4
★St. John's	-3.5
Rio de Janeiro	-3
Fernando de Noronha	-2
★Azores	-1

* Information about time differences among regions (time zones) and the implementation of DST (daylight saving time or "summer time") is as of October, 2024.

6 To adjust the time zone and time by GPS signal reception (time zone adjustment)

Time zone adjustment

The time zone where you are is localized to adjust the watch to the precise current time by just one button operation anywhere in the world.

* DST (daylight saving time or "summer time") is set manually

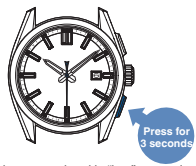
How to adjust the time zone

1 Go to a place where GPS signals can be easily received

Move to the outdoors under an open sky with good visibility.

2 Continue to press Button B (3 seconds), and then release it when the seconds hand moves to the 30-second position

When the seconds hand has reached the 30-second position, reception is started.



* If the energy level is "low", reception will not begin even if GPS signal reception is operated. Expose the watch to light to charge it.

* When the seconds hand indicates ✈, reception will not begin even if GPS signal reception is operated. Reset the in-flight mode (✈).

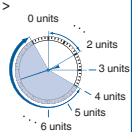
3 Direct the watch face upward and wait

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

It takes a maximum of 2 minutes to complete reception.
* It depends on the receiving conditions.

< Display during reception (= satellites acquisition status) >

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



* The larger the number of acquired satellites there are, the easier it is to receive GPS signals.

Number of satellites	Ease of reception
4 units or more	Easy to receive
3 units	May receive
0-2 units	Cannot receive

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

* To cancel the reception, press Button B.

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

The reception result is displayed for 5 seconds.
When reception was successful, the time and date will be correct. The settings for the time zone are reflected in the time that appears.

Reception result display	Y: Successful (8-second position)	N: Failed (52-second position)
Display		
State	Use the watch as it is.	

* The buttons cannot be operated while the hour, minute, and seconds hands and the date are moving.

Precautions on time zone adjustment

When time zone correction is performed near a border between time zones, the time for the neighboring time difference (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, please set (select) the time difference manually.

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. When using the watch near a time zone border, be sure to confirm the time and set (select) the time difference manually as necessary.

7 To adjust only the time by GPS signal reception (manual time adjustment)

Manual time adjustment

The watch can be set to the correct current time for the set (selected) time difference. (The time zone will not be changed.)

How to manually adjust the time

1 Go to a place where GPS signals can be easily received

Move to the outdoors under an open sky with good visibility.

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

When the seconds hand has reached the 0-second position, reception is started.

* If the energy level is “low”, reception will not begin even if GPS signal reception is operated. Expose the watch to light to charge it.
* When the seconds hand indicates ✈, reception will not begin even if GPS signal reception is operated. Reset the in-flight mode (✈).

3 Direct the watch face upward and wait

It takes up to one minute to complete reception.
* The reception time depends on the reception conditions.

< Display during reception (= satellites acquisition status) >
The seconds 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 B.

4 When the seconds hand points to “Y” or “N”, reception is completed

The reception result is displayed for 5 seconds.
When reception is successful, the time and date will be correct.

Reception result display	Y: Successful (8-second position)	N: Failed (52-second position)
Display		
State	Use the watch as it is.	

Check that the reception is successful after the watch returns to the time display mode.
When “Y” is displayed but the time is not correct, the time zone or DST (daylight saving time or “summer time”) settings may not match the current location. Perform time difference setting (selection) manually as necessary.

* The buttons cannot be operated while the hour, minute, and seconds hands and the date are moving.

8 Setting the destination time zone while in flight, etc. (manual time difference setting), and setting/resetting DST (daylight saving time or “summer time”)

About manual time difference setting (selection)

When time zone adjustment cannot be performed, the time difference can be set (selected) manually.
Using “5 List of time differences around the world (for reference)” P. 6 as a guide, the watch can be matched to the time and date of your location by setting the time difference (including the date).

How to perform manual time difference setting (selection)

1 Pull out the crown to the first click

The seconds hand will move to the 0-second position.

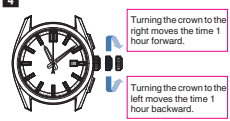
* When in-flight mode is set, the seconds hand will move to the 42-second position.

2 Turn the crown to set the watch to the time at the destination

Each turn of the crown changes the time in 1-hour increments.

* Take note of which way you turn the crown.

When the time has been set in 1-hour increments, go to operation **4**

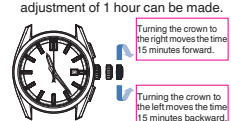


* To set the watch to the time at the destination, the time and date must be set. If you turn the crown in the wrong direction, change direction and reset the date and time.
* A date up to about 2 weeks later (or earlier) can be displayed. Note that changing the date too far will result in a date two weeks earlier (or later).

3 Pull out the crown to the second click

When setting the time in 1-hour increments does not set the correct time, continue with setting the time in 15-minute increments.

* Take note of which way you turn the crown.
* By making adjustments 4 times, an adjustment of 1 hour can be made.



* When in-flight mode is set, the seconds hand will move to the 0-second position.

4 Push the crown back in

The seconds hand returns to the time display mode.

* The buttons cannot be operated while the hour, minute, and seconds hands and the date are moving.

9 When boarding (in-flight mode (✈))

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 (✈) >
When the crown is pulled out to the first click, the seconds hand will indicate the ✈ (42-second) position.

Set to the in-flight mode (✈).

1 Pull out the crown to the first click

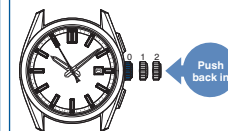
The seconds hand will move, and the currently set in-flight mode status (42-second) / reset (0-second) will be displayed.

* Take note that turning the crown at this time will perform manual time difference setting.

2 Continue to press Button B (3 seconds)

The seconds hand will move to the ✈ (42-second) position.

3 Push the crown back in



Reset the in-flight mode (✈).

Turn off the in-flight mode when leaving an airplane, etc.
If it is not turned off, the watch will not be able to receive GPS signals.
Carry out operation **1** to **3**.
In operation **2**, when the seconds hand points to the 0-second position, in-flight mode (✈) is reset.

* In operation **2**, the seconds hand shows a “0-second position” and you can see that the in-flight mode (✈) has been canceled.

10 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 (deletion).

* “Leap second data” includes information about future leap second addition and current leap second data.

Receiving leap second data

When GPS signal reception (automatic time adjustment, manual time adjustment, or time zone adjustment) is performed on or after June 1st and December 1st, leap second data may be received.

* No particular operation is required.

After the completion of time adjustment (automatic time adjustment or manual time adjustment), up to 18 minutes may be required until receipt of leap second data is complete.

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

- GPS signals have not been received for a long time
- Leap second data reception has failed
  With GPS signal reception, leap second data reception will be performed again. This will continue until leap second data reception is successful. Confirm the result (success or failure) of the leap second data reception.

11 Reception result display

Check whether the leap second data reception was successful

The results of GPS reception (time adjustment or time zone adjustment) and leap second data reception (successful / failed) are displayed for 5 seconds.

1 Press Button A once and then release it

The seconds hand displays the reception result.

* When Button A is kept pressed, the watch enters the Manual time adjustment operation.

2 The result of the reception is displayed

The seconds hand displays the result of the GPS signal reception (time adjustment or time zone adjustment).

Seconds hand: Reception result (success/failure)

Result	Successful	Failed
Display		
Position	Y: 8-second position	N: 52-second position

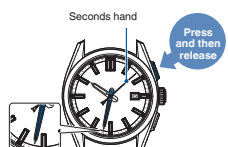
* After 5 seconds have elapsed or when Button B is pressed, the watch returns to the time display mode.

3 Press Button A and then release it while the result of the reception is displayed (for 5 seconds) in step 2

The seconds hand displays the result of the leap second data reception (successful / failed).
The minute hand moves to the 32-minute position (LS), indicating that there is a “leap second information reception result”.

Seconds hand: Reception result (success/failure)

Result	Successful	Failed
Display		
Position	Y: 8-second position	N: 52-second position



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

When the leap second data reception result is Y (successful)

- The leap second data reception was successful. Use the watch as it is.

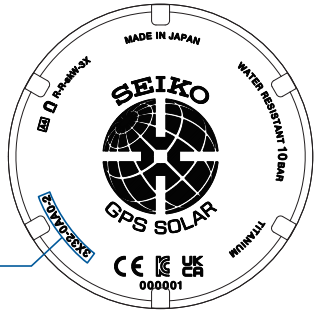
When the leap second data reception result is N (failed)

- The leap second data reception, periodically performed, has not been successful.
  It will be performed automatically with the next GPS signal reception (automatic time adjustment, manual time adjustment or time zone adjustment). Use the watch as it is.

* The leap second data is received on or after December 1st and June 1st.
* Even when the leap second data reception has not been successful, the time is correct until the leap second data is added (deleted).

12 How to check when the time zone information was configured for your watch

The case back shows the caliber-case number of your watch.



Caliber/case number
The number to identify the watch type

* Display may vary depending on the model.

By referring to caliber-case number shown on the case back, you will be able to determine when the time zone data was configured.

For more details, refer to the URL below.
https://www.seikowatches.com/global-en/customerservice/knowledge/gpstimezonedatainfo

In a region where the time zone has changed after time zone information was set on your watch, the correct time will not be displayed even if time zone adjustment is performed through GPS radio reception. Please perform the following operations to display the proper time.

<To set the time on the product in a region in which the time zone has changed>

1. Select the current time in the region, using the manual time difference setting (selection).
   If DST (daylight saving time or “summer time”) is in effect, select a time that takes that into account.
   → Please see “8 Setting the destination time zone while in flight, etc. (manual time difference setting), and setting/resetting DST (daylight saving time or “summer time”)” P. 9 for details.
2. Next, adjust the time by manual time adjustment.
   → Please see “7 To adjust only the time by GPS signal reception (manual time adjustment)” P. 8 for details.
3. When using the watch within the same time zone, the correct time will be displayed after automatic (GPS) or manual time adjustments.
4. When moving from a region where the official time zone has changed to a different time zone, then back to the region where the official time zone has changed, carry out the same operations from 1. - 3. as indicated above to display the correct time in the region where the official time zone has changed.

SPECIFICATIONS

1. Basic function	Basic watch (hour, minute, and seconds hands), date display
2. Frequency of crystal oscillator	32,768 Hz (Hz = Hertz ... Cycles per second)
3. Loss/gain (monthly rate)	Loss / gain ±15 seconds on a monthly rate (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°C and 35°C (41°F and 95°F)).
4. Operational temperature range	Between –10°C and +60°C (14°F and 140°F)
5. Driving system	Step motor type: Basic watch (hour, minute, and seconds hands), date
6. Power source	Secondary battery, 1 piece
7. Duration of operation	About 6 months (on a full charge, without power save function) * 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 * Between reception and the next reception, the watch operates with the above quartz precision
9. IC (Integrated Circuit)	Oscillator, frequency divider and driving circuit C-MOSIC, 4 pieces

* The specifications are subject to change without prior notice due to product improvements.

SEIKO

Product : GPS solar watch
Model : 3X32

TRC/SS/2018/370

CE

This product is in compliance with the essential requirements and other relevant provisions of the RE Directive (2014/53/EU)& RoHS Directive(2011/65/EU).

https://www.seikowatches.com/global-en/products/declaration-conformity

UK CA

This product is in compliance with the essential requirements and other relevant provisions of Radio Equipment Regulations 2017 & The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012.

https://www.seikowatches.com/global-en/products/declaration-conformity

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