# 製品仕様

	1. 基本機能 · · · · ·	基本時計3針(時・分・秒針)、日付表示
	2. 水晶振動数 · · · ·	32, 768Hz (Hz=1 秒間の振動数)
	3. 精度	平均月差 ±15秒以内 (電波受信による時刻修正が行なわれない場合、
		かつ気温5℃~35℃において腕に着けた場合)
	4.作動温度範囲・・	-10°C~+60°C
	5. 駆動方式・・・・・	ステップモーター式(時分針、秒針、日付)
	6. 使用電源 · · · · ·	専用二次電池:1個
	7. 持続時間 ・・・・・	約6ヶ月(フル充電で、パワーセーブが作動しない場合)
		※ フル充電をした状態からパワーセーブが作動した場合は最大約1.5年
	8. 電波受信機能·	自動受信 (午前 2 時、4 時)
		※ 受信状況によって異なる。
<b>⊭</b> 11		※ 受信から次の受信までは上記クオーツの精度で動く
設品		※ 強制受信機能付
製品仕様	9. 電子回路 · · · · ·	発振、分周、駆動、受信回路:IC 3個
様		
8		※仕様は改良のため予告なく変更することがあります。

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.

Keep this manual handy for easy reference.

% Length adjustment service for metallic bands is available at the retailer from whom the watch was purchased or 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.

Contents About Reception Conditions ..... 82 Radio Signal Reception Range ...... 98 Handling Cautions ..... To Improve Radio Signal Reception ...... 99 Display and Button Operation ...... 88 Environments in which it is Difficult to Receive a Radio Signal ··· 100 HOW TO USE BUTTONS A AND B  $\cdots\,$  90 HOW TO CHECK THE RECEPTION STATUS ... 102 CROWN ..... ..... 92 How to Display the Reception Results ··· 102 ABOUT CHARGING ..... 104 Checking the Charging Status ...... 94 How To Charge the Watch ..... 104 Checking the Time and date ...... 95 Standard Charging Time ..... 105 About Energy 106 Setting the Time and Date by Receiving a Radio Signal  $\cdots \, 96$ Energy Depletion Forewarning Function ··· 106 Mechanism of radio signal reception ...... 96 Power Save Function ...... 107

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About This Product

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# **Handling Cautions**

	₩ARNING
	o indicate the risks of serious consequences such as severe injuries unless the
fc	ollowing safety regulations are strictly observed.
•	Immediately stop wearing the watch in following cases. O If the watch body or band becomes edged by corrosion etc. O If the pins protrude from the band * Immediately consult the retailer from whom the watch was purchased or SEIKO CUSTOMER SERVICE CENTER.
•	Keep the watch and accessories out of the reach of babies and children. Care should be taken to prevent a baby or a child accidentally swallowing the accessories. If a baby or a child swallows the battery or accessories, immediately consult a doctor, as it will be harmful to the health of the baby or child.
•	Do not remove the secondary battery from the watch.

To indicate the risks of light injuries or material damages unless the following safety regulations are strictly observed.
Avoid wearing or storing the watch in the following places.     Places where volatile agents (cosmetics such as polish remover, bug repellent, thinners etc.) are vaporizing     Places where the temperature drops below 5 ° C or rises above 35 ° C for a long time     Places of high humidity
If you observe any allergic symptoms or skin irritation     Stop wearing the watch immediately and consult a specialist such as a dermatologist or an allergist.
<ul> <li>Other cautions         <ul> <li>Replacement of the metal band requires professional knowledge and skill. Please ask a watch retailer for replacement of the metal band, as there is a risk of hand or finger injury and fear of losing parts.</li> <li>Do not disassemble or tamper with the watch.</li> <li>Keep the watch out of the reach of babies and children. Extra care should be taken to avoid risks of any injury or allergic rash or itching that may be caused when they touch the watch.</li> <li>When disposing of used batteries, follow the instructions of your local authorities.</li> <li>If your watch is of the fob or pendant type, the strap or chain attached to the watch may damage your clothes, or injure the hand, neck, or other parts of your body.</li> </ul> </li> </ul>

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**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.

### 

# 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.

About This Product

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Do not turn or pull out the crown when the

### watch is wet. Water may get inside of the watch.

% 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 CUSTMER SERVICE CENTER (listed on the end of a book).



Do not leave moisture, sweat and dirt on the

watch for a long time.

**∧** CAUTION

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.



About This

Product

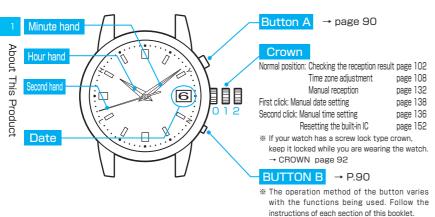
# **FEATURES**

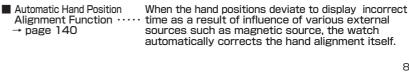
- This solar-drive and radio-controlled watch is equipped with a radio signal adjustment function The watch is operated by using "electric energy" which is converted from the light received by the solar panel underneath the dial. The watch displays the precise time by receiving radio signals conveying time information. (The watch can receive the official standard frequencies of Japan.) ■ Radio Signal Receiving Function · · · This watch adjusts the time precisely by page 96
- automatically receiving radio signals daily. In addition, radio signals can be forcibly received with manual operation. This watch can receive the official standard radio signals of Japan. Display Function of Radio Signal The movement of the second hand indicates radio signal reception results (Yes/No). **Reception Results** → page 102
- Display Function of Radio Signal The movement of the second hand indicates the Reception Level •• radio signal reception level during radio signal → page 133 reception attempts. (Only when the watch is receiving radio signals by manual operation.)

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# **Display and Button Operation**





a time zone.

Solar Charging Function · · · ·

Energy Depletion Forewarning

Power Save Function · · · → page 107

■ Time Zone Adjustment Function · · → page 108

page 104

page 106

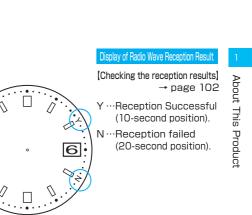
Function

### [Manual reception] → page 132

H…High reception level (50-second position)

L· ·Low reception level (40-second position) N ····Unable to receive radio signals

(20-second position)



※ Positions of each item on the dial may vary depending on the model (design)

A solar cell underneath the dial converts any form of light into electrical energy to power th watch and the power is stored in a secondary

battery. Once fully charged, the watch continues to run for approximately six months.

The movement of the second hand indicates that

The Power Save mode can be activated in order

to reduce unnecessary energy consumption when the watch is left without an adequate light source.

The watch can be set to local time in a different time zone from Japan Standard Time by selecting

the battery should be charged.

, the

About

This

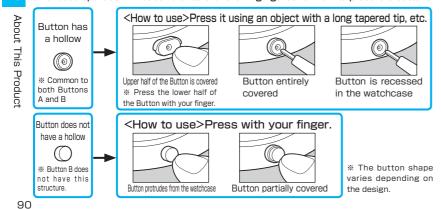
Product

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# HOW TO USE BUTTONS A AND B

Buttons A and B are recessed in the watchcase to improve the design and to prevent erroneous operation. Please refer to the following figures for how to press the buttons.



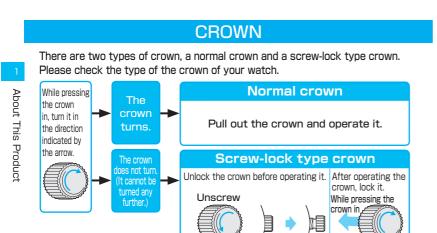
# When pressing Buttons A and B at the same time

Make sure to confirm "How to use Buttons A and B" on page 90 before pressing the buttons. First, press Button B, and press Button A while pressing Button B so as to press them successfully.

# Both Buttons A and B have a hollow Press the buttons using an object with a long tapered tip holding the About watch as shown in the figure so that the watch does not move This Product \* Press the buttons on a soft cloth or the like before operation in order to prevent damage to the watch

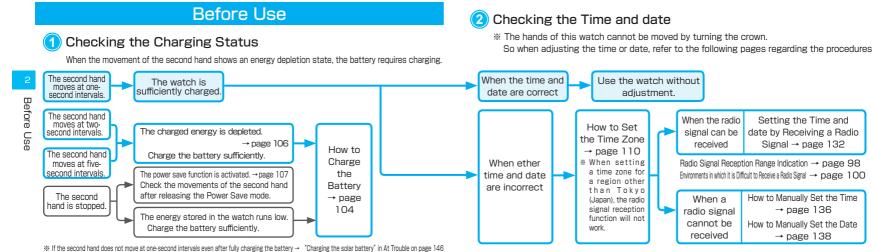
Button A does not have a hollow, and Button B has a hollow Press Button A with your finger and Button B using an object with a long tapered tip. 91

# **MEMO**



If your watch has a screw-lock type crown, the crown scree ws into the watch to prevent malfunction and increase water resistance ※ Be careful not to screw the crown in by force as it may damage the slots of the crown.

Screw

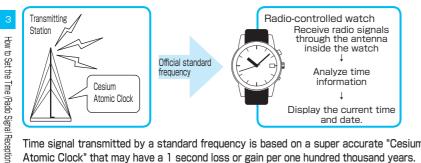


94

# Setting the Time and Date by Receiving a Radio Signal

# Mechanism of radio signal reception

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.

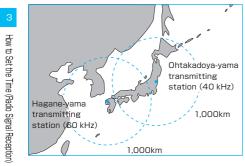


Time signal transmitted by a standard frequency is based on a super accurate "Cesium Atomic Clock" that may have a 1 second loss or gain per one hundred thousand years. 96

# About Reception Conditions

# Radio Signal Reception Range: In 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)
- % NICT: National Institute of Information and Communications Technology
- \* Whether the watch succeeds in receiving radio signals or not depends on the receiving conditions. Refer to "About reception environment" on page 100

### Automatic Reception and Manual Reception

### Automatic Reception

This watch sets the time and date by automatically receiving a radio signal at a fixed time. It automatically receives a radio signal at 2:00 AM and 4:00 AM. ※ Once the watch successfully receives a radio signal, automatic reception is terminated

 Place the watch in a place where it can easily receive a radio signal such as near a window. While the watch is receiving radio signals, do not move it. → To Improve Radio Signal Reception page 99

### Manual Reception

: the I Im In addition to the automatic reception, radio signal reception can be manually conducted as necessary at any time. → How to Conduct Manual Reception page 132

- Radio % If the time zone is set to a region other than Tokyo (Japan), the signal reception function will not work. Make sure that the time zone is set to "Tokyo (Japan)," 
  → How to Set the Time Zone page 110 Signal
- ※ Radio signal reception results depend on a receiving condition. → Environments in which it is Difficult to Receive a Radio Signal page 100 Heception
- When the watch is unable to receive radio signals outside the reception range Radio Signal Peception Range Indication page 98
  When the watch is not displaying the precise time and date even after successfully receiving a radio signal Troubleshooting. Display of incorrect time or misalignment of the hands page 148 and Misalignment of the date on page 150.

### 97

How

Betore

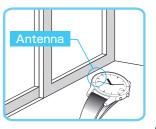
Use

95

# To Improve Radio Signal Reception

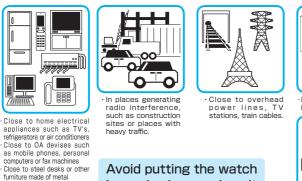
· Place the watch in a place where it can easily receive a radio signal such as near a window. The antenna is embedded at the 9 o' clock position of the watch. Turning the antenna toward the outside of a window or the direction facing transmitting stations helps improve radio signal reception. % Locations of transmitting stations → Radio Signal Reception Range Indication page 98

### Do not move the watch while it is receiving radio signals. To enhance the reception of radio signals, do not move the watch or do not change the orientation of the watch while it is receiving radio signals. \* The reception of the radio signals cannot be conducted unless the watch is still

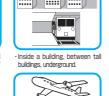


98

Environments in which it is Difficult to Receive a Radio Signal



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





Inside a vehicle, train, or

# **ACAUTION**

- 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 (loss / gain; ± 15 seconds per month on average) 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.

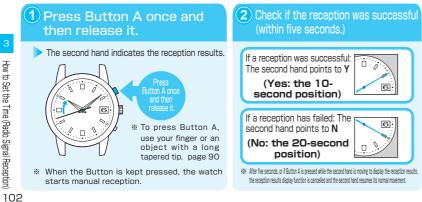
Websites of transmitting stations (as of January 2010) NICT (Japan Standard Time Group) http://www.jjy.nict.go.jp/

ire made of metal

# HOW TO CHECK THE RECEPTION STATUS

### How to Display the Reception Results

The second hand indicates the latest reception results (Yes/No) of a radio signal for five seconds



If a reception was successful: The second hand points to Y

- A radio signal has been received successfully. Use the watch without any adjustments. When the watch is not displaying the precise time even after successfully receiving a radio signal → In this case, refer to At Trouble: Misalignment of the Time and Hands on page 148 and Misalignment of the date on page 150
- If reception has failed: The Second Hand points to N.
- Place the watch in a place where it can easily receive a radio signal, or change its direction. Even within the radio signal reception range, this watch may fail to receive a radio signal depending on the condition (due to the influence of weather, geographical features, buildings, or direction). → Environments in which it is Difficult to Receive a Radio Signal on page 100. Outside of the radio signal reception range, this watch cannot receive a radio signal → Radio Signal Reception Range on page 98
- Set the watch to the time zone to Tokyo (Japan). If the time zone is set to a region other than Tokyo (Japan), the watch wi receive a radio signal. Check that the time zone is set to "Tokyo (Japan).  $\rightarrow$  How to Set the Time Zone on page 110 the watch will be unable to
- Attempt to receive a Radio Signal in a different time period (In the case of manual reception). Receiving environments differ according to time periods even at the same place. Due to radio signal characteristics, the watch is able to easily receive radio signals during nighttime hours. If the watch is used in regions or places where it is unable to receive a radio signal, or if no successful reception can be made even when following the above procedures, set the time and date manually

Signal Reception) How to Manually Set the Time on page 136 and to Manually set the Date on page 138 103

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

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.

CHECKING THE CHARGING STATUS BY THE MOVEMENT OF THE SECOND HAND" page 94

130 hours

80 hours

40 hours

15 hours

60W 60cm

General offices

30W 70cm

30W 20cm

30W 12cm

30W 5cm

Cloudy day Sunny day

(Under the direct sunlight on a summer day)

The second hand movement indicates the remaining amount of energy

\* The required charging time slightly varies depending on the model of the watch

# **ABOUT CHARGING**

Solar Charging How To Charge the Watch Expose the dial to light to charge the watch. Function



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. that the watch is kept sufficiently charged at all time. The watch is used or stored under conditions where it cannot be exposed to light for a long time

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

104

# Solar

Charging

Function

# Power Save Function

Standard Charging Time

500 Incandescent light

Fluorescent light

Fluorescent light

Fluorescent light

Fluorescent light

Sunlight

Sunlight

Fluorescent light

700

1000

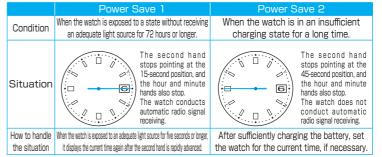
3000

5000

10000

100000





Power Save 2

While the watch is being charged, 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 2" mode is prolonged, the stored power amount drops and the internal current time information stored will be lost. When the watch returns to its normal movement of one-second interval after sufficiently charging the battery, set the current time by receiving a radio signal. (Refer to Automatic Reception and Manual Reception  $\rightarrow$  page 97) \* If the "Po

107

IIMe

Zone

Adjustment Function

How

to Set the Time

(Radio

Solar

Charging Function

105

Solar

Charging Function

7 hours

5 hours

4 hours

1.5 hours

45 minutes

15 minutes

3 minutes

15 hours

5 hours

2 hours

1 hour

30 minutes

TIME ZONE ADJUSTMENT FUNCTION (To use the watch outside Japan) Features of Time Zone Adjustment Function To display an overseas local time, set the time zone in the Time Zone Adjustment mode. The watch can be set to display an overseas local time with a time difference in one-hour offsets from Japan In the Time Zone Adjustment mode, the position of the second Zero-second position: Tokyo (Japan) hand represents the time difference from Tokyo (Japan). Hong Kong (-1) Svdnev Press the button to set the position of the second (+1)59 Paris (-8) hand that represents the desired time zone London (-9) 52 → How to Set the Time Zone page 110 Ċ 5 Ň 11 → List of Maior Time Zones Around the World 0 New York 0 page 112 (-14) 46 • 6 \* If the time zone is set to a region other than Tokyo 43 Los Angels (-17) (Japan), the signal reception function will not work. 0 Honolulu (-19)

ses indicate the time difference

# Questions and Answers Regarding Time Zone Adjustment Function

- : When the watch is returned from overseas to Japan, is the time automatically D When the watch is returned from crossesses changed to Japan time? The watch will not be automatically set to Japan time if it is just moved to Japan. When you use the watch in Japan, reset to Tokyo (Japan) time by using the "Time Tapa Adjustment Function."
- When the time zone is set to a region other than Japan, the watch will not receive a radio sig
- Q : Since the hands stop during use of the time zone adjustment function, is an incorrect time displayed?
   A : Since the internal circuit memorizes the time, the correct time is always displayed.
- Q : When a time zone for regions out of the radio signal reception range is set, the
- watch will not receive a radio signal. How is the accuracy of the watch at that time? A : The watch can be used with the same accuracy as a normal quartz watch. (Monthly average of loss / gain: ± 15 seconds)
- Can the watch be set to a local time in a region with a time difference from Japan in 15 or 30-minute offsets? Please use the manual time setting function and the manual date setting function Q
- How to Manually Set the Time page 136 and to Manually set the date on page 138

Adjustment

Time

Zone

Function



from Tokvo (Japan) in one-hour offsets. <How to read the time diffe by the position of the second hand>

About Energy

# 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

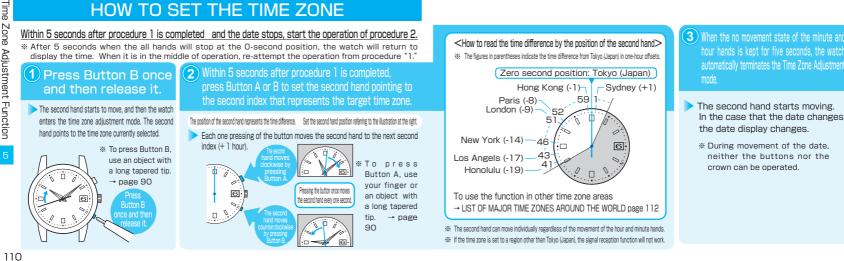
If the energy depletion forewarning function is activated, charge the watch sufficiently.

How to Charge the Watch ..... page 104 Standard Charging Time · · · · · · page 105

※ The figures in parer

- \* 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, 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 Automatic Reception and Manual Reception on page 97.)

# HOW TO SET THE TIME ZONE



_								
Time	LIST O	F MAJOR TIN	NE ZO	N	ES ARO	DUND THE W	/ORLD	
Zone	Refer to the table below to set the time zone area in the Time Zone Adjustment mode.							
	Second hand positions	Names of representative cities (Time Zone)	Time difference with Japan Standard Time		Second hand positions	Names of representative cities (Time Zone)	Time difference with Japan Standard Time	
jus	51-second position	London/UTC ★	– 9 hours		40-second position	Midway Islands	– 20 hours	
f	52-second position	Paris/Berlin ★	– 8 hours		41-second position	Honolulu	– 19 hours	
Adjustment	53-second position	Cairo ★	– 7 hours		42-second position	Anchorage ★	– 18 hours	
	54-second position	Moscow ★	– 6 hours		43-second position	Los Angels ★	– 17 hours	
Functior	55-second position	Dubai	– 5 hours		44-second position	Denver ★	– 16 hours	
ġ	56-second position	Karachi	– 4 hours		45-second position	Chicago ★	– 15 hours	
	57-second position	Dhaka	– 3 hours		46-second position	New York ★	– 14 hours	
5	58-second position	Bangkok	– 2 hours		47-second position	Santiago ★	– 13 hours	
	59-second position	Hong Kong	– 1 hours		48-second position	Rio de Janeiro ★	– 12 hours	
	0-second position	Tokyo (Japan)	± 0 hour		49-second position	(DST Rio de Janeiro)	– 11 hours	
	1-second position	Sydney ★	+1 hours		50-second position	Azores ★	- 10 hours	
	2-second position	Nouméa	+2 hours		Daylight Savin	g Time (Summer Time) is in	effect in time	

0 11 1	area in the Time Zone Adjustment mode.						
Second hand positions	Names of representative cities (Time Zone)	Time difference with Japan Standard Time					
40-second position	Midway Islands	– 20 hours					
41-second position	Honolulu	– 19 hours					
42-second position	Anchorage ★	- 18 hours					
43-second position	Los Angels ★	– 17 hours					
44-second position	Denver ★	- 16 hours					
45-second position	Chicago ★	- 15 hours					
46-second position	New York ★	- 14 hours					
47-second position	Santiago ★	- 13 hours					
48-second position	Rio de Janeiro ★	- 12 hours					
49-second position	(DST Rio de Janeiro)	- 11 hours					
50-second position	Azores ★	– 10 hours					

zones indicated with a "\* " mark.(As of January 2010) % If the time zone is set to a region other than Tokyo (Japan), the signal reception function will not work

112

0

Preserve

the

Quality of Your

Watch

3-second position | Wellington 🛧

cond position (DST Wellington)

# Daily care

### The watch requires good daily care

· Do not wash the watch when its crown is at the extended position

+3 hours

+4 hours

- 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. ※ If your watch is rated as "non-water resistant" or "water resistant for daily use," do not wash the watch. Performance and type → page 115. 115
    - Performance and type  $\rightarrow$  page Water resistance  $\rightarrow$  page 116.

### 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.)
- → page 92 Crown

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ō

Preserve the Quality of

Your Watch

Water Resistance

# Refer the table below for the description of each degree of water resistant performance of your watch before using.

(Refer to " P.115 ")

		Condition of use
No indication	Non-water resistance	Avoid drops of water or sweat
WATER RESISTANT	Water resistance for everyday life	The watch withstands accidental contact with water in everyday life.
WATER RESISTANT 5 BAR	Water resistance for everyday life at 5 barometric pressures	The watch is suitable for sports such as swimming.
WATER RESISTANT 10 (20) BAR	Water resistance for everyday life at 10(20) barometric pressures.	The watch is suitable for diving not using an air cylinder.

IIme Zone Adjustment

Function

111

Time Zone

Adjustment Function

There are time differences around the world based on "Coordinated Universal Time (UTC)." There are 24 regions (Time Zones) around the world with a time difference of one hour. This system has been adopted internationally by In addition, Daylight Saving Time (Summer Time) is individually adopted in

[What is UTC (Coordinated Universal Time)?]

setting the total time difference around the world as 24 hours.

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.

### [What is summer time (DST)?]

some regions.

Summer time is daylight saving time. Advancing the watch one hour to prolong daytime 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.

Time differences between regions and daylight saying time may change due to circumstances of a country or region % A time difference established in 15 minute or 30 minute units is adopted in very limited regions (ex. India)

113

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### Performance and type Preserve the Quality of Your Watch The case back shows the caliber and performance of your watch Water resistant performance Refer to pages 116 Magnetic resistant performance SEIKO Reter to pages 118 RADIO WAVE CONTROL SOLAR WATER RESISTANT 10BAR STAINLESS STEEL Caliber number The number to identify R2 PAN the type of your watch

\* The figure above is one example. Performance of your watch is different from above sa

# Magnetic resistance

Affected by nearby magnetism, a watch may temporarily gain or lose time or stop operating.

Indication on the case back	Condition of use
No indication	Keep the watch more than 10 cm away from magnetic products.
$\underline{U}$	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)

If the watch becomes magnetized and its accuracy deteriorates to an extent exceeding the specified rate under normal use, the watch needs to be demagnetized. In this case, you will be charged for demagnetization and accuracy readjustment even if it happens within the guarantee period. The reason why watch is affected by magnetism

The built-in balance spring is provided with a magnet, which may be influenced by a strong external magnetic field. 118

# 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.

Special clasps

120

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To Preserve

the Quality of Your Watch

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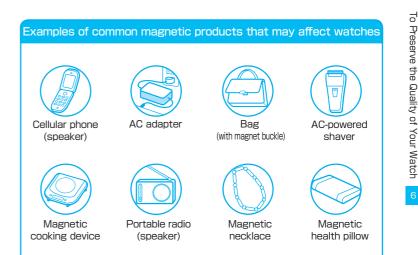
Preserve

the

Quality of

Your

Watch



Do not expose the watch to direct sunlight for a long time.

Wash out dirt in water and clean it off with a dry cloth.

the band itself.

Leather band

Polyurethane band

Notes on skin

Notes on the

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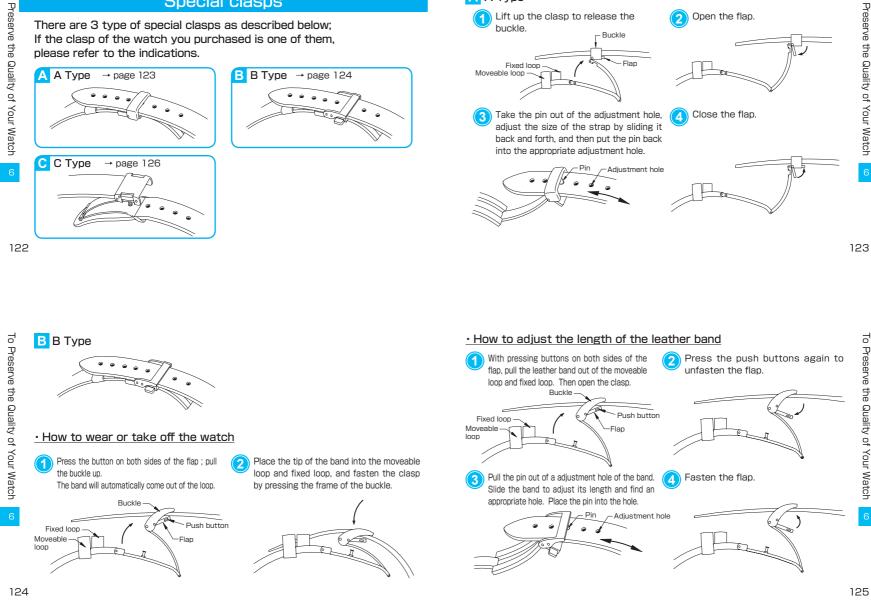
irritation and allergy

length of the band

119

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# Preserve the Quality of Your Watch

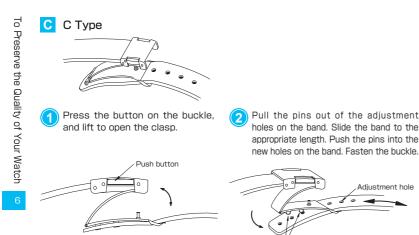


Skin irritation caused by a band has various reasons such as allergy

to metals or leathers, or skin reactions against friction on dust or

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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Preserve

the

Quality of

Your

Watch

# **Power Source**

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**

Notes on replacing the second battery

- · 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.

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Preserve

the

Quality of

Your

Watch

# After-sale service

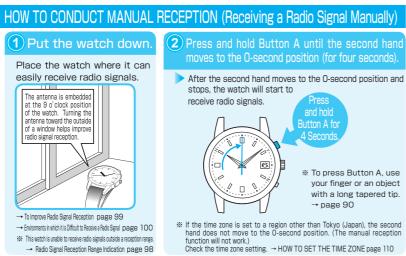
# Notes on guarantee and repair

- 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.
- For repair services after the guarantee period has expired, if the functions of the watch can be restored by repair work, we will undertake repair services upon request and payment.

### 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.

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### 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 of 3 to 5 hours. Please note, however, that, as Lumibrite emits the light is stores the luminease level of the light descence.

To be nours. Hase note, however, that, as Lumibrite emits the light it stores, the luminance level of the light decreases dually over time. The duration of the emitted light may also differ slightly depending on such factors as the ghtness of the place where the watch is exposed to light and the distance from the light source to the watch.

Cona	ILION	illumination
Sunlight	Fine weather	100,000 lux
Sumgrit	Cloudy weather	10,000 lux
Indoor (Window-	Fine weather	more than 3,000 lux
side during	Cloudy weather	1,000 to 3,000 lux
daytime)	Rainy weather	less than 1,000 lux
Lighting apparatus	Distance to the watch: 1 m	1,000 lux
(40-watt daylight fluorescent light)	Distance to the watch: 3 m	500 lux (average room luminance)
nuorescent light)	Distance to the watch: 4 m	250 lux

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Preserve the Quality of Your Watch

# \* 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 105 to check the time required for fully charging the watch

# **NOTICE**

### Notes on charging the watch

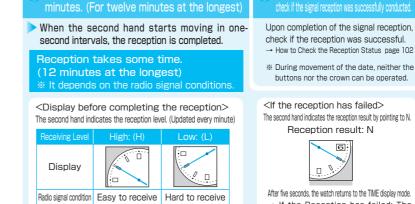
- When charging the watch, do not place the watch in close proximity to an intense light source such as lighting equipment for photography, spotlights or incandescent lights, as the watch may be excessively heated resulting in damage to its internal parts.
- When charging the watch by exposure to direct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

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### Inspection and adjustment by disassembly and cleaning (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 due to contamination of oil may advance or delay the time significantly, or the watch itself may stop. As the parts such as gasket may deteriorate, waterresistant 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 PARTS." and cleaning (overhaul), make sure that the gasket and push pin are also replaced with new ones.

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3 Leave the watch untouched for severa

\* In conjunction with the second hand movement, the minute hand advances by one minute

→ If the Reception has failed: The second hand points to N page 103 page 103

When the second hand starts moving in one-second inter

roubleshooting

Radio Signal Reception Range Indication page 98

roubleshooting

# WHEN THE WATCH IS UNABLE TO RECEIVE RADIO SIGNALS

When the watch is unable to receive radio signals, refer to the following pages for remedies

• When the watch cannot receive radio signals within the signal reception range. → AT TROUBLE Reception of a radio signal page 146 If the above remedies do not solve the problem, set the time and date referring to the "How to Manually Set the Time" and date section below.

How to Manually Set the Time → page 136 How to Manually Set the Date → page 138

\* For the signal reception range, refer to Radio Signal Reception Range Indication page 98.

- roubleshooting
  - · <u>To use the watch overseas</u>  $\rightarrow$  Time Zone Adjustment Function (To use the watch overseas) page 108.

### Radio Signal Reception Q & A

- Q: When is a radio signal received? A: A standard radio signal is transmitted nearly continuously for 24 hours, however, a radio-controlled watch does not receive a radio signal throughout the day. The watch has been set to automatically receive a radio signal a few times a day during late night when a radio signal can be stably received. When the watch is unable to receive radio signals, it can be used by quartz movement (accuracy of loss/gain:  $\pm$  15 seconds per month) as a normal quartz watch.
- Q: The time cannot be adjusted immediately after operation of manual reception. Why does it take such a long time for the watch to adjust the time.
  A: It takes 12 minutes at maximum to finish reception.
  "Time data" and "Calendar data" are transmitted by a standard frequency for one minute per one time,

oubleshooting

Q: What is the best way to receive a radio signal?
A: A standard frequency depends on the distance from each transmitting station, geography (including buildings, etc.), and weather. Ideally, place the watch at the side of a window in the direction of each transmitting station before bedtime because automatic reception is performed during late with the provide provide provide a provide night. Also, please search for a place to easily receive radio signals to attempt manual reception.

lay the watch down without operating the buttons and the crown during reception.

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How to Manually Set the Time

When the watch is used continuously in conditions in which the watch may be unable to receive a radio signal, it can be manually adjusted. → Radio Signal Reception Range

Indication page 98 When using the watch again in regions in which

the watch is able to receive a radio signal, it is recommended to perform "Manual reception."

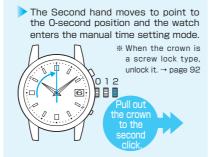
→ Automatic Reception and Manual Reception page 97

· When adjusting the time, the date will be accordingly adjusted.

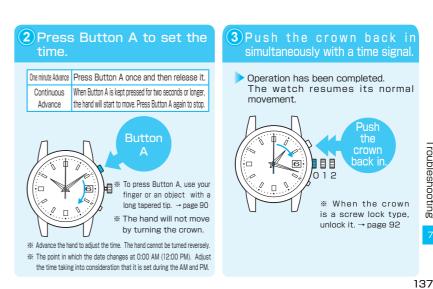
When the watch is unable to receive a radio signal it can move depending on normal quartz movement (accuracy of loss / gain:  $\pm$  15 seconds per month). \* When the watch receives a radio signal after manual

adjustment of the time, it displays the received time

# **1**Pull out the crown to the second click



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



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roubleshooting

134

# How to manually set the date

When the date is not changed due to an environment in which the watch is unable to receive a radio signal (when changing from months with 30 days to months with 31 days or less), adjust the date manually.

The date can be adjusted independently regardless of the time.

When using the watch again in regions in which the watch is able to receive the radio signals, it is recommended to perform "Manual Reception." → Automatic reception and manual reception page 97

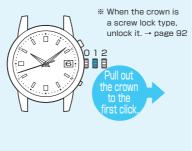
roubleshooting

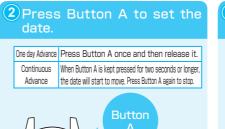
% When the watch receives a radio signal after conducting manual adjustment of the date, it displays the received date When the date is not correct even if the watch successfully receives a radio signal, the preliminary position of the date may be misaligned. etting the preliminary position for the Date  $\rightarrow$  page 141

138

# **1**Pull out the crown to the first clic

The watch enters the manual date setting mode (The watch keeps moving.)







\* Adjust the date by advancing the date. The date cannot be rev ersely moved.

# 3 Push the crown back in. Operation has been completed. .... 12 7 ush the % When the crown is



a screw lock type, unlock it. → page 92

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# **PRELIMINARY POSITION**

When the watch is unable to display the precise time or date even if it successfully receives a radio signal with the correct time zone setting, the preliminary position may be misaligned. The preliminary position may be misaligned due to the following reasons.

- In the case of having a strong impact Misalignment of the time and date may occur when dropping or hitting the watch. In the case of a magnetic influence: Misalignment of the time and date may occur when bringing the watch close to an object which generates magnetism Things around you which generate magnetism page 119
- comparing the state of "Misaligned Preliminary Hand Position" to that of a weight scale, it is like "a sc is unable to display the correct weight because its needle is not set to the zero position before weighin

Automatic Hand Position Adjustment Function (Function to automatically adjust the preliminary position of the hour and minute hands) The hour, minute, and second hands have an "Automatic Hand Position Adjustment Function," which automatically corrects an incorrect preliminary position. Automatic Hand Position Adjustment Function activates 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 deviations which may occur during the manufacturing process.

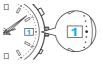
# Setting the preliminary position of the date

Since the preliminary position of the date is not automatically adjusted, it must be adjusted manually. Setting the preliminary position of the date page141 140

# HOW TO SET THE PRELIMINARY POSITION

Setting the preliminary position of the date

The preliminary position of the date is the "1st."



When the preliminary position of the date is incorrect, the correct date cannot be displayed even if the watch receives a radio signal. Loss or gain of the date can be adjusted by setting the preliminary position of the date as the "1st."

In the case that the numerical number of the date does not locate at the center of the window, it also can be corrected by the same procedures as mentioned above.

For setting the preliminary position of the date, perform the operation on the next page.

roubleshooting

### Within 8 seconds after procedure 1 is completed and the date stops, start the operation of procedure 2.

\* After 8 seconds when the all hands will stop at the O-second position. the watch will return to display the time. When it is in the middle of operation, re-attempt the operation from procedure "1."

roubleshooting

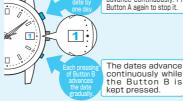
142

The watch enters the mode to adjust the preliminary position of the date. The date will start to advance and stop at the preliminary position \* Never pull the crown out. \* Refer to page 91 on 0 how to press C buttons A and B. First, press Button B, and press Button A while pressing Button B so as to press them successfully.
 Press the buttons on a soft cloth or the like before operation in soft press the buttons on a soft cloth or the like before operation

Press and hold Button A and Button B simultaneously

- in order to prevent damage to the watch \* During movement of the date, the buttons cannot be operated.





\* In order to place the date "1" at the center of the window, first stop the date when the date indicates "30" or "31". If the dates are not correctly located, press Button B to conduct a fine location adjustment, and then press Button A to place "1."

# 3After procedure 2 is untouched for 8 seconds.

The preliminary position adjustment mode will be terminated, and the second hand and date start moving.

Confirm whether the date is correct after the date stops moving.

### In the case that the time and date are not correct, adjust the time and date.

roubleshooting Adjusting the time and date by receiving a radio signal How to conduct manual reception  $\rightarrow$  page 132

When the watch is unable to receive a radio signal How to manually set the time  $\rightarrow$  page 136 How to manually set the date  $\rightarrow$  page 138

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	A	t Trouble		
	At trouble	Possible causes	Solutions	Reference pages
		If the second hand moves at two or five-second intervals	Fully charge the watch so that the second hand may move at one-second intervals.	Page 104
	The second hand moves at five-second intervals.	while you wear the watch everyday, the watch is in a condition where it cannot acquire sufficient light, for instance, the watch is concealed under a long sleeve shirt.	Be careful not to conceal the watch under a sleeve, etc., while wearing it. When taking off the watch, place it in as bright a location as possible.	
	pointing to the 15-second position started operating.	The power save function has been activated. (page 107) When the watch is not exposed to adequate light for a certain period of time, the power save function to limit energy consumption is automatically activated.	Wait until the current time is displayed. No operation is needed (this is not a malfunction.)	_
Hand Movement	The stopped second hand pointing to the 45-second	The power save function has been activated. (page 107) When the watch is not exposed to adequate light for a certain period of time, the power save function to limit energy consumption is automatically activated.	<ol> <li>Fully charge the watch so that the second hand may move at one-second intervals.</li> <li>After that, if the watch displays the incorrect time, receive a radio wave as needed.</li> </ol>	Page 104 Page 97
1	unless a button is pressed. After the rapid advancement is completed, the	The power save function has been activated. (page 107) The automatic hand position alignment function was activated. (page 140) When the hand positions deviate to display incorrect time as a result of external influences, etc., the watch automatically corrects the hand misalignment by the automatic hand position alignment function.	No operation is needed (this is not a malfunction).	_
44				

		At trouble	Possible causes	Solutions	Reference pages
		unable to receive a	The watch was moved while it was receiving a radio signal. (It takes 12 minutes at the longest to receive a radio signal successfully.)	Do not move the watch while it is receiving a radio signal. Because it takes time to receive a radio signal successfully, leave the watch untouched for 12 minutes at the longest.	Page 99 Page 133
Rec		have failed and the second hand points to N (the watch does	The watch was left where the radio signal was weak or where it was unable to receive a radio signal (page 100).	Place the watch where it is able to easily receive a radio signal.	Page 99
	-		radio signals for some reason (Transmission stop)	Check the website of each transmitting station for further information concerning a transmission stop. Attempt to receive a radio signal again after a while.	Page 101
			The watch is set to a time zone other than Tokyo (Japan).	<ol> <li>Check the time zone that the watch is currently set for, and select the time zone to Tokyo (Japan).</li> <li>When the watch is not displaying the precise time, receive a radio signal again if necessary.</li> </ol>	Page 110 Page 97
		The amount of exposed light is too weak. The time for charging the watch is not sufficient.	The time required for charging the watch depends entirely on the amount of exposed light the watch receives. Refer to "Standard Charging Time" to charge the watch.	Page 105	
sola	ar battery	ry charge the watch," however, it does not resume its normal one-second interval movements.	The built-in IC of the watch has fallen into an unstable condition.	Refer to "In Case of an Abnormal Movement" to reset the built-in IC.	Page 152

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At trouble Possible causes Solutions The watch fails to receive a radio signal correctly as 1. Place the watch where it is able to receive a radio signal more easily Page 99 2. Conduct manual reception if necessary. Page 132 a result of external influence (incorrect reception) The watch temporarily When the watch returns to a normal temperature, it will display the precise time as before.
 If the watch still gains or loses the time, conduct manual reception if necessary.
 If the watch cannot resume normal movement even after conducting the above gains or loses time. The watch has been left in an extremely high Page 132 or low temperature place for a long time. mentioned procedures, consult the retailer from whom the watch was purchased The watch displays an incorrect time The watch may be set to a time in a different Check the time zone that the watch is currently set for, and select Page 110 hour unit, even though it displays the time zone from the region where the watch is Misalignment roubleshooting the time zone to Tokyo (Japan). cise time of minutes and seconds currently used. of the time and . No crown or button operation is needed, since the automatic hand position The reception results are The hand positions were misaligned as a result of external influence. hand positions Page 140 adjustment function will be activated to align the hand positions. Automatic successful, but the precise The hands are out of the preliminary position as a result of external influence Hand Position Alignment Function activates once a minute for the second → Preliminary Position on page 140 time is not displayed. hand and at 12:00 both for the AM and PM for the minute and hour hands. Page 136 The second hand 2. If the watch still gains or loses time, refer to "In Case of an Abnormal Page 152 position is not correctly The second hand is out of the preliminary Movement" to perform procedures. aligned in "the reception position as a result of external influence. 3. If the watch cannot resume normal movement even after conducting the results display" or "the  $\rightarrow$  Preliminary Position on page 140 above mentioned procedures, consult the retailer from whom the watch was reception level display." purchased.

Troubleshooting

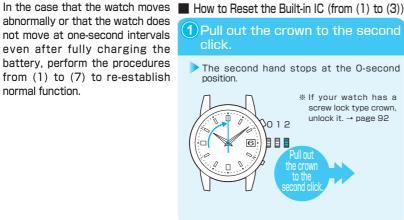
At trouble	Possible cause	Solution	Reference pages
		Set the date to the preliminary position "1" (the 1st).	Page 141
Operation You get lost in the middle of the operation.	The stored electric power is running short.	Sufficiently charge the watch until it starts moving at one-second intervals.	Page 104
	Date is moving right after a setting is carried out by the crown or button operation.	Wait without doing anything. After the date stops, the crown and buttons can be operated.	-
		<ol> <li>If the crown is pulled out, push it back in.</li> <li>The watch will resume its normal one-second interval movements within 9 minutes.</li> <li>Start the setting procedure from the beginning.</li> </ol>	-
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.	-
	The reception results are successful and the precise time is displayed, but the date is not correctly displayed. The crown or buttons cannot be operated. You get lost in the middle of the operation. Blur on the dial glass	The reception results are successful and the precise time is displayed, but the date is out of the preliminary position. This happens when the date is out of the preliminary position as a result of influence of various external sources or after the built-in IC is reset.The crown or buttons cannot be operated.The stored electric power is running short. Date is moving right after a setting is carried out by the crown or button operation.You get lost in the middle of the operation	The reception results are successful and the precise time is displayed, but the date is out of the preliminary position. This happens when the date is out of the preliminary position as a result of influence of various external sources or after the built-in IC is reset.Set the date to the preliminary position "1" (the 1st).The crown or buttons cannot be operated.The stored electric power is running short.Sufficiently charge the watch until it starts moving at one-second intervals.You get lost in the middle of the operation

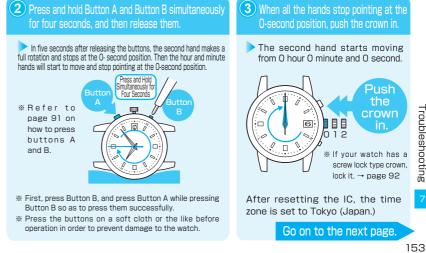
150

# IN CASE OF AN ABNORMAL MOVEMENT

abnormally or that the watch does not move at one-second intervals even after fully charging the battery, perform the procedures from (1) to (7) to re-establish normal function.



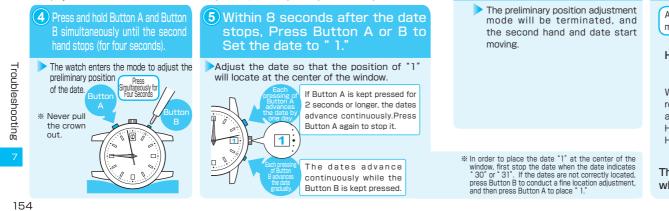




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# Setting the Date to the "1st."

Within 8 seconds after procedure 4 is completed and the date stops, start the operation of procedure 5. \* After 8 seconds when the all hands will stop at the O-second position, the watch will return to display the time. When it is in the middle of operation, re-attempt the operation from procedure "4."



### Setting the Time and Date by Receiving a Radio Signal

receiving a radio signal

### After procedure 6 has been completed make sure to set the time and date.

How to conduct manual reception → page 132

When the watch is unable to receive a radio signal, set the time and date manually. How to manually set the time  $\rightarrow$  page 136

How to manually set the date  $\rightarrow$  page 138

The operation has been completed when setting the time and date.

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Troubleshooting

# **SPECIFICATIONS**

<ol> <li>Basic feature ······Basic watch with three hands (hour, minute and second hands), date display</li> <li>Frequency of crystal oscillator ·· 32,768 Hz (Hz = Hertz Cycles per second)</li> <li>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 a radio signal and when it is worn on the wrist within a normal temperature range between 5°C and 35°C ).</li> </ol>		
4. Operational temperature range $\cdot \cdot$ Between $-10$ °C and $+60$ °C		
5. Driving systems ·····Step motor (Hour and minute hands, second hand, and the date)		
6. Power source ······Secondary battery, 1 piece		
7. Duration of operation ·· Approximately six months (Fully charged, and the Power Save is not activated).		
8. Time setting by receiving the JJY-IF radio signal • • Automatic reception (at 2:00 AM and 4:00AM)		
<ul> <li>Reception attempts depend on the radio signal receiving conditions.</li> <li>After having received a radio signal, the watch will start to move depending on the quartz movement until the next reception.</li> <li>Manual reception is also available.</li> </ul>		
9. 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 improvement.		

# 全国共通フリーダイヤル 0120-612-911

# お客様相談室

6 After procedure 2 is completed, leave

〒100-0005 東京都千代田区丸の内 3-1-1 国際ビル 〒550-0013 大阪市西区新町 1-4-24 大阪四ツ橋新町ビルディング

> セイコーウオッチ株式会社 本社 〒105-8467 東京都港区虎ノ門 2-8-10 http://www.seiko-watch.co.jp/

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