

# Operation Guide 5410

CASIO®

ENGLISH

Congratulations upon your selection of this CASIO watch.

- Note that the product illustrations in this manual are intended for reference only, and so the actual product may appear somewhat different than depicted by an illustration.
- Do not try to remove the rechargeable battery from this watch. Always be sure to request rechargeable battery replacement from your retailer. Use of a non-specified battery type and/or incorrect replacement creates the risk of burn injury and fire due to explosion, overheating, ignition, etc.

Note that CASIO COMPUTER CO., LTD. assumes no responsibility for any damage or loss suffered by you or any third party arising through the use of your watch or its malfunction.

For information about procedures and precautions, visit the website below.  
<http://support.casio.com/wat/hybrid/>

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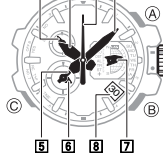
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## About This Manual

Operations are performed using the watch's crown, and the three buttons indicated by the letters (A), (B) and (C) in this manual.



### Hand Functions

- 1 Second Hand
- 2 Minute Hand
- 3 Hour Hand
- 4 Hour Hand (24-hour)
- 5 Small Minute Hand
- 6 Small Hour Hand (24-hour)
- 7 Mode Hand
- 8 Day Indicator

This User's Guide uses numbers shown above to identify watch hands and indicators.

### Hand and Date Indicator Movement

- The movement of the **2 Minute Hand** and **3 Hour Hand** of this watch are coordinated. To change the **3 Hour Hand** setting, you will need to move the **2 Minute Hand**.

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## Glossary

The following explains some of the terms used in this manual.

- **GPS (Global Positioning System)**  
A positioning system based on satellites. Signals transmitted by GPS satellites include time information and orbit information. The distances from multiple GPS satellites are used to acquire watch position information.
- **calibration signal**  
Long-wave signals emitted by transmitters set up by governments or other organizations that can be used as timekeeping reference signals. Time calibration signals include time information only.
- **time zone**  
Global zones that are used to define the standard time at a specific location. See "UTC (Universal Time Coordinated) and Time Zones" (page L-2) for more information.
- **summer time**  
A difference of one hour or 30 minutes applied to standard time during summer. The start and end of the period during which summer time is applied differs according to country and geographic region. Also, there are countries and/or regions that do not use the summer time system.
- **Home City (Time Zone)**  
The city and/or time zone whose date and time are normally displayed by a timepiece. When GPS position information is acquired, the current position's city and/or time zone is the Home City (Time Zone). See "Acquiring GPS Position Information" (page E-30) and "Configuring Home City (Time Zone) Settings" (page E-59) for more information.
- **World Time City (Time Zone)**  
The city and/or time zone whose date and time are normally displayed for World Time. See "Checking the Current Time in a Different Time Zone" (page E-48).

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## • UTC (Universal Time Coordinated)

The standard time at any particular location around the world is based on Universal Time Coordinated (UTC). UTC times are based on high-precision International Atomic Time (TAI). See "UTC (Universal Time Coordinated) and Time Zones" (page L-2).

## • leap second

There are very slight differences between UTC and TAI due to irregularities in the earth's rotation. Leap seconds are added to times to make adjustments for these differences.

## Do this immediately after purchasing your watch! (Position Information Acquisition Operation)

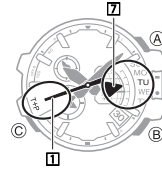
When position information is acquired successfully, the watch is able to determine its current location and adjust its time and date setting accordingly.

### Important!

- Before using the watch, check its current charge level and charge it if necessary. See "Checking the Charge Level" (page E-17).
- Perform this operation in the Timekeeping Mode (not in the Airplane Mode). See "Mode Reference Guide" (page E-42).
- It can take as long as 13 minutes for position information to be acquired.

1. Move to a location that is appropriate for GPS signal reception.
  - See "Appropriate Signal Reception Location (GPS Signal)" (page E-29).

2. Position the watch with its face pointed straight up and acquire position information.
  - Hold down **(B)** for at least three seconds until the **(1) Second Hand** moves to **T+P**. If the **(1) Second Hand** moves to any other position besides **T+P**, keep **(B)** depressed until it moves to **T+P**.
  - Successful acquisition of position information will automatically display the time and date for the resulting location.
  - In the normal (not Airplane Mode) Timekeeping Mode, the **(7) Mode Hand** indicates the current day of the week.



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- After the time and date are adjusted following a successful position information acquisition operation, you can use the watch as described under "If you normally plan to use the watch in one time zone" (page E-11).
- Position information acquisition requires large amounts of power. Perform the acquisition operation only when it is required.
- You can use the procedure under "To check receive operation results (acquisition results)" (page E-40) to check the latest position information acquisition result.

## General Daily Operation Flow

The operations described in this section are applicable following a position acquisition operation immediately after purchasing the watch.

### If you normally plan to use the watch in one time zone

Performing a GPS signal receive or time calibration signal receive operation configures time and date settings.

- If you are in a location where a time calibration signal can be received, it is recommended that you use the time calibration signal to adjust the time and date.

### Important!

- Signal reception requires large amounts of power. Be sure to keep the watch exposed to light so it can charge its battery and avoid insufficient battery power.
- Once a time calibration or GPS signal receive operation is successful, no more Auto Receive operations are performed that day.

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E-11

	Calibration Signal	GPS Signal
Evening (between midnight and 5:00 a.m.)	The receive operation starts at regular intervals until receive is successful. <ul style="list-style-type: none"> <li>• Locate the watch near a window.</li> </ul>	No auto reception (Receive using button operation possible.)
Daytime (between 6:00 a.m. and 10:00 p.m.)	No reception	The receive operation will start automatically when the watch is continually expose to light. (Receive using button operation also supported.) <ul style="list-style-type: none"> <li>• Make sure to comply with the conditions below.                             <ul style="list-style-type: none"> <li>– Move the watch outside where there is a clear view of the sky above, with no obstructing buildings, trees, or other objects.</li> <li>– Position the watch with its face pointed straight up.</li> </ul> </li> </ul>

### Important!

- The availability of time calibration signals depends on the country and/or geographic area. See "Time Calibration Signal Reception Ranges and Conditions" (page E-37).
- You can perform a button operation at any time during the day to perform a GPS time information acquisition operation and adjust the watch's time and date settings. See "Receiving GPS Time Information" (page E-34).

For details, see "Automatic Timekeeping (by GPS Signal and Time Calibration Signal)" (page E-28), "Timekeeping (by GPS Signal)" (page E-29) and "Timekeeping (by Time Calibration Signal)" (page E-36).

### Acquiring GPS Position Information after Changing Time Zones

After arriving at your destination, acquire GPS position information (page E-30).

- Time information is received along with position information.
- After the position information acquisition operation is successful, the watch will reflect your current location in its settings, and display the correct time and date for that location.



- After a position information acquisition operation is successful, you can use the watch as described under "If you normally plan to use the watch in one time zone".

### Important!

- Put the watch into the Airplane Mode (page E-45) whenever you are inside an aircraft or in any other area where radio wave reception is prohibited or restricted. After disembarking from an aircraft or leaving a restricted area, perform a position information acquisition operation to adjust the watch's time and date settings.

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## Using the Crown

This watch has a lock-type crown.

### Important!

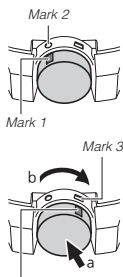
- You should keep the crown locked during normal daily use. Leaving the crown unlocked creates the risk of unintended operations or even damage due to impact.

### To lock the crown

1. Push the crown back in (page E-15).
  - Note that attempting to lock the crown when it is not pushed in can cause unexpected watch operation.
2. Rotate the crown so Mark 1 is aligned with Mark 2.
3. While pushing in on the crown (a), rotate it to the right (b) until it stops, and align Mark 1 with Mark 3.
4. Gently pull on the crown to make sure it is securely locked and does not come out.

### To unlock the crown

Rotate the crown so Mark 1 aligns with Mark 2.



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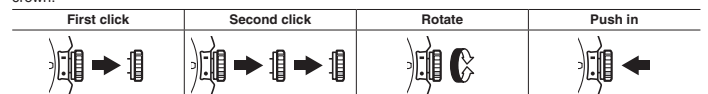
### To pull out, rotate, or push the crown in

### Important!

- Before performing any of these operations, first unlock the crown.

The illustrations below show the different crown operations.

The crown can be pulled out to one of two (click) positions. Never apply undue force when pulling out the crown.



### High-speed Movement

When setting a time or when performing home position adjustment (page E-67), you can move the hands either forward or back at high speed. There are two high-speed levels: HS1 and HS2 (faster than HS1).

### To start HS1 high-speed movement

- While the crown is pulled out, rotate it rapidly three turns away from you (for forward movement) or towards you (for reverse movement). High-speed movement will continue even if you release the crown.



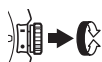
E-15

## To start HS2 high-speed movement



While HS1 high-speed movement is in progress, rotate the crown rapidly three turns again in the same direction as the current HS1 movement (away from you for forward movement).

## To stop high-speed movement



Rotate the crown in the direction that is opposite that of the current high-speed movement or press any button.

### Note

- You can use HS1 high-speed movement to perform the operations below.
  - Timer start time setting, alarm time setting, manual time setting, hand home position adjustment
- You can use HS2 high-speed movement to perform the operations below.
  - Timer start time setting, alarm time setting, manual time setting

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## Checking the Charge Level

Check the charge level by observing the **Second Hand** position immediately after entering the Timekeeping mode.

See "Mode Reference Guide" (page E-42).

12 o'clock	2 o'clock	4 o'clock	6 o'clock
The watch is charged.		Power is low. Charge the watch by placing it in a location where it is exposed to light.	

The conditions below indicate low battery power. Expose the watch to light to charge.

- Second hand jumping at two-second or five-second increments

See "Charging the Watch" (page E-22) and "Power Levels" (page E-24).

### Important!

- Even if the **Second Hand** is in the 12 o'clock (0-second) or 2 o'clock (10-second) position, it is recommended that you normally keep it exposed to light.

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## Function Limitations Due to Temperature

The functions listed below become disabled whenever the temperature of the watch is outside the approximate range of  $-10^{\circ}\text{C}$  to  $60^{\circ}\text{C}$  ( $14^{\circ}\text{F}$  to  $140^{\circ}\text{F}$ ).

- GPS signal and/or time calibration signal reception
- Operation tones, and count down timer and alarm tones
- Illumination
- Hand and Day home position correction

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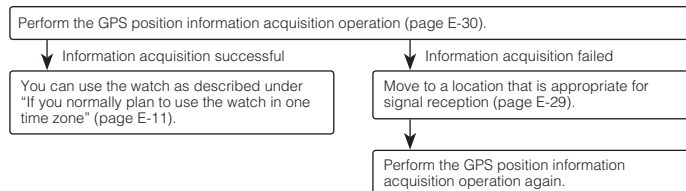
## Configuring Time and Date Settings

Perform the procedures in this section when the time and date settings of your watch are not correct.

### Important!

- Before using the watch, check its current charge level and charge it if necessary. See "Checking the Charge Level" (page E-17).

Perform this operation in the Timekeeping Mode (not in the Airplane Mode). See "Mode Reference Guide" (page E-42).



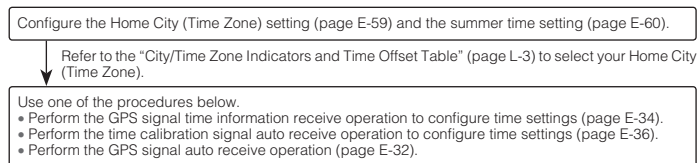
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## If the time and date settings are incorrect

If the watch's time and date settings are not correct after you finish performing the procedure above, it could mean that the watch's hands and/or date indicator positions are out of alignment. If this happens, perform the home position adjustment procedure (page E-67).

- Note that an internal decoding process the watch performs after it receives a signal may cause the time setting to be slightly off (by less than one second). Performing the home position adjustment procedure does not correct this condition.

If time and date settings still are not correct, try performing the steps below.



### Important!

- A time calibration signal can be received in specific geographic areas only. See "Time Calibration Signal Reception Ranges and Conditions" (page E-37).

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## Charging the Watch

The face of the watch is a solar panel that generates power from light. The generated power charges a built-in rechargeable battery, which powers watch operations. The watch charges whenever it is exposed to light.

### Important!

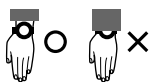
- This watch uses a special secondary battery.
  - Charging will not be possible if the watch's temperature is outside the approximate range of approximately  $-10^{\circ}\text{C}$  to  $60^{\circ}\text{C}$  ( $14^{\circ}\text{F}$  to  $140^{\circ}\text{F}$ ).
  - Over-discharge will occur if the watch is not charged within approximately three months after it stops operation due to low battery power. Charging may not be possible after over-discharge occurs. See "Power Levels" (page E-24).

## Charging Guide



Whenever you are not wearing the watch, be sure to leave it in a location where it is exposed to light.

- Best charging performance is achieved by exposing the watch to light that is as strong as possible.



When wearing the watch, make sure that its face is not blocked from light by the sleeve of your clothing.

- The watch may enter a sleep state (page E-27) if its face is blocked by your sleeve even only partially.

### Warning!

Leaving the watch in bright light for charging can cause it to become quite hot. Take care when handling the watch to avoid burn injury. The watch can become particularly hot when exposed to the following conditions for long periods.

- On the dashboard of a car parked in direct sunlight
- Too close to an incandescent lamp
- Under direct sunlight

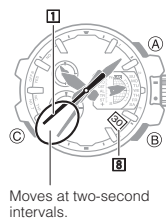
### Important!

- Keep the watch in an area normally exposed to bright light when storing it for long periods. This helps to ensure that power does not run down.
- Storing the watch for long periods in an area where there is no light or wearing it in such a way that it is blocked from exposure to light can cause power to run down. Make sure that the watch is exposed to bright light whenever possible.

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## Power Levels



You can get an idea of the watch's power level by observing the movement of the **1 Second Hand**.

- If the **1 Second Hand** is moving normally at one-second intervals, power is at Level 1.
- Low power level is indicated when the **1 Second Hand** is moving at two-second intervals (Level 2) or five-second intervals (Level 3) (Low battery alert). Expose the watch to light as soon as possible so it can charge.

Level	Hand Movement	Function Status
1	Normal.	All functions enabled
2	<b>1 Second Hand</b> moves at two-second intervals. When power drops further, the <b>1 Second Hand</b> moves at five-second intervals.	Beeper, time calibration signal reception, countdown timer operation, and home position adjustment disabled
3	All hands stopped at 12 o'clock. <b>2 Day Indicator</b> shows 1.	All functions disabled

- When power drops to Level 3, all settings (including timekeeping) will be cleared. Recharging the battery will reset all settings to their initial factory defaults, so you will need to configure settings again.
- When the watch is at Level 3, exposing it to light for a while will cause the **1 Second Hand** to move to the position of second 57. This indicates that charging has started.

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## Charging Times

Exposure Level (Brightness)	Daily Operation *1	Level Change *2		
		Level 3	Level 2	Level 1
Outdoor sunlight (50,000 lux)	8 minutes	8 hours	27 hours	
Window sunlight (10,000 lux)	30 minutes	26 hours	102 hours	
Window sunlight on cloudy day (5,000 lux)	48 minutes	41 hours	165 hours	
Indoor fluorescent lighting (500 lux)	8 hours	450 hours	---	

- \*1 Approximate exposure each day to generate power for normal daily operation.
- \*2 Approximate exposure to take power up one level.
- The above times are for reference only. Actual times depend on lighting conditions.
- For details about the operating time and daily operating conditions, see the "Power Supply" section of the Specifications (page E-78).

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## Automatic Timekeeping (by GPS Signal and Time Calibration Signal)

Time and date settings can be configured automatically by performing a GPS signal or time calibration signal receive operation.

### Important!

- Before trying to receive GPS signal time information and/or a time calibration signal, first use GPS to acquire GPS position information and configure Home Time (time zone) settings. See "Acquiring GPS Position Information" (page E-30).

Daily watch operations depend on the geographical area where it is being used.

### Areas that Support Time Calibration Signal Reception

A time calibration signal receive operation is performed between midnight and 5:00 a.m., and the time and date settings are adjusted automatically. If a time calibration signal reception is not possible for some reason, a GPS signal receive operation is performed between 6:00 a.m. and 10:00 p.m., and the time and date settings are adjusted automatically.

### Areas that Do Not Support Time Calibration Signal Reception

When a GPS signal receive operation is successful between 6:00 a.m. and 10:00 p.m., the time and date settings are adjusted automatically.

You can also use a button operation to trigger a GPS signal auto receive operation any time during the day, even if you are in an area where a time calibration signal is not receivable. See "Receiving GPS Time Information" (page E-34).

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- Indoors (Reception may be possible near a window.)
- Near wireless communication equipment or other devices that generate magnetism

## Adjusting Time Settings Immediately After Purchasing the Watch or While Traveling

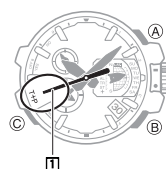
### Acquiring GPS Position Information

When position information is acquired, the watch automatically configures the Home City (Time Zone) setting accordingly. The time and date settings are also changed to correspond with the Home City (Time Zone).

- This operation requires large amounts of power. Perform it only when necessary.

Perform this operation in the Timekeeping Mode (not in the Airplane Mode). See "Mode Reference Guide" (page E-42).

- Move to a location appropriate for signal reception and orient the watch so its display is pointed straight up at the sky. See "Appropriate Signal Reception Location (GPS Signal)" (page E-29).



- Hold down **2** for at least three seconds until the **1 Second Hand** moves to **T+P**.
  - The position information acquisition operation starts when the **1 Second Hand** moves to **T+P**. Even if the **1 Second Hand** is pointed at **Y (YES)**, **N (NO)**, or **T (TIME)**, keep **2** depressed until it moves to **T+P**.

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You should charge the watch whenever the **1 Second Hand** starts to jump at one-second intervals.

### Important!

- If the **1 Second Hand** moves to 12 o'clock and stops there for some time after the watch is continuously exposed to light, it could mean that charging is not possible due to over-discharge. Contact your retailer and request replacement of the secondary battery.

### Time Until Watch Operation Stops

Following a full charge, with no more charging: Approximately seven months  
Starting from an insufficient charge: Approximately 20 days

### Power Recovery Mode

The watch is designed to go into a power recovery mode that stops hand operation temporarily whenever power suddenly drops below a certain level due to continuous signal reception, or overuse of the alarm tone over a short period or other operations over a short period. Note that all operations are disabled while the watch is in the power recovery mode.

The hands will move to the correct positions and the watch will resume normal operation after power recovers (in about 15 minutes). Putting the watch in a location where it is exposed to light will help power to recover sooner.

## Power Saving

Power Saving enters a sleep state automatically whenever the watch is left for a certain period in an area where it is dark. The table below shows how watch functions are affected by Power Saving.

- There actually are two sleep state levels: Level 1 and Level 2.

Elapsed Time in Dark	Hands and Display	Operation
60 to 70 minutes (Level 1)	Second hand stopped.	Other functions enabled.
6 or 7 days (Level 2)	All hands stopped at 12 o'clock. • Date indicator moving. • Alarm and timer beeper disabled.	Except for timekeeping, all functions disabled.

- The watch will not enter a sleep state between 6:00 AM and 9:59 PM. If the watch is already in a sleep state when 6:00 AM arrives, however, it will remain in the sleep state.
- The watch can enter a sleep state from the Timekeeping Mode only.

### To recover from the sleep state

Move the watch to a well-lit area or press any button.

## Timekeeping (by GPS Signal)

### Appropriate Signal Reception Location (GPS Signal)

Outdoors where the sky is visible and not blocked by buildings, trees, or other objects, orient the watch so its face is pointed straight up at the sky.

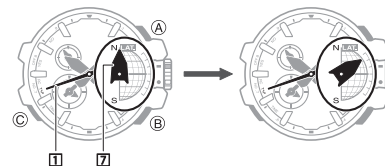


### Note

- If you experience signal reception problems, keep the watch still and point its display straight up at the sky.
- While a receive operation is being performed, take care to avoid covering the watch face with your sleeve. See "GPS Signal Auto Receive" (page E-32).

- You may experience GPS signal reception problems in the areas described below.
  - Where the view of the sky above is narrow
  - Near trees or buildings
  - Near a train station, airport, or other congested areas
- GPS signal reception is not possible in the areas described below.
  - Where the sky is not visible
  - Underground or in a tunnel

- When position information starts to be acquired from the GPS signal, the **7 Mode Hand** will start to move in a semi-circular pattern a number of times. If the acquisition operation is successful, the **7 Mode Hand** will stop at 12 o'clock and then the approximate latitude will appear on the display.



- Acquisition normally takes anywhere from about 30 seconds to two minutes. It can take as long as 13 minutes when leap second information is included. See "Leap Seconds" (page E-35).
- If the acquisition operation is successful, the **1 Second Hand** will point to **Y (YES)** and then the time and date settings will be adjusted automatically to local time.
- You can perform an operation on the watch to check the currently set Home City (Time Zone) and the approximate latitude of the location where signal receive was performed. See "To check receive operation results (acquisition results)" (page E-40).
- If the acquisition operation fails, the **1 Second Hand** will move to **N (NO)** and then normal timekeeping will resume with settings unchanged.

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**Note**

- After exiting the Airplane Mode, the watch will automatically start a position information acquisition operation when it is exposed for about one or two minutes to continuous light equivalent to the brightness near a window on a clear day anytime between 6:00 a.m. and 10:00 p.m. See "Using the Watch in an Aircraft (Airplane Mode)" (page E-45).
- You may experience location information acquisition problems when you are in the vicinity of a time zone borderline. The watch's time and date settings will not be correct if the Home City (Time Zone) that is automatically set after position information acquisition is not right for your location. Perform the position information acquisition operation in a representative city in your time zone or in a location that is well within the time zone. Or you can perform a time information receive operation to change time and date settings after configuring Home City (Time Zone) and summer time setting manually (using button and crown operations). See "To configure Home City (time zone) settings" (page E-59), "STD/DST Switching" (page E-60), and "Receiving GPS Time Information" (page E-34).

**Normal Daily Time Adjustment (GPS Signal)**

**GPS Signal Auto Receive**

GPS signal time information is received automatically in accordance with your current Home City (time zone) setting. Perform the signal receive operation in the Timekeeping Mode (not in the Airplane Mode). See "Mode Reference Guide" (page E-42).

GPS signal time information is received automatically whenever all of the conditions described below are satisfied.

- The current time is between 6:00 a.m. and 10:00 p.m.
- The face of the watch has been exposed for about one or two minutes to continuous light equivalent to the brightness near a window on a clear day.
- All time calibration signal receive operations performed during the previous night were unsuccessful.

After exiting the Airplane Mode, position information will be acquired automatically from GPS when the conditions below are satisfied.

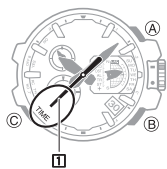
- The time is between 6:00 a.m. and 10:00 p.m.
- The face of the watch is exposed for about one or two minutes to continuous light equivalent to the brightness near a window on a clear day.
- Time information reception takes anywhere from about seven seconds to one minute. It can take as long as 13 minutes when leap second information is received.
- Position information reception takes anywhere from about 30 seconds to two minutes. It can take as long as 13 minutes when leap second information is received. See "Leap Seconds" (page E-35).
- When the receive operation is successful, the time and date settings will be adjusted automatically.
- Once a signal receive operation is successful, no more Auto Receive operations are performed that day. See "To check receive operation results (acquisition results)" (page E-40).

**Triggering an Immediate Time Adjustment Operation**

**Receiving GPS Time Information**

Perform this operation when you suspect that the time normally indicated by the watch is not correct. This operation requires large amounts of power. Perform it only when necessary. Perform this operation in the Timekeeping Mode (not in the Airplane Mode). See "Mode Reference Guide" (page E-42).

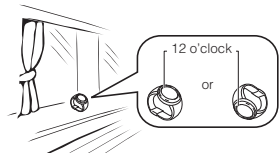
1. Move to a location appropriate for signal reception and orient the watch so its display is pointed straight up at the sky. See "Appropriate Signal Reception Location (GPS Signal)" (page E-29).



2. Hold down **[A]** for at least one second. Release the button as soon as the **[A]** Second Hand points to **T (TIME)**.
  - The time information receive operation starts when the **[A]** Second Hand moves to **T (TIME)**. Even if the **[A]** Second Hand is pointed at **Y (YES)** or **N (NO)**, keep **[A]** depressed until it moves to **T (TIME)**.
  - Reception normally takes anywhere from seven seconds to one minute. It can take as long as 13 minutes when leap second information is included. See "Leap Seconds" (page E-35).
  - If the receive operation is successful, the **[A]** Second Hand will move to **Y (YES)** and then the time and date settings will change in accordance with the Home City (Time Zone) and summer time settings.
  - If the receive operation fails, the **[A]** Second Hand will move to **N (NO)** and then normal timekeeping will resume with settings unchanged.

**Timekeeping (by Time Calibration Signal)**

**Appropriate Signal Reception Location (Time Calibration Signal)**



- Keep the watch away from metal and position it so its 12 o'clock side is facing a window. Avoid moving the watch as much as possible and do not perform any watch operations while a signal receive operation is in progress.
- You may experience time calibration signal reception problems in the areas described below.
  - Among or near buildings
  - While riding in a vehicle
  - Near household appliances, office machines, mobile phones, etc.

- Reception normally takes anywhere from about two to ten minutes, but it can take as long as 20 minutes.
- When the receive operation is successful, the time and date settings will be adjusted automatically.
- Once a signal receive operation is successful, no more Auto Receive operations are performed that day. See "To check receive operation results (acquisition results)" (page E-40).

- On a construction site, in an airport, or any other location where radio wave interference occurs
- Near high-voltage lines
- In mountainous areas or behind a mountain

**Normal Daily Time Adjustment (Time Calibration Signal)**

**Time Calibration Signal Auto Receive**

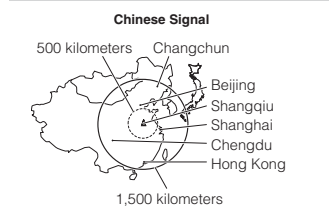
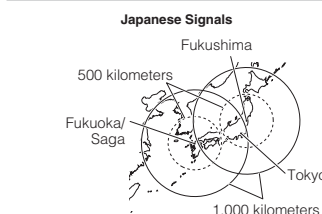
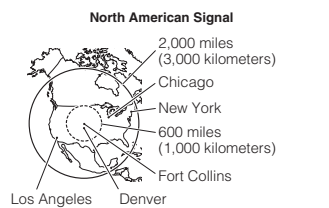
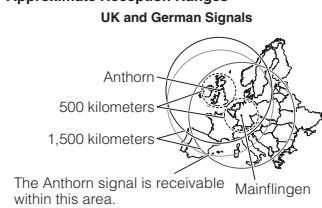
A time calibration signal receive operation will be performed automatically if the watch's current Home City (time zone) is one that supports reception.

- Leave the watch in a location that is appropriate for time calibration signal reception between the hours of midnight and 5:00 a.m. See "Appropriate Signal Reception Location (Time Calibration Signal)" (page E-36).
- The **[A]** Second Hand will point to **RC** while time calibration signal reception is in progress.

**Time Calibration Signal Reception Ranges and Conditions**

If your Home City (Time Zone) setting is this:	The watch can receive the signal from the transmitter located here:
LONDON (LON), PARIS (PAR), ATHENS (ATH)	Anthorn (England), Mainflingen (Germany)
HONG KONG (HKG)	Shangqiu City (China)
TOKYO (TYO)	Fukushima (Japan), Fukuoka/Saga (Japan)
NEW YORK (NYC), CHICAGO (CHI), DENVER (DEN), LOS ANGELES (LAX)	Fort Collins, Colorado (United States)

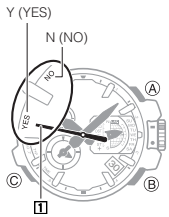
**Approximate Reception Ranges**



- Signal reception may not be possible at the distances noted below during certain times of the year or day. Radio interference may also cause problems with reception.
  - Mainflingen (Germany) or Anthorn (England) transmitters: 500 kilometers (310 miles)
  - Fort Collins (United States) transmitter: 600 miles (1,000 kilometers)
  - Fukushima or Fukuoka/Saga (Japan) transmitters: 500 kilometers (310 miles)
  - Shangqiu (China) transmitter: 500 kilometers (310 miles)

## GPS Signal and Time Calibration Signal Common Information

### To check receive operation results (acquisition results)



Perform this operation in the Timekeeping Mode. See the "Mode Reference Guide" (page E-42).

Press (B).

- The **[1] Second Hand** will move to **Y (YES)** if the latest receive operation was successful, or **N (NO)** if it was not. After about one or two seconds, regular timekeeping will resume.

### Note

- The **[1] Second Hand** will indicate **N (NO)** if you have adjusted the time or date setting manually since the latest receive operation.

If you do not perform any operation for one or two seconds after GPS position information acquisition is successful, the watch hands will indicate the Home City (Time Zone) setting and the approximate latitude of the location where signal reception was performed.

**[1] Second Hand:** Home City (Time Zone)

**[7] Mode Hand:** Approximate latitude of location where signal acquisition was performed

- Press (B) or do not perform any operation for one or two seconds to return to the current time.

E-40

## Radio-controlled Atomic Timekeeping Precautions

- GPS signal and time calibration signal reception will not be possible under the conditions described below.
  - When watch battery power is low
  - While the watch is in the Airplane, Stopwatch, Timer, or Alarm Mode
  - When watch battery power is at Level 2 (GPS signal reception is not possible at Level 1.)
  - When the crown is pulled out
  - While a stopwatch or timer operation is in progress
  - When the temperature of the watch is less than approximately  $-10^{\circ}\text{C}$  ( $14^{\circ}\text{F}$ ) or greater than approximately  $60^{\circ}\text{C}$  ( $140^{\circ}\text{F}$ )
- Strong electrostatic charge can result in the wrong time setting.
- The watch is designed to update the date and day of the week automatically for the period from January 1, 2000 to December 31, 2099. Updating of the date by signal reception will no longer be performed starting from January 1, 2100.
- After signal receive is successful, the time and date settings will be adjusted in accordance with the applicable Home City (Time Zone) and summer time settings. Note, however, that summer time will not be reflected correctly in the cases described below.
  - When the start date and time, and end date and time regulations are changed
  - When position information cannot be obtained correctly
  - When position information can be obtained, but it is wrong because the watch is located near a time zone boundary, etc.
- As of December 2013, China does not use Daylight Saving Time (DST). If China does go to the Daylight Saving Time system in the future, some functions of this watch may no longer operate correctly for the China time zones.
- If you are in an area where signal reception is not possible, the watch keeps time with the precision noted in "Specifications" (page E-77).

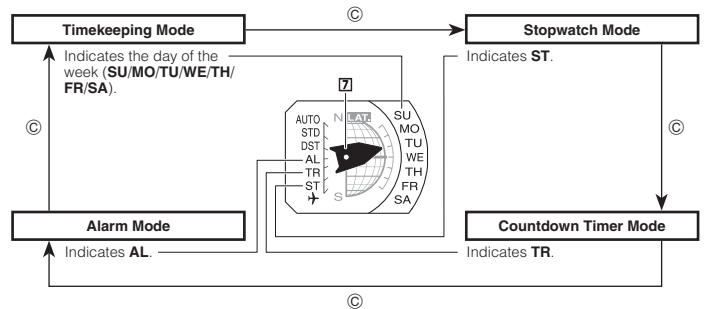
E-41

## Mode Reference Guide

Watch operation is based on modes. The mode you should use depends on what you want to do. Use (C) to navigate between modes.

Select this mode:	To do this:	More info:
All modes	<ul style="list-style-type: none"> <li>View the current time in the Home City (Time Zone)</li> <li>Configure Home City (Time Zone) and summer time settings</li> <li>Manually configure time and date settings</li> <li>Adjust hand and day indicator home positions</li> </ul>	E-43 E-59, E-60 E-63 E-67
Timekeeping	<ul style="list-style-type: none"> <li>Receive a GPS signal or time calibration signal (not in the Airplane Mode)</li> <li>View GPS signal and time calibration signal receive operation results</li> <li>Configure World Time City (Time Zone) and summer time settings</li> <li>View the current time in the World Time City (Time Zone)</li> <li>View UTC (Universal Time Coordinated) time</li> </ul>	E-28 E-40 E-48 E-48 E-50
Stopwatch	Measure elapsed time in units of 1/20 (0.05) seconds	E-51
Timer	Configure start time settings and start a countdown	E-53
Alarm	Configure alarm settings	E-56

E-42



- You can return to the Timekeeping Mode from any other mode by holding down (C) for at least two seconds.
- Holding down (C) for at least four seconds will enter or exit the Airplane Mode (page E-45).

## Important!

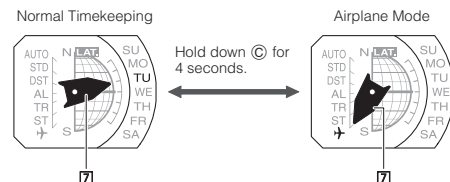
- If you feel that the time and day of the week hands, and/or the date indicator are not in the correct positions, you can adjust them.

See "Adjusting the Hand and Day Home Positions" (page E-67).

E-44

## Using the Watch in an Aircraft (Airplane Mode)

- Switch to the Airplane Mode whenever you are inside an aircraft or in any other area where radio wave reception is prohibited or restricted.
- Entering the Airplane Mode disables GPS signal and time calibration signal reception.



- Holding down (C) for at least four seconds will enter or exit the Airplane Mode.
- As shown in the illustration above, you can tell if the watch is in the Airplane Mode by checking the position of the **[7] Mode Hand** in the Timekeeping Mode. The **[7] Mode Hand** points to the airplane (✈) icon while the watch is in the Airplane Mode, and to the current day of the week when not in the Airplane Mode.
- The current day of the week is not indicated in the Airplane Mode.

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## To enter the Airplane Mode

In any mode, hold down (C) for at least four seconds.

- Even though the mode changes two seconds after you depress the button, keep the button depressed for at least four seconds.
- This will switch to the Airplane Mode.

## To exit the Airplane Mode

While the watch is in the Airplane Mode, hold down (C) for at least four seconds.

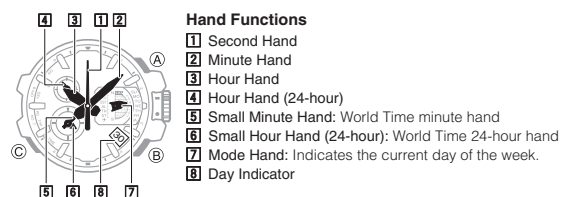
- Even though the mode changes two seconds after you depress the button, keep the button depressed for at least four seconds.
- This exits the Airplane Mode to the Timekeeping Mode.

## Note

- You can perform the required operation on the watch to configure the Home City (Time Zone) setting manually for your destination and check the current time there without exiting the Airplane Mode. If you do, as soon as you disembark from the plane it is recommended that you exit the Airplane Mode and acquire GPS position information to configure current time settings for your new location. See "To configure Home City (time zone) settings" (page E-59) and "Acquiring GPS Position Information" (page E-30).
- After exiting the Airplane Mode, position information will be acquired automatically from GPS when the conditions below are satisfied.
  - The time is between 6:00 a.m. and 10:00 p.m.
  - The face of the watch is exposed for about one or two minutes to continuous light equivalent to the brightness near a window on a clear day.

## Timekeeping

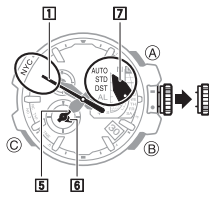
To enter the Timekeeping Mode, hold down (C) for at least two seconds.



E-47

## Checking the Current Time in a Different Time Zone

You can specify one other city (time zone) from the watch's 40 time zones as your World Time City (time zone). After you do, the watch will indicate display the current time in that city (time zone). The currently selected city (time zone) is called the "World Time City" (time zone).



### Hands and Indicators

The hands below indicate the current time in the World Time City (time zone).

- 5 Small Minute Hand
- 6 Small hour hand (24-hour)

Use the Timekeeping Mode to perform the operations in this section.

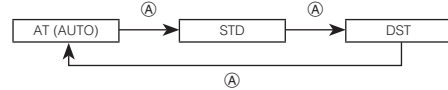
### To view the time in another time zone

1. Pull out the crown to the first click.
  - The 1 Second Hand will point to the currently selected World Time city (time zone).
  - The dot (•) marks on the watch's bezel or dial ring correspond to the items in the "City/Time Zone Indicators and Time Offset Table" that have a hyphen (-) in the "City/Time Zone Indicator" column (page L-3).
  - The 7 Mode Hand will indicate **AT (AUTO)**, **STD** (standard time) or **DST** (daylight saving time), as the current daylight saving time setting of the city (time zone) indicated by the 1 Second Hand.

E-48

- If you do not perform any operation with the crown for about two minutes after pulling it out, crown operations will become disabled and the watch hands will no longer move when you rotate the crown. If this happens, press the crown back in, pull it out, and then start the operation over again.

2. Rotate the crown to move the 1 Second Hand to the city code (time zone) you want to select as the World Time City (time zone).
  - Each time you select a city code (time zone), the 5 Small Minute Hand and 6 Small Hour Hand (24-hour) move to the current time. For details about city codes (time zones), see the "City/Time Zone Indicators and Time Offset Table" at the back of this manual.
3. Hold down A for about one second to cycle through the summer time settings as shown below.
  - Selecting **AT (AUTO)** enables automatic switching between standard time and summer time. For details about the **AT (AUTO)**, **STD** and **DST** settings, see "STD/DST Switching" (page E-60).

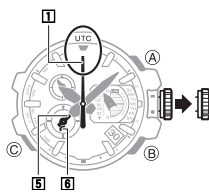


- While a dot (•) mark location on the watch's bezel or dial ring is selected as the Home City (Time Zone), the only summer time setting options available are **STD** and **DST**.
  - You cannot switch between **STD** and **DST** while **UTC** is selected as the Home City (time zone).
4. Push the crown back in.

E-49

## Accessing the UTC (Universal Time Coordinated) Time Zone

Perform this operation in the Timekeeping Mode. See "Mode Reference Guide" (page E-42).

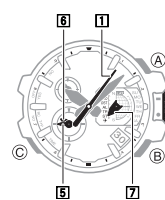


1. Pull the crown out to the first click.
  - If you do not perform any operation with the crown for about two minutes after pulling it out, crown operations will become disabled and the watch hands will no longer move when you rotate the crown. If this happens, press the crown back in, pull it out, and then start the operation over again.
2. Hold down B for at least one second.
  - This will cause the 5 Small Minute Hand and 6 Small Hour Hand (24-hour) to move to the current time in the UTC time zone.
3. Push the crown back in.

E-50

## Using the Stopwatch

The stopwatch measures elapsed time and split times.



### Hand Functions

- 1 Second Hand: Indicates the 1/20 (0.05)-second count during stopwatch operation.
- 5 Small Minute Hand: Indicates the stopwatch seconds count.
- 6 Small Hour Hand (24-hour): Indicates the stopwatch minute count (1 revolution = 24 minutes).
- 7 Mode Hand: Points to **ST** (Stopwatch Mode).

### To enter the Stopwatch Mode

- Refer to the "Mode Reference Guide" (page E-42).
- Entering the Stopwatch Mode will cause the 7 Mode Hand to move to **ST**.

### To measure elapsed time



- Pressing A to restart the stopwatch without resetting it will resume the elapsed time operation from where it was last stopped.

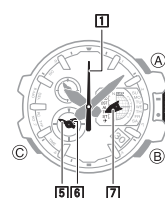
## Note

- The Stopwatch Mode can indicate elapsed time up to 23 minutes, 59.95 seconds. Elapsed time measurement will stop automatically when the maximum time is reached.
- The display illustration on page E-51 shows a stopwatch reading of 20 minutes, 45.10 seconds.
- Pressing B will not perform a reset operation while the hands are moving to elapsed timekeeping after you enter the Stopwatch Mode.
- The 1 Second Hand indicates the 1/20 (0.05)-second count for the first 30 seconds of a stopwatch elapsed time operation. The 1 Second Hand will jump to the current value whenever A (Stop) is pressed.

E-52

## Using the Countdown Timer

The countdown timer start time can be configured within a range of one minute to 24 hours. An alarm sounds for about 10 seconds when the timer reaches zero.



### Hand Functions

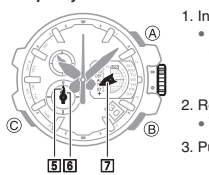
- 1 Second Hand: Indicates countdown seconds.
- 5 Small Minute Hand: Indicates countdown minutes.
- 6 Small Hour Hand (24-hour): Indicates countdown hours (1 revolution = 24 hours).
- 7 Mode Hand: Points to **TR**.

All hands used in a timer operation move counterclockwise during a countdown.

### To enter the Countdown Timer Mode

- Refer to the "Mode Reference Guide" (page E-42).
- Entering the Countdown Timer Mode will cause the 7 Mode Hand to move to **TR**.

### To specify the countdown start time



1. In the Countdown Timer Mode, pull out the crown to the first click.
  - If you do not perform any operation with the crown for about two minutes after pulling it out, crown operations will become disabled and the watch hands will no longer move when you rotate the crown. If this happens, push the crown back in and then pull it out again.
2. Rotate the crown to set the countdown start time.
  - You can use high-speed movement (page E-15) when performing this step.
3. Push the crown back in.

### To perform a countdown timer operation



- Pressing B while the Countdown Timer is stopped resets the displayed time to the start time specified by you.
- Pressing B will not perform a reset while the hands are moving to the current timer time after you enter the Countdown Timer Mode.
- Before starting a countdown timer operation, check to make sure that the countdown timer is not already operating (indicated by a moving 1 Second Hand). If it is, press A to stop it and then B to reset to the countdown start time.
- Pulling out the crown while a countdown operation is in progress will stop the ongoing operation so you can change the countdown start time setting.

E-54

### To stop the alarm

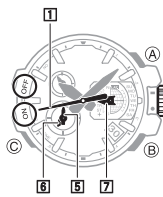
Press any button.

E-53

E-55

## Using the Alarm

When the alarm is turned on, an alarm will sound for about 10 seconds each day when the current time kept by the watch reaches the preset alarm time. This is true even if the watch is not in the Alarm Mode.



### Hand Functions

- 1 Second Hand: Indicates the current alarm ON/OFF setting.
- 2 Small Minute Hand: Indicates the currently set alarm time minute.
- 3 Small Hour Hand (24-hour): Indicates the currently set alarm time hour.
- 4 Mode Hand: Points to **AL**.

### To enter the Alarm Mode

Refer to the "Mode Reference Guide" (page E-42).

### To change the alarm time setting

1. In the Alarm Mode, pull out the crown to the first click.
  - Pulling out the crown turns on the alarm.
  - If you do not perform any operation with the crown for about two minutes after pulling it out, crown operations will become disabled and the watch hands will no longer move when you rotate the crown. If this happens, push the crown back in and then pull it out again.
2. Rotate the crown to set the alarm time.
  - You can use the high-speed movement feature when adjusting the hands (page E-15).

E-56

3. Push the crown back in.

- The alarm always works based on the time kept by the watch.

### To turn the alarm on or off

In the Alarm Mode, press **(B)** to toggle the alarm between on and off. The **1 Second Hand** will indicate the current ON/OFF setting.

- This alarm will not sound while the watch's charge level is low or while the watch's charge level is at Level 2.

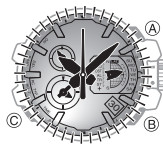
See "Power Saving" (page E-27).

### To stop the alarm

Press any button.

E-57

## Illumination



The face of the watch is illuminated for easy reading in the dark.

### To turn on illumination manually

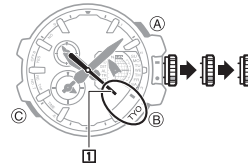
Pressing **(A)** in the Timekeeping Mode or the Alarm Mode turns on illumination.

- The light gradually becomes brighter, and then, about two seconds after it turns on, it dims.
- Illumination will turn off automatically while an alarm is sounding.
- Note that illumination will not turn on during high-speed movement of the hands.

E-58

## Configuring Home City (Time Zone) Settings

When using the watch while on an aircraft or some other area where you are unable to configure time or other location-specific settings using GPS signal reception, you can configure Home City (Time Zone) and summer time setting using button and crown operations.



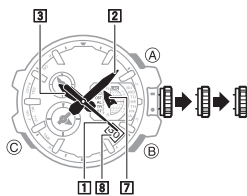
### To configure Home City (time zone) settings

The dot (•) marks on the watch's bezel or dial ring correspond to the items in the "City/Time Zone Indicators and Time Offset Table" that have a hyphen (-) in the "City/Time Zone Indicator" column (page L-3).

See "Acquiring GPS Position Information" (page E-30), "City/Time Zone Indicators and Time Offset Table" (page L-3) and "STD/DST Switching" (page E-60).

1. In any mode, pull out the crown to the second click.
  - This will cause the **1 Second Hand** to move to the currently selected city (time zone).
  - Leaving the crown pulled out for more than two minutes without performing any operation will automatically cause crown operations to become disabled. If this happens, press the crown back in, pull it out, and then start the operation over again.
  - For details about cities (time zones), see the "City/Time Zone Indicators and Time Offset Table" at the back of this manual.

E-59



2. Rotate the crown to move the **1 Second Hand** to the city code (time zone) you want to select as your Home City (Time Zone).
  - Each time you select a city code (time zone), the **3 Hour Hand**, **2 Minute Hand** and **8 Day Indicator** move to the current time and date for that city code (time zone).
  - The **7 Mode Hand** shows the summer time setting for the currently selected Home City (Time Zone).

- The **7 Mode Hand** shows the summer time setting for the currently selected Home City (Time Zone).
3. Push the crown back in to return to the mode you started from in step 1.

### STD/DST Switching

You can select summer time or standard time independently for each city (time zone). The initial default setting for all cities is **AT (AUTO)**.

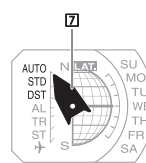
Normally you should use the **AT (AUTO)** setting because it automatically switches between summer time and standard time. Note, however, that in the cases below you need to change the summer time setting to **DST** manually during the applicable summer time period.

- When the dot (•) mark on the watch's bezel or dial ring was set manually (when the dot (•) mark is set automatically, there is no need to change the setting from **AT (AUTO)**).
- The actual applicable summer time period is different from the setting summer time period in the watch.

See "City/Time Zone Indicators and Time Offset Table" (page L-3).

E-60

### To switch between standard time and summer time manually

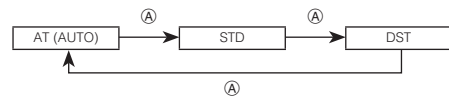


1. Perform steps 1 and 2 under "To configure Home City (time zone) settings" (page E-59).

- Displaying the Home City (Time Zone) Settings screen will cause the **7 Mode Hand** to move to **AT (AUTO)** (auto switching), **STD** (standard time), or **DST** (daylight saving time).

AT (AUTO)	The watch automatically switches between standard time and daylight saving time in accordance with its calendar.
STD	The watch always shows standard time.
DST	The watch always shows daylight saving time.

2. Hold down **(A)** for about one second to cycle through the summer time settings as shown below.



3. After the setting is way you want, push the crown back in.

E-61

## Note

- In the cases described below, acquiring GPS signal position information will automatically select the **AT (AUTO)** setting.

- When the time zone is different from the one that was in effect before the receive operation
- When acquisition is performed after changing locations (received summertime start/end times and dates are different from those in effect prior to the acquisition operation)

E-62

## Configuring Current Time and Date Settings Manually

You can configure current time and date settings manually when using the watch in an area where a GPS signal or time calibration signal cannot be received, or whenever else auto time and date adjustment is not possible for some reason.

### Important!

- You do not need to perform the procedure below when the time and date settings are correct.
- After performing the procedure below, it is recommended that you move to a location that is appropriate for GPS signal reception, acquire position information, and configure time and date settings in accordance with your location.

See "Appropriate Signal Reception Location (GPS Signal)" (page E-29) and "Acquiring GPS Position Information" (page E-30).

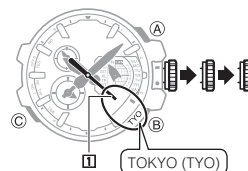
### To change the current time and date settings manually

1. In any mode, pull out the crown to the second click.

- This will cause the **1 Second Hand** to move to the city code (time zone) of the currently selected Home City (Time Zone).
- Leaving the crown pulled out for more than two minutes without performing any operation will automatically cause crown operations to become disabled. If this happens, press the crown back in, pull it out, and then start the operation over again.

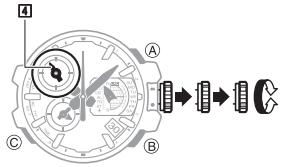
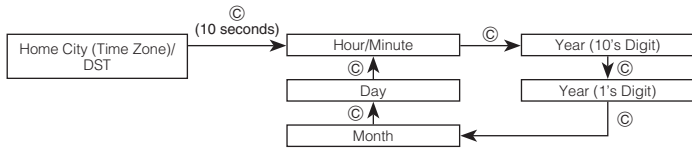
2. Change the Home City (Time Zone) setting, if you want.

- To change the Home City (Time Zone) setting, perform step 2 under "To configure Home City (time zone) settings" (page E-59).



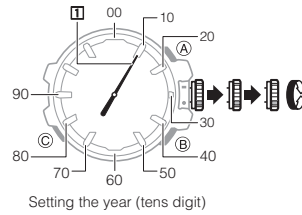
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3. Hold down **Ⓢ** for about ten seconds. This will enter the time and date setting mode.
- The watch will beep and the **1 Second Hand** will move to 12 o'clock.
  - In the following steps, each press of **Ⓢ** cycles between settings as shown below.



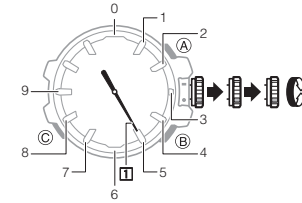
4. Rotate the crown to adjust the hour/minute setting.
- You can use the high-speed movement feature when adjusting the hands (page E-15).
  - You can determine whether the time is a.m. or p.m. by checking the **4 Hour Hand (24-hour)**.
  - If the watch's year, month, and day settings are correct, push the crown back in on a time signal. Normal timekeeping resumes when the crown is pushed in.
  - If you want to change the year, month, and day settings, advance to step 5, below.

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Setting the year (tens digit)

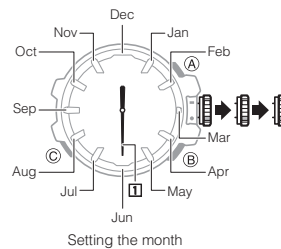
5. Press **Ⓢ**.
- The **1 Second Hand** will move to the currently selected year (10's digit).
  - The **7 Mode Hand** will move to 12 o'clock.
6. Rotate the crown to change the current year (10's digit) setting.
- You can use the high-speed movement feature when adjusting the hands (page E-15).



Setting the year (ones digit)

7. Press **Ⓢ** to enter the year (1's digit) setting mode.
- The **1 Second Hand** will move to the currently selected year (1's digit).
  - The **7 Mode Hand** will move to 3 o'clock.
8. Rotate the crown to adjust the year (1's digit) setting.

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Setting the month

9. Press **Ⓢ**. This will enter the month setting mode.
- The **1 Second Hand** will move to the currently selected month.
  - The **7 Mode Hand** will move to 6 o'clock.
10. Rotate the crown to adjust the month setting.
11. Press **Ⓢ**. This will enter the day setting mode.
12. Rotate the crown to adjust the day setting.
- You can use the high-speed movement feature when adjusting the hands (page E-15).
  - Press **Ⓢ** to return to the time and date setting mode (step 4 of this procedure). If you want to adjust the hour and minute settings, return to step 4.

13. After the settings are the way you want, push the crown back in to return to the mode you started from in step 1.
- This causes timekeeping to resume with the **1 Second Hand** starting from 12 o'clock.
  - The day of the week indicated by the **7 Mode Hand** changes automatically in accordance with the date (year, month, and day).

**Note**

- The watch's built-in full automatic calendar makes allowances for different month lengths and leap years. Once you set the date, there should be no reason to change it except after you have the watch's rechargeable battery replaced or after power drops to Level 3.

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**Adjusting the Hand and Day Home Positions**

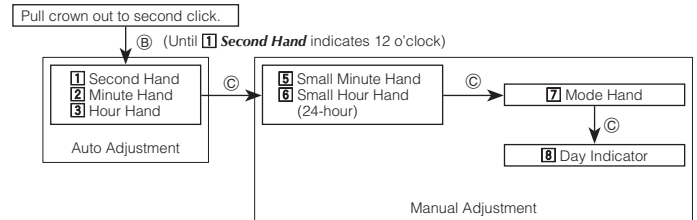
If the watch is exposed to strong magnetism or impact, it can cause its hands and/or the date to go out of alignment. This can result in incorrect date and/or time indication even though signal reception is possible.

The watch automatically adjusts the **1 Second Hand**, **2 Minute Hand**, and **3 Hour Hand** positions periodically. You also can trigger hand position adjustment manually, if you want.

- The **4 Hour Hand (24-hour)** is adjusted simultaneously with the **3 Hour Hand**.

**Hand/Day Adjustment Steps**

For full details, see the procedure from page E-68 to E-69.



If you notice that the **5 Small Minute Hand**, **6 Small Hour Hand (24-hour)**, **7 Mode Hand**, or **8 Day Indicator** are not in the correct position, perform manual adjustment.

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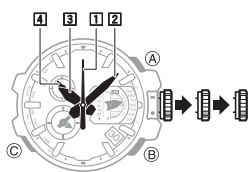
**Important!**

- After completing adjustment, push the crown back in. Pushing the crown back in part way through adjustment will return to the mode you started from with any adjustments you made in effect.

**To adjust the hand and day home positions**

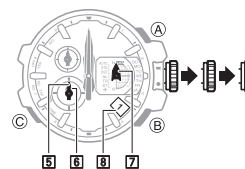
**Important!**

- You do not need to perform the procedure in this section if the watch is indicating the time and/or day correctly.



- In any mode, pull the crown out to the second click.
- Hold down **Ⓢ** until the watch beeps and the **1 Second Hand** moves to 12 o'clock. This takes about five seconds.
  - Release **Ⓢ** when the **1 Second Hand** gets to 12 o'clock. At this time the watch will start automatic adjustment of the **1 Second Hand**, **2 Minute Hand**, and **3 Hour Hand** positions.
  - Adjustment is complete when the **1 Second Hand**, **2 Minute Hand**, and **3 Hour Hand** and **4 Hour Hand (24-hour)** are at 12 o'clock.
  - When the **4 Hour Hand (24-hour)** is at 6 o'clock, hold down **Ⓢ** for about two seconds until the **3 Hour Hand** starts to move.

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- Press **Ⓢ**.
  - Check if the **5 Small Minute Hand** and **6 Small Hour Hand (24-hour)** is stopped at 12 o'clock.
  - If the position of the **5 Small Minute Hand** and **6 Small Hour Hand (24-hour)** is not correct, rotate the crown to adjust it to 12 o'clock.
  - You can use the high-speed movement feature when adjusting the hands (page E-15).
- Press **Ⓢ**.
  - Check if the **7 Mode Hand** is stopped at 12 o'clock.
  - If the position of the **7 Mode Hand** is not correct, rotate the crown to adjust it to 12 o'clock.
  - You can use the high-speed movement feature when adjusting the hands (page E-15).

- Press **Ⓢ**.
  - This will cause the **8 Day Indicator** to move.
  - Wait until the **8 Day Indicator** stops at 1.
  - If the **8 Day Indicator** is not at 1, rotate the crown until it is.
  - You can use the high-speed movement feature when adjusting the hands (page E-15).
- Push the crown back in.

This exits the adjustment mode and returns to normal timekeeping.

E-69

**Important!**

- Leaving the crown pulled out for more than approximately 30 minutes without performing any operation will automatically cause the adjustment operation to become disabled. If this happens, push the crown back in and then pull it out to restart the above procedure from the beginning. Pushing the crown in will return to the mode you started from in step 1 with the hands and/or day in their newly adjusted positions.

**Troubleshooting**

**When the time and date settings are not configured automatically**

First, check the current charge level and charge if necessary. See "Checking the Charge Level" (page E-17).

**Time and date settings are not configured automatically.**

Signals are not being received normally, or the hands and/or date indicator is out of alignment. See "Configuring Time and Date Settings" (page E-19).

**Hand Movement and Position**

**I lost track of what mode the watch is in.**

Refer to "Mode Reference Guide" (page E-42). To return directly to the Timekeeping Mode, hold down **Ⓢ** for at least two seconds.

- Holding down **Ⓢ** for at least four seconds will enter or exit the Airplane Mode. See "Using the Watch in an Aircraft (Airplane Mode)" (page E-45).

**The 1 Second Hand is moving at two-second intervals.**

**The 1 Second Hand is moving at five-second intervals.**

**All the watch's hands are stopped at 12 o'clock and none of the buttons work.**

Power may be low. Expose the watch to light until the **1 Second Hand** starts moving normally, at one-second intervals (page E-22).

E-70

E-71

■ **The hands of the watch suddenly start moving at high speed, even when I do not perform any operation.**

This could be due to any one of the following causes. In all cases, the hand movement does not indicate malfunction, and should stop shortly.

- The watch is recovering from a sleep state (page E-27).
- The time setting is being adjusted following a successful auto signal receive operation (page E-28).

■ **Hands suddenly stop moving. Button operation also is disabled.**

The watch may be in the power recovery mode (page E-25). Do not perform any operation until the hands return to their normal positions (in about 15 minutes). The hands should return to their correct positions when normal operation returns. To help power recover, leave the watch in a location where it is exposed to light.

■ **The current time setting is off by hours.**

- Your Home City (Time Zone) setting may be wrong. Check your Home City (Time Zone) setting and correct it, if necessary (page E-48).

■ **The current time setting is off by one hour, 30 minutes, or some regular interval.**

- The summer time setting is not correct.
- Correct the summer time setting (pages E-60 and E-61).

■ **The hands and/or day indications are off.**

This could indicate that the watch has been exposed to magnetism or strong impact, which has caused problems with proper hand and day alignment. Adjust the watch's hand and day home position alignment (page E-67).

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**Charging**

■ **The watch does not resume operation after I expose it to light.**

It can take quite a long time to charge the battery after the power level drops to Level 3 (page E-24). Continue exposing the watch to light until the **Second Hand** starts moving normally (at one-second intervals). This could indicate that over-discharge has occurred and so the secondary battery can no longer be recharged. If this happens, contact your retailer to have the secondary battery replaced.

■ **The **Second Hand** starts to move at one-second intervals, but then suddenly returns to moving at two-second intervals.**

The watch probably is not sufficiently charged yet. Continue keeping it exposed to light.

**Time Information (GPS)**

■ **The **Second Hand** indicates N (NO) when I check the result of the latest receive operation.**

Possible Cause	Remedy	Page
The watch continues the signal receive operation for a long time. (The <b>Second Hand</b> remains at <b>T+P</b> or <b>T (TIME)</b> .)	<ul style="list-style-type: none"> <li>• The watch may be receiving a leap second.</li> <li>• See "Glossary", "Acquiring GPS Position Information", "GPS Signal Auto Receive", "Receiving GPS Time Information", and "Leap Seconds".</li> </ul>	E-7 E-30 E-32 E-34 E-35

■ **Signal reception is successful, but the time and/or date is wrong.**

Possible Cause	Remedy	Page
Your Home City (time zone) setting may be wrong.	<ul style="list-style-type: none"> <li>• Perform a GPS position information receive operation.</li> <li>• Or configure your Home City (time zone) setting so it is correct.</li> </ul>	E-30 E-59

E-73

■ **I think my Home City (time zone) setting is correct and signal reception is successful, but the time and/or date is wrong.**

Possible Cause	Remedy	Page
Time and/or date settings cannot be adjusted automatically for some reason.	Adjust time and date settings manually.	E-63

**Time Information (Time Calibration)**

The time calibration signal information in this section applies only when **LONDON (LON)**, **PARIS (PAR)**, **ATHENS (ATH)**, **LOS ANGELES (LAX)**, **DENVER (DEN)**, **CHICAGO (CHI)**, **NEW YORK (NYC)**, **HONG KONG (HKG)**, or **TOKYO (TYO)** is selected as the city.

■ **The **Second Hand** indicates N (NO) when I check the result of the latest receive operation.**

Possible Cause	Remedy	Page
The time calibration signal is not being transmitted for some reason.	<ul style="list-style-type: none"> <li>• For details about each time calibration signal, check the website of the organization that maintains it.</li> <li>• Try again later.</li> </ul>	—

■ **The watch cannot receive the time calibration signal.**

Possible Cause	Remedy	Page
Your Home City (time zone) setting may be wrong.	<ul style="list-style-type: none"> <li>• Perform a GPS position information receive operation.</li> <li>• Or configure your Home City (time zone) setting so it is correct.</li> </ul>	E-30 E-59

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**Time Information (GPS and Time Calibration Signals)**

■ **The **Second Hand** indicates N (NO) when I check the result of the latest receive operation.**

Possible Cause	Remedy	Page
<ul style="list-style-type: none"> <li>• You are wearing or moving the watch, or performing a button operation during the signal receive operation.</li> <li>• The watch is in an area with poor reception conditions.</li> </ul>	Keep the watch in an area where reception conditions are good while the signal receive operation is being performed.	E-29 E-36
An alarm sounded while time signal reception was in progress.	Try again later.	—
You are in an area where signal reception is not possible for some reason.	See "Appropriate Signal Reception Location (GPS Signal)", "Approximate Reception Ranges" and "Appropriate Signal Reception Location (Time Calibration Signal)".	E-29 E-38 E-36

■ **Auto Receive is not performed or I cannot perform Manual Receive.**

Possible Cause	Remedy	Page
The watch may be in the Airplane Mode.	Exit the Airplane Mode.	E-45
Current conditions do not allow signal reception.	Eliminate the problem and try again.	E-41

E-75

■ **Signal reception is being performed successfully, but the time and/or day is wrong.**

Possible Cause	Remedy	Page
The watch may have been exposed to magnetism or strong impact, which has caused problems with proper hand and day alignment.	Adjust the watch's hand and day home positions.	E-67

**Alarm**

■ **The alarm does not sound.**

Possible Cause	Remedy	Page
Battery power is low.	Expose the watch to light until battery power is back to normal.	E-24
The crown is pulled out.	Push the crown back in.	E-15

**Crown Operation**

■ **Nothing happens when I rotate the crown.**

Possible Cause	Remedy	Page
The crown has been left pulled out for more than two minutes (30 minutes in the case of hand home position adjustment) without any operation being performed.	Push the crown back in and then pull it out again to restore normal operation.	E-15

E-76

**Specifications**

**Accuracy at normal temperature:** ±15 seconds a month (no adjustment by signal information)

**Timekeeping :** Hour, minutes, seconds, 24-hour, day, day of the week

Calendar system: Full Auto-calendar pre-programmed from the year 2000 to 2099

Other: Home City (Time Zone) and World Time City (Time Zone) can be assigned one of 40 time zones and Coordinated Universal Time; Daylight Saving Time (summer time)/Standard Time auto switching

**Signal receive function:** GPS signal auto receive, manual receive (position information, time information)

Time calibration signal auto receive

Auto transmitter selection (for JJY, MSF/DCF77)

Receivable call signs: JJY (40 kHz/60 kHz), BPC (68.5 kHz), WWVB (60 kHz), MSF (60 kHz), DCF77 (77.5 kHz)

Last reception result display

Manual and auto standard time/summer time switching

**Stopwatch:** Measuring capacity: 23'59.95"

Measuring unit: 1/20 (0.05) seconds

Measuring modes: Elapsed time

**Countdown Timer:**

Measuring unit: 1 second

Input range: 24 hours (1-minute increments)

**Alarm:** Daily alarm

**Other:** LED light; Power Saving; Low battery alert; Auto Correction of Hand Home Positions

E-77

**Power Supply:** Solar panel and one rechargeable battery

Approximately 7 months

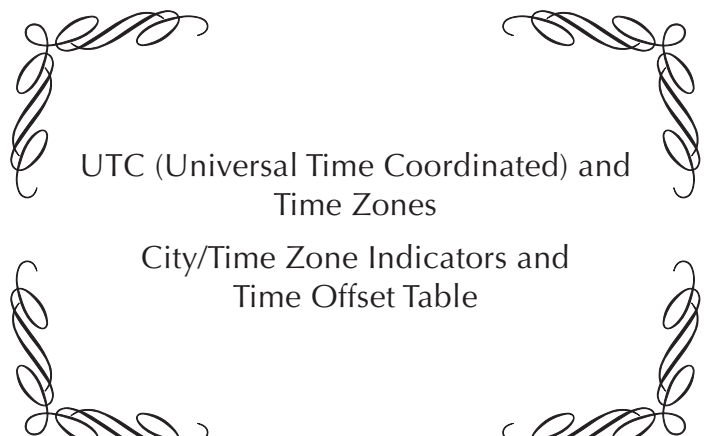
Not exposed to light under the conditions below.

GPS time information receive: 1 operation (approximately 10 seconds) every 2 days

GPS time position information receive: 1 operation (approximately 36 seconds)/month

Light: 1 operation/day

Alarm: 1 operation/day

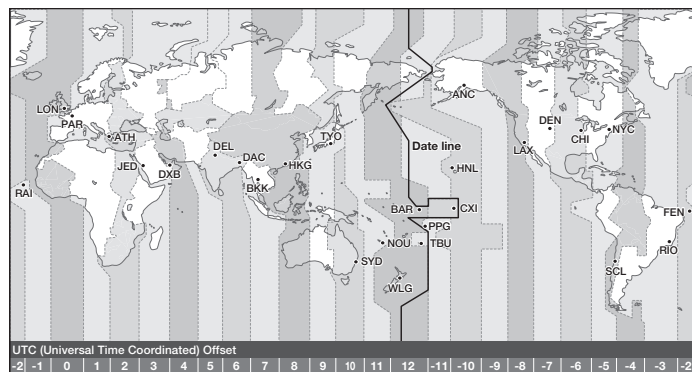


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L-1

## UTC (Universal Time Coordinated) and Time Zones

Use the map as a reference when trying to find a city or a time zone. This map is not detailed.



L-2

## City/Time Zone Indicators and Time Offset Table

The table below shows the indicators marked on the watch's bezel or dial ring, and their UTC offsets. Refer to the second hand position information provided in the table when configuring Home City (Time Zone) and World Time City (Time Zone) settings. The dot (•) marks on the watch's bezel or dial ring correspond to the items that have a hyphen (-) in the "City/Time Zone Indicator" column.

The information below applies when the summer time setting is AT (AUTO).

• The summer time setting changed in accordance with the position information of the GPS signal. See "STD/DST Switching" (page E-60).

City/Time Zone Indicator	Second Hand Position	UTC Offset	Cities	Summer Time Period	
				Summer Time Start	Summer Time End
UTC	00	0	Coordinated Universal Time	None	None
LON / LONDON	Second 2	0	London	01:00, last Sunday in March	02:00, last Sunday in October
PAR / PARIS	Second 4	+1	Paris	02:00, last Sunday in March	03:00, last Sunday in October
ATH / ATHENS	Second 6	+2	Athens	03:00, last Sunday in March	04:00, last Sunday in October
JED / JEDDAH	Second 8	+3	Jeddah	None	None
-	Second 9	+3.5	(Tehran)		*

L-3

City/Time Zone Indicator	Second Hand Position	UTC Offset	Cities	Summer Time Period	
				Summer Time Start	Summer Time End
DXB / DUBAI	Second 10	+4	Dubai	None	None
-	Second 11	+4.5	(Kabul)		*
-	Second 12	+5	(Karachi)		*
DEL / DELHI	Second 13	+5.5	Delhi	None	None
-	Second 14	+5.75	(Kathmandu)		*
DAC/DHAKA	Second 15	+6	Dhaka	None	None
-	Second 16	+6.5	(Yangon)		*
BKK/BANGKOK	Second 17	+7	Bangkok	None	None
HKG / HONG KONG	Second 19	+8	Hong Kong	None	None
-	Second 21	+8.75	(Eucla)		*
TYO/TOKYO	Second 22	+9	Tokyo	None	None
-	Second 23	+9.5	(Adelaide)		*
SYD / SYDNEY	Second 24	+10	Sydney	02:00, first Sunday in October	03:00, first Sunday in April
-	Second 25	+10.5	(Lord Howe Island)		*
NOU / NOUMEA	Second 26	+11	Noumea	None	None
-	Second 27	+11.5	(Norfolk Island)		*

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City/Time Zone Indicator	Second Hand Position	UTC Offset	Cities	Summer Time Period	
				Summer Time Start	Summer Time End
WLG / WELLINGTON	Second 28	+12	Wellington	02:00, last Sunday in September	03:00, first Sunday in April
-	Second 30	+12.75	(Chatham Islands)		*
TBU / NUKUALOFA	Second 31	+13	Nuku'alofa	None	None
CXI / KIRITIMAT	Second 33	+14	Kiritimati	None	None
BAR / BAKER ISLAND	Second 36	-12	Baker Island	None	None
PPG / PAGO PAGO	Second 38	-11	Pago Pago	None	None
HNL / HONOLULU	Second 40	-10	Honolulu	None	None
-	Second 41	-9.5	(Marquesas Islands)		*
ANC / ANCHORAGE	Second 42	-9	Anchorage	02:00, second Sunday in March	02:00, first Sunday in November
LAX / LOS ANGELES	Second 44	-8	Los Angeles	02:00, second Sunday in March	02:00, first Sunday in November
DEN / DENVER	Second 46	-7	Denver	02:00, second Sunday in March	02:00, first Sunday in November
CHI / CHICAGO	Second 48	-6	Chicago	02:00, second Sunday in March	02:00, first Sunday in November

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City/Time Zone Indicator	Second Hand Position	UTC Offset	Cities	Summer Time Period	
				Summer Time Start	Summer Time End
NYC / NEW YORK	Second 50	-5	New York	02:00, second Sunday in March	02:00, first Sunday in November
-	Second 51	-4.5	(Venezuela)		*
SCL / SANTIAGO	Second 52	-4	Santiago	24:00, second Saturday in October	24:00, second Saturday in March
-	Second 53	-3.5	(St. John's)		*
RIO / RIO DE JANEIRO	Second 54	-3	Rio de Janeiro	00:00, third Sunday in October	00:00, third Sunday in February or 00:00, fourth Sunday in February
FEN / F.DE NORONHA	Second 55	-2	Fernando de Noronha	None	None
RAI / PRAIA	Second 56	-1	Praia	None	None

\* Summer time setting is automatically configured when GPS signal position information is acquired. When setting a time zone manually, switch the summer time setting between STD and DST manually.

### Note

- The contents of the above table are current as of December 2013.
- Time zones in the above table are in accordance with Universal Time Coordinated (UTC).
- When a hyphen (-) is shown for a time zone, the representative city name is in parentheses.

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