

Operation Guide 5198

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.

This watch does not have a city code that corresponds to the UTC offset of -3.5 hours. Because of this, the radio-controlled atomic timekeeping function will not display the correct time for Newfoundland, Canada.

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 this product or its malfunction.

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About this manual



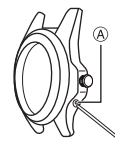
Operations are performed using the watch's crown and the (A) button.

Hand Functions

- 1 Hour Hand
- 2 Second Hand
- 3 Minute Hand
- A Home City Indicator

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

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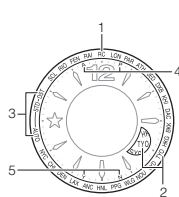


Important!

- The (A) button is designed to protect against accidental pressing. Use a thin pointed object to press the depression of the button to operate it.
- In the illustrations in this manual, the (A) button is emphasized for ease of understanding.

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About the face



The following explains the meanings of the markings on the watch's face.

1. RC: Receive in progress
 - See "To perform manual receive" (page E-34).
2. Current Home City
 - See "To configure Home City settings" (page E-40).
3. AUTO-STD-DST: Standard time and daylight saving time settings
 - See "To change the standard time/daylight saving time setting" (page E-45).
4. A (AM)/P (PM): AM and PM indications when setting the time
 - See "To change the current time setting manually" (page E-46).

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5. Y (YES)/N (NO): Time calibration signal reception result
 - Y (YES): Successful
 - N (NO): Unsuccessful
 - See "To check the result of the latest receive operation" (page E-35).

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
Crown Operations

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

Important!

- In order to ensure full water resistance and to prevent damage due to impact, make sure that the crown is normally full pushed in when using the watch.
- When pulling out the crown, avoid using undue force, which creates the risk of personal injury to your fingers and fingernails, and of watch malfunction.


First click



For selecting a Home City

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Second click




For configuring time and other settings

Note

- When you push the crown back in from the first click, the 2 Second Hand will perform movement that indicates whether the watch's battery requires charging before resuming regular timekeeping. See "Charging Guide" (page E-19).

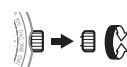
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High-speed Forward and Reverse Movement



While the crown is pulled out, rotating it more than one full turn either way will cause the hands or Home City indicator to start to move at high speed. High-speed movement will continue even if you release the crown.

High-speed Cancel



Rotate the crown in the reverse direction of the movement or press the (A) button.

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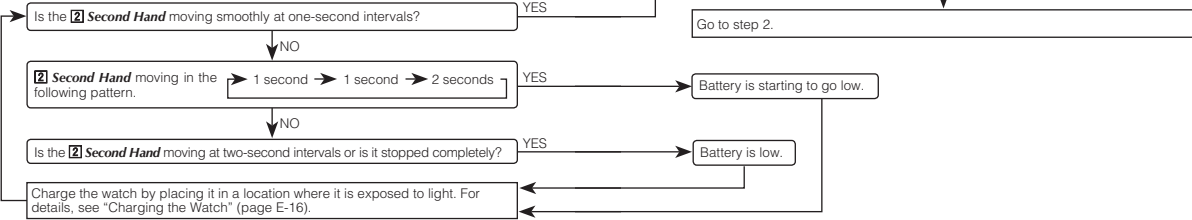
Note

- Leaving the crown pulled out for more than two minutes without performing any operation will automatically cause the setting operation to become disabled. If this happens, press the crown back in and then pull it out again to configure settings.
- High-speed movement can be used when setting the current time and when performing home position adjustment (page E-49).

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Things to check before using the watch

1. Observe the movement of the [2] Second Hand.



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2. Check the Home City and the daylight saving time (DST) settings.

Use the procedure under "To configure Home City settings" (page E-40) to configure your Home City and daylight saving time settings.

- If your currently selected Home City is one that supports time calibration signal reception, the time setting will be automatically adjusted whenever a signal is received.

Important!

- Note that the watch will not show the correct time unless your Home City and daylight saving time settings are correct.

3. Set the current time.

- **To set the time using a time calibration signal**
See "To get ready for a receive operation" (page E-30).
- **To set the time manually**
See "Configuring Current Time Settings Manually" (page E-46).

The watch is now ready for use.

- For details about the watch's radio controlled timekeeping feature, see "Radio Controlled Atomic Timekeeping" (page E-25).

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Charging the Watch

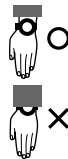
The face of the watch is a solar panel that generates power from light. The generated power charges a built-in rechargeable battery, which powers watch operations. The watch charges whenever it is exposed to light.

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, makes sure that its face is not blocked from light by the sleeve of your clothing.

- The watch may enter a sleep state (page E-23) if its face is blocked by your sleeve even only partially.

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Charge Levels



Movement indicates the current charge level.

You can get an idea of the watch's charge level by observing the movement of the [2] Second Hand in the Timekeeping Mode.

Level	Hand Movement	Charge
1	Normal.	Battery is charged.
2	[2] Second Hand moves in the following pattern. 1 second → 1 second → 2 seconds	Battery is starting to go low.
3	[2] Second Hand moves at two-second intervals.	Battery is low.
4	All hands stopped at 12 o'clock.	Battery is very low.

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.

- When power drops to Level 4, all functions will be disabled but the watch will continue to keep time internally for about one week. If you recharge the battery sufficiently during this period, the analog hands will move automatically to the correct setting and regular timekeeping will resume. After one week, all settings (including timekeeping) will be cleared. Recharging the battery will reset all settings to their initial factory defaults.

Charging Guide

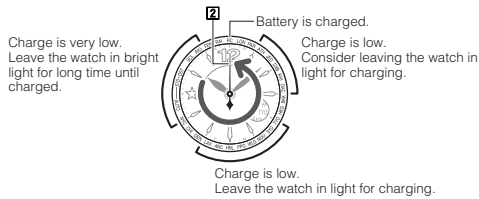
The charging guide causes the [2] Second Hand to perform movement that gives you a rough idea of whether the watch needs to be exposed to light in order to charge the battery.

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To use the charging guide

1. Pull the crown out to the first click. The [2] **Second Hand** will move to the currently selected Home City. Next, push the crown back in.
 - For about one second, the [2] **Second Hand** will perform movement that indicates whether the watch's battery requires charging.



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Charging Times

Exposure Level (Brightness)	Daily Operation *1	Level Change *2			
		Level 4	Level 3	Level 2	Level 1
Outdoor sunlight (50,000 lux)	8 minutes		2 hours		25 hours
Window sunlight (10,000 lux)	30 minutes		4 hours		93 hours
Window sunlight on cloudy day (5,000 lux)	48 minutes		6 hours		151 hours
Indoor fluorescent lighting (500 lux)	8 hours		59 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-61).

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To recover from the sleep state

Move the watch to a well-lit area, press the (A) button, or pull out the crown to the first click.

- It can take up to eight minutes for the watch to resume normal operation after recovering from the sleep state. Do not perform any button operations during that time.

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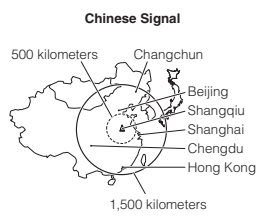
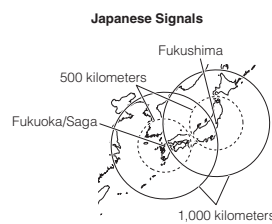
If your Home City Code setting is this:	The watch can receive the signal from the transmitter located here:
LONDON (LON), PARIS (PAR), ATHENS (ATH)	Anthorn (England), Mainflingen (Germany)
HONG KONG (HKG)	Shangqiu City (China)
TOKYO (TYO)	Fukushima (Japan), Fukuoka/Saga (Japan)
HONOLULU (HNL), ANCHORAGE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

Important!

- The areas covered by **HONOLULU (HNL)** and **ANCHORAGE (ANC)** are quite far from the calibration signal transmitters, so certain conditions may cause reception problems.

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- The current charging requirement is indicated whenever you push the crown back in from the first click.
- Failure to expose the watch to light when charging is required will cause the charge to be reduced even further.
- The charging guide is based on a calculated value (not the actual battery charge). Because of this, the battery charge may go low even if the charging guide indicates that immediate charging is not required. If this happens, expose the watch to light as soon as possible to charge the battery.

Power Saving

A Power Saving feature causes the watch to enter a sleep state automatically whenever it is left for a certain period in an area where it is dark.

How Power Saving works

The watch will enter the sleep state if it is left in a dark location for about one week.

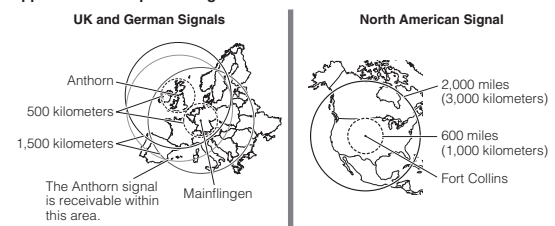
- In the sleep state:
 - All hands stop at 12 o'clock.
 - Auto Receive is disabled.
 - Internal timekeeping continues to operate normally.
- The watch will not enter a sleep state between 6:00 AM and 9:59 PM. If the watch is already in a sleep state when 6:00 AM arrives, however, it will remain in the sleep state.

Radio Controlled Atomic Timekeeping

This watch receives a time calibration signal and updates its time setting accordingly. However, when using the watch outside of areas covered by time calibration signals, you will have to adjust the settings manually as required. See "Configuring Current Time Settings Manually" (page E-46) for more information.

This section explains how the watch updates its time settings when the city code selected as the Home City is in Japan, North America, Europe, or China, and is one that supports time calibration signal reception.

Approximate Reception Ranges

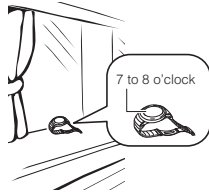


- Even when the watch is within range of a transmitter, signal reception may be impossible due to the effects of geographic contours, structures, weather, the time of year, the time of day, radio interference, etc. The signal becomes weaker at distances of approximately 500 kilometers, which means that the influence of the conditions listed above becomes even greater.
- 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) transmitter: 500 kilometers (310 miles)
 - Fort Collins (United States) transmitter: 600 miles (1,000 kilometers)
 - Fukushima or Fukuoka/Saga (Japan) transmitter: 500 kilometers (310 miles)
 - Shangqiu (China) transmitter: 500 kilometers (310 miles)
- As of December 2010, 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.
- Using this watch in a country covered by a time calibration signal that is different from the countries it supports may result in incorrect time indication due to local application of daylight saving time, etc.

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To get ready for a receive operation

1. Place the watch in a location where signal reception is good.



- Position the watch as shown in the nearby illustration, with the part of the dial between 7 and 8 o'clock pointed towards a window. Make sure there are no metal objects nearby.
- Signal reception normally is better at night.
- The receive operation takes from three to eight minutes, but in some cases it can take as long as 18 minutes. Take care that you do not perform any button operation or move the watch during this time.

• Signal reception may be difficult or even impossible under the conditions described below.



- Inside or among buildings
- Inside a vehicle
- Near household appliances, office equipment, or a mobile phone
- Near a construction site, airport, or other sources of electrical noise
- Near high-tension power lines
- Among or behind mountains

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2. What you should do next depends on whether you are using Auto Receive or Manual Receive.

- Auto Receive: Leave the watch over night in the location you selected in step 2. See "Auto Receive" on page E-32 for details.
- Manual Receive: Perform the operation under "To perform manual receive" on page E-34.

Auto Receive

- Place the watch in a location where signal reception is good. Auto Receive is performed each day up to three times between midnight and 5:00 a.m. Once a signal receive operation is successful, no more Auto Receive operations are performed that day.
- The watch's time setting is adjusted automatically whenever a receive operation is successful. The time setting is not updated if signal reception fails.

Note

- Auto Receive times depend on your currently selected Home City as shown below.

Your Home City		Auto Receive Start Times
TOKYO (TYO)	Standard Time	2:00 am, 3:00 am, 4:00 am
HONG KONG (HKG)	Standard Time	1:00 am, 2:00 am, 3:00 am
HONOLULU (HNL), ANCHORAGE (ANC), LOS ANGELES (LAX), DENVER (DEN), CHICAGO (CHI), NEW YORK (NYC)	Standard Time	2:00 am, 3:00 am, 4:00 am
LONDON (LON)	Standard Time	1:00 am, 2:00 am, 3:00 am
	Daylight Saving Time	2:00 am, 3:00 am, 4:00 am
PARIS (PAR)	Standard Time	2:00 am, 3:00 am, 4:00 am
	Daylight Saving Time	3:00 am, 4:00 am, 5:00 am
ATHENS (ATH)	Standard Time	3:00 am, 4:00 am, 5:00 am
	Daylight Saving Time	4:00 am, 5:00 am, Midnight (Next day)

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To perform manual receive

1. Hold down (A) for at least two seconds.

- The [2] Second Hand will first indicate the last receive results as either Y (YES) or N (NO), and then move to RC (Receive in progress) to indicate that signal reception has started.



2. The watch's time setting is adjusted automatically whenever a receive operation is successful.

Note

- It can take as long as 30 seconds for signal reception conditions to stabilize.
- If you want to stop a receive operation at any time, press (A).
- If reception fails for some reason, check the surrounding area and eliminate possible causes for failure and then try again. See "To get ready for a receive operation" (page E-30).

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To check the result of the latest receive operation



1. Press (A).

The [2] Second Hand will indicate the result of the last receive operation.

Y (YES)	Receive successful
N (NO)	Receive failed

2. Press (A) to return to regular timekeeping. Regular timekeeping also will resume if no operation is performed for about five seconds.

Note

- The [2] Second Hand will indicate N (NO) if you have adjusted the time setting manually since the latest receive operation.

Radio-controlled Atomic Timekeeping Precautions

- Strong electrostatic charge can result in the wrong time setting.
- Even if a receive operation is successful, certain conditions can cause the time setting to be off by up to one second.
- If you are in an area where signal reception is not possible, the watch keeps time with the precision noted in "Specifications" (page E-60).
- The receive operation is disabled under any of the following conditions.
 - While the battery charge level is at Level 3 or lower (page E-18)
 - While the watch is in the function sleep state (power saving, page E-23)

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Regular Timekeeping and World Time

Regular timekeeping is performed in accordance with the current Home City time, which is determined by your current Home City and its daylight saving time setting. Based on your Home City time, the watch also keeps track of the current time in 24 cities around the world (World Time).

- If your currently selected Home City is one that supports time calibration signal reception, the time setting will be automatically adjusted whenever a signal is received.
- If your Home City does not support signal reception, regular timekeeping is performed like a normal quartz timepiece.

Important!

- Whenever you are in an area where a signal cannot be received or if your Home City does not support signal reception, you will need to configure time settings manually. See "Configuring Current Time Settings Manually" (page E-46).



Hand Functions

- 1 Hour Hand
- 2 Second Hand
- 3 Minute Hand
- 4 Home City Indicator

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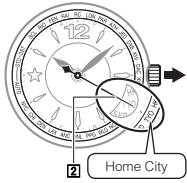
Configuring Home City Settings

For your Home City, you should select one of the 24 cities in the City Code Table that is in the same time zone as your current location. You also need to select either standard time (STD) or daylight saving time (DST) in accordance with the use of daylight saving time in your country or geographic area.

If you are in an area where time calibration signal reception is possible, setting the wrong city as your Home City can make reception impossible or may result in incorrect time settings.

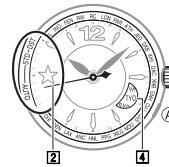
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To configure Home City settings



Note

- This watch does not have a city code that corresponds to Newfoundland.
- Pull out the crown to the first click.
 - The **[2] Second Hand** will move to the currently selected Home City.
 - Leaving the crown pulled out for more than two minutes without performing any operation will automatically cause the setting operation to become disabled. If this happens, press the crown back in and then pull it out again to configure settings.



- Rotate the crown to move the **[2] Second Hand** to the city that you want to use as your Home City.
- Next, press **(A)**. The **[2] Second Hand** will move to **AUTO**, **STD** (standard time), or **DST** (daylight saving time), which indicates the current standard time/daylight saving time setting. See "Standard Time and Daylight Saving Time Settings" (page E-43).
- Push the crown back in.
 - The **[4] Home City Indicator** will show the city code of the Home City you selected in step 2, above.
 - For about one second, the **[2] Second Hand** will perform movement that indicates the current charge level of the battery. It can take up to about 10 minutes before the watch returns to regular timekeeping. See "Charging Guide" (page E-19).

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Important!

- If the area where you are located is under daylight saving time and you select **AUTO** as the watch's standard time/daylight saving time setting, the time shown by the watch will be one hour behind the actual time until a time calibration signal operation is performed successfully. If you are in an area where signal reception is not possible for some reason, change the above setting to **DST** (daylight saving time).

Note

- You can select one of 24 cities around the globe as your Home City. Whenever you change your Home City, the time setting will change automatically to the current time in that city.

Example: Changing your Home City from Tokyo to New York (standard time)

Home City	
Before change	Tokyo (TYO/TOKYO) 10:00 a.m.
After change	New York (NYC/NEW YORK) 8:08 p.m. (standard time)

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Standard Time and Daylight Saving Time Settings

Daylight Saving Time (DST)

Daylight saving time (summer time) advances the time setting by one hour from standard time. Remember that not all countries or even local areas use daylight saving time.

The time calibration signals transmitted from Mainflingen (Germany), Anthorn (England), or Fort Collins (the United States) include both standard time and daylight saving time data.

- Note that an **AUTO** setting will be indicated only if the currently selected city code is one that supports calibration time signal reception. While **AUTO** is selected, the watch will switch between STD and DST automatically in accordance with time calibration signal data.
- The initial default setting is **AUTO** when any one of the following city codes is selected as the Home City code: LONDON (LON), PARIS (PAR), ATHENS (ATH), NEW YORK (NYC), CHICAGO (CHI), DENVER (DEN), LOS ANGELES (LAX), ANCHORAGE (ANC), or TOKYO (TYO).

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- In an area where a time calibration signal cannot be received, you can switch between **STD** and **DST** manually.
- Note that you cannot switch between **STD** (standard time) and **DST** (daylight saving time) while **UTC** is selected as your Home City.
- Coordinated Universal Time, the world-wide scientific standard of timekeeping. The reference point for UTC is Greenwich, England.*
- If you experience problems receiving the time calibration signal in your area, it probably is best to switch between standard time and daylight saving time manually (page E-45).

AUTO	Selecting this setting when your current Home City supports time calibration signal reception will enable automatic switching between standard time and daylight saving time based on signal data.
STD (standard time)	Switches to standard time.
DST (daylight saving time)	Switches to daylight saving time.

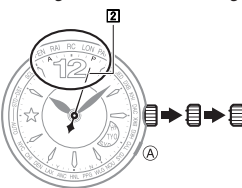
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Configuring Current Time Settings Manually

You can configure current time settings manually when the watch is unable to receive a time calibration signal.

To change the current time setting manually



- Pull out the crown to the second click.
 - The **[2] Second Hand** will move to **A** (AM) or **P** (PM) in accordance with the current time.

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To change the standard time/daylight saving time setting



- Pull out the crown to the first click.
- Press **(A)**.
 - The **[2] Second Hand** will move to **AUTO**, **STD** (standard time), or **DST** (daylight saving time), which indicates the current standard time/daylight saving time setting.
- Rotate the crown to move the **[2] Second Hand** to **AUTO**, **STD** (standard time), or **DST** (daylight saving time) in accordance with the setting you want.
- Push the crown back in.

- Each press of **(A)** will toggle between the two settings shown below.



- While the time setting is selected, rotate the crown to change the current time setting.

Note

- A high-speed movement feature (one hour maximum) is available when setting the time. See "Crown Operations" (page E-6) for more information.
- After the time setting is the way you want, press **(A)** to change to the AM/PM setting.
 - The **[2] Second Hand** will move to **A** (AM) or **P** (PM).
 - Rotate the crown to move the **[2] Second Hand** to the AM/PM setting you want.
 - At the top of a minute (based on the time signal on the radio, TV, etc.), push the crown back in to restart timekeeping.
 - The **[2] Second Hand** will restart timekeeping from 0 seconds (12 o'clock).

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Adjusting the Home Positions

Strong magnetism or impact can cause the hands or **[4] Home City Indicator** of the watch to be off, even if the watch is able to perform the calibration signal receive operation. The watch automatically detects and adjusts the position of the **[2] Second Hand** as required.

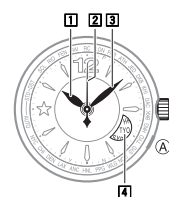
Note, however, that the watch does not automatically correct the positions of the **[1] Hour Hand**, **[3] Minute Hand**, or **[4] Home City Indicator**. You need to correct the positions of these manually.

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Adjusting Home Positions Manually

Important!

- You do not need to perform the procedure in this section if the watch is indicating the hour, minute, and Home City normally.



- Pull the crown out to the first click.
- Hold down **(A)** for at least five seconds until the **[2] Second Hand** moves to 12 o'clock.
 - The **[3] Minute Hand** and **[2] Second Hand** should move to their correct home positions (12 o'clock) when you release **(A)**. If they do, advance to step 5.
- What you should do next depends on how much the hand positions are off, as described below.
 - Off within ± 15 minutes 00 seconds: Perform steps 4, 5, and 6 of this procedure.
 - Off by more than ± 15 minutes 00 seconds: Perform steps 7, 8, 9, and 10 of this procedure.

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Hands off within ±15 minutes 00 seconds

- Rotate the crown to move the **[2] Second Hand** and **[3] Minute Hand** to their correct home positions (12 o'clock).
 - A high-speed movement feature (15 minutes maximum) available when adjusting the home positions of the hands. See "Crown Operations" (page E-6).
- Press **(A)** and check the **[4] Home City Indicator**.
 - The **[4] Home City Indicator** should show a star (★), and the **[2] Second Hand** should move until it is aligned with the bottom of the **[4] Home City Indicator**. Note that this will take about 90 seconds.
 - If the **[4] Home City Indicator** does not show a star (★), rotate the crown until it does. A high-speed movement feature (one full cycle maximum) is available when adjusting the home position of the **[4] Home City Indicator**. See "Crown Operations" (page E-6).

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- Press **(A)**.
 - The **[1] Hour Hand**, **[3] Minute Hand** and **[2] Second Hand** should move to their correct home positions (12 o'clock) when you release **(A)**. This can take up to about 10 minutes.
- Rotate the crown to adjust the positions of the hands.
 - A high-speed forward movement feature (12 hours maximum) and a high-speed backward movement feature (one hour maximum) are available when adjusting the positions of the hands. – Crown Operations (page E-6)
- Push the crown back in.
 - This completes home position adjustment when hands are off within ±15 minutes 00 seconds, and returns to regular timekeeping. Note that it can take up to about 10 minutes before the watch returns to regular timekeeping.

Note

- You can stop hand adjustment at any time by pushing the crown back in. This will return to regular timekeeping with the hands at positions reflecting any changes you made up to that point.

E-52

- The watch is recovering from a sleep state (page E-24).
- The time setting is being adjusted following a successful auto time calibration signal receive operation (page E-25).

Nothing happens when I rotate the crown.

Leaving the crown pulled out for more than two minutes without performing any operation will automatically cause the setting operation to become disabled. If this happens, press the crown back in and then pull it out again to configure settings. See "Crown Operations" (page E-6).

Hand movement is stopped.

The watch may have been exposed to magnetism, which will cause the hands to stop at their current positions. Pull the crown out to the first click or press a button to restart hand movement. If the indicated time is not correct, perform home position adjustment. See "Adjusting Home Positions Manually" (page E-49).

The current time setting is off by hours.

Your Home City setting may be wrong. Check your Home City setting and correct it, if necessary (page E-39).

E-54

E-55

Time Calibration Signal

The information in this section applies only when **LONDON (LON)**, **PARIS (PAR)**, **ATHENS (ATH)**, **HONOLULU (HNL)**, **ANCHORAGE (ANC)**, **LOS ANGELES (LAX)**, **DENVER (DEN)**, **CHICAGO (CHI)**, **NEW YORK (NYC)**, **HONG KONG (HKG)**, or **TOKYO (TYO)** is selected as the Home City. You need to adjust the current time manually when any other city is selected as the Home City.

E-56

E-57

The current time setting changes after I set it manually.

You may have the watch configured for Auto Receive of the time calibration signal (page E-31), which will cause the time to be adjusted automatically according to your currently selected Home City. If this results in the wrong time setting, check your Home City setting and correct it, if necessary (page E-39).

The current time setting is off by one hour.

Possible Cause	Remedy	Page
Signal reception on a day for switching between STD (standard time)/ DST (daylight saving time) may have failed for some reason.	Perform the operation under "To get ready for a receive operation". The time setting will be adjusted automatically as soon as signal reception is successful.	E-30
	If you are unable to receive the time calibration signal, change the STD (standard time)/ DST (daylight saving time) setting manually.	E-43

E-58

- After everything is the way you want, push the crown back in.
 - This completes home position adjustment when hands are off within ±15 minutes 00 seconds, and returns to regular timekeeping. Note that it can take up to about 10 minutes before the watch returns to regular timekeeping.

Hands off by more than ±15 minutes 00 seconds

In this case, check the position of the **[4] Home City Indicator** first.

- Press **(A)** and check the **[4] Home City Indicator**.
 - The **[4] Home City Indicator** should show a star (★), and the **[2] Second Hand** should move until it is aligned with the bottom of the **[4] Home City Indicator**. Note that this will take about 90 seconds.
 - If the **[4] Home City Indicator** does not show a star (★), rotate the crown until it does. A high-speed movement feature (one full cycle maximum) is available when adjusting the home position of the **[4] Home City Indicator**.

Troubleshooting

Hand Movement and Position

- The [2] Second Hand is moving in the pattern:**
1 second → 1 second → 2 seconds.

The battery charge is starting to go low. Expose the watch to light to charge it. See "Charging the Watch" (page E-16).

- The [2] Second Hand is moving at two-second intervals.**
- All of the watch's hands are stopped at 12 o'clock, and the (A) button and crown do not do anything.**

The battery charge may be low. Expose the watch to light until the **[2] Second Hand** starts moving normally, at one-second intervals (page E-18).

- 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.

E-53

The current time setting is off by one hour.

The standard time/daylight saving time setting is wrong. See "Standard Time and Daylight Saving Time Settings" (page E-43).

Second hand position and Home City indication are not correct.

This could indicate that the watch has been exposed to magnetism or strong impact, which has caused problems with proper hand alignment. Adjust the watch's hand home position alignment (page E-49).

Charging

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

This can happen after the battery charge level drops to Level 4 (page E-18). Continue exposing the watch to light until the **[2] Second Hand** starts moving normally (at one-second intervals).

The [2] 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"> You are wearing or moving the watch, or performing a button operation during the signal receive operation. The watch is in an area with poor reception conditions. 	Keep the watch in an area where reception conditions are good while the signal receive operation is being performed.	E-30
You are in an area where signal reception is not possible for some reason.	See "Approximate Reception Ranges".	E-27
The calibration signal is not being transmitted for some reason.	<ul style="list-style-type: none"> Check the website of the organization that maintains the time calibration signal in your area for information about its down times. Try again later. 	—

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

Possible Cause	Remedy	Page
Your Home City setting is wrong.	Check your Home City setting and correct it, if necessary.	E-25 E-39
There is not enough power for signal reception.	Expose the watch to light to charge it.	E-16

Signal reception is being performed successfully, but the time is wrong.

Possible Cause	Remedy	Page
Your Home City setting is wrong.	Check your Home City setting and correct it, if necessary.	E-25 E-39
The watch may have been exposed to magnetism or strong impact, which has caused problems with proper hand alignment.	Adjust the watch's hand home positions.	E-48

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Specifications

Accuracy at normal temperature: ± 15 seconds a month (with no signal calibration)

Timekeeping: Hour, minutes, seconds

World Time: Home City code (can be assigned one of 24 city codes)
Daylight Saving Time (summer time) / Standard Time

Time Calibration Signal Reception: Auto receive up to three times a day
(Remaining auto receives cancelled as soon as one is successful);
Manual receive

Receivable Time Calibration Signals:

Mainflingen, Germany (Call Sign: DCF77, Frequency: 77.5 kHz);
Anthorn, England (Call Sign: MSF, Frequency: 60.0 kHz); Fukushima,
Japan (Call Sign: JJY, Frequency: 40.0 kHz); Fukuoka/Saga, Japan
(Call Sign: JJY, Frequency: 60.0 kHz); Fort Collins, Colorado, the
United States (Call Sign: WWVB, Frequency: 60.0 kHz); Shangqiu City,
Henan Province, China (Call Sign: BPC, Frequency: 68.5 kHz)

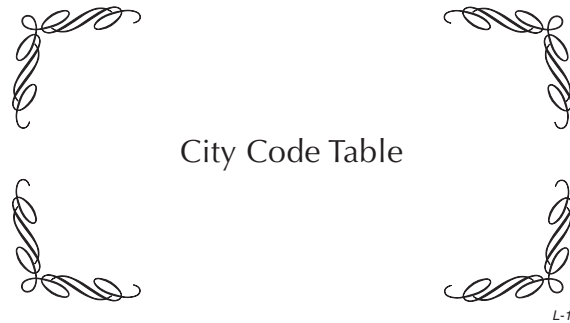
Other: Power Saving; Auto second hand home position correction

Power Supply: Solar panel and one rechargeable battery

Approximate battery operating time: 5 months (no exposure to light after a full charge; one signal reception of approximately 4 minutes per day)

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City Code Table

City Code	City	UTC Offset/ GMT Differential
PAGO PAGO (PPG)	Pago Pago	-11
HONOLULU (HNL)	Honolulu	-10
ANCHORAGE (ANC)	Anchorage	-9
LOS ANGELES (LAX)	Los Angeles	-8
DENVER (DEN)	Denver	-7
CHICAGO (CHI)	Chicago	-6
NEW YORK (NYC)	New York	-5
SANTIAGO (SCL)	Santiago	-4
RIO	Rio De Janeiro	-3
F. DE NORONHA (FEN)	Fernando de Noronha	-2
PRAIA (RAI)	Praia	-1
UTC		0
LONDON (LON)	London	0

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City Code	City	UTC Offset/ GMT Differential
PARIS (PAR)	Paris	+1
ATHENS (ATH)	Athens	+2
JEDDAH (JED)	Jeddah	+3
DUBAI (DXB)	Dubai	+4
KARACHI (KHI)	Karachi	+5
DHAKA (DAC)	Dhaka	+6
BANGKOK (BKK)	Bangkok	+7
HONG KONG (HKG)	Hong Kong	+8
TOKYO (TYO)	Tokyo	+9
SYDNEY (SYD)	Sydney	+10
NOUMEA (NOU)	Noumea	+11
WELLINGTON (WLG)	Wellington	+12

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* Based on data as of December 2010.

* The rules governing global times (UTC offset and GMT differential) and summer time are determined by each individual country.

L-4