MA1108-EB

P

5068

User's Guide

MR-G

Thank you for purchasing this CASIO watch. To ensure that it can provide you with the years of service for which it is designed, be sure to read this manual carefully and follow the instructions contained herein.
Pay particular attention to the Safety Precautions on the following pages. Be sure the read the Safety Precautions before trying to use this watch.
Be sure to keep all user documentation handy for future reference.

- Note that the watch illustrations in this manual are intended for reference only, and so the actual watch may appear somewhat different than depicted by an illustration.

Features

- **Solar charging**
- **Radio-controlled atomic timekeeping**
- **Stopwatch**
- **Countdown Timer**
- **World Time**
- **Alarm**
- **Auto hand home position correction**

Be sure to charge the watch sufficiently before using it!

Your watch runs on electrical power generated from light, which is stored by a rechargeable battery.
To ensure stable operation, make sure that the watch is exposed to light as much as possible as described in this manual.
See “Solar Charging” for more information about required charging times.

Safety Precautions

Symbols

This manual and the watch itself use various symbols that are intended to ensure safe operation of the watch, to prevent injury to you and others, and to protect against material damage and loss. The following explains the meanings of the symbols.

Example Symbols

The △ symbol indicates something you need to exercise caution about. The symbol to the left indicates an electric shock precaution.

The ⃠ symbol indicates something you must not do. The symbol to the left indicates that you should not try to disassemble something.

The ● symbol indicates something you must do. The symbol to the left indicates that you must unplug the power cord from the power outlet.

Danger!	Disregarding information with this label creates the risk of death or serious personal injury.
Warning!	Disregarding information with this label could possibly create the risk of death or serious personal injury.
Caution!	Disregarding information with this label could possibly create the risk of personal injury or material loss.

Warning!

Do not use this watch while scuba diving (aqualung).

- This watch is not a diving watch. Improper use of this watch can lead to serious accident.

Battery

Whenever removing the button type battery, take care to ensure that the battery is not swallowed accidentally.
Special care is required where young children are present.

Keep batteries out of the reach of small children. Should a battery ever be swallowed accidentally, contact a physician immediately.

Caution!

User Maintenance

A dirty or rusty case or band can soil the sleeve of your clothing. Be sure to keep the case and band clean at all times. Rust tends to form easily after the watch is exposed to seawater and then left without cleaning.

Caution!

Skin Irritation

Since the watch and the band come into direct contact with the skin, the following conditions may cause irritation of the skin.

1. When a wearer is allergic to metal or leather
2. When the watch or band is rusty dirty, sweaty, etc.
3. When the wearer is in poor physical condition

- Tightening the band too tightly can cause you to sweat and make it difficult for air to pass under the band, which can lead to skin irritation. Do not over-tighten the band.
- The bacterial and odor resistant band suppresses the formation of organisms and bacteria due to sweat, and related odors. It does not protect against skin rash.
- Should you ever notice any abnormality, immediately stop using the watch and consult a physician.

Caution!

Never try to take the watch apart!

Never try to take the watch apart. Doing so creates the risk of personal injury and malfunction of the watch.

Caution!

Use of the Watch

To avoid unexpected accidents, always check around you to ensure you are in a safe place before looking at the display of the watch. Looking at the watch while running or jogging on the open road, while riding a bicycle, or operating a motor vehicle can lead to accidents. Take care to avoid running into others.

Take care to avoid breaking your fingernails when fastening and unfastening the band. Particular care is required by people with long fingernails.

To avoid unexpected injury or skin irritation due to allergic reaction, do not wear the watch while sleeping.

Caution!

Use of the Watch

When picking up or otherwise coming into contact with a child, remove the watch from your wrist to avoid injury to the child or causing irritation of the child's skin.

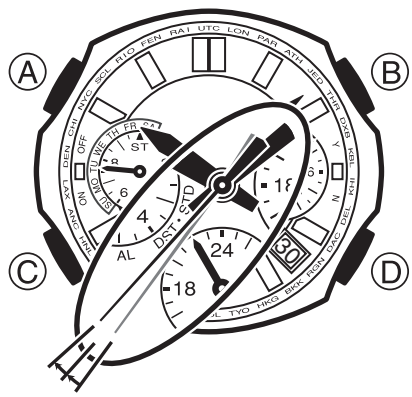
Before using the watch...

Expose the watch to light.

Your watch runs on electrical power generated from light, which is stored by a rechargeable battery. Long-term storage of the watch can cause power to run low, so be sure to expose the watch to light before using it for the first time. See page 18 for more information.

Low Battery Alert

When battery power is low, the second hand of the watch will jump at 2-second intervals in the Timekeeping Mode to let you know that charging is required. See page 20 for more information.



Jumps every two seconds

Power Saving

Power Saving causes the watch to enter a sleep state automatically, which stops movement of the analog hands in order to save power whenever the watch is left in the dark.
The watch will exit the sleep state if you expose it to light or perform any button operation.

- Though the hands are stopped, the watch continues to keep time internally.
- Note that the watch also may enter the sleep state if its face is blocked from light by your sleeve.
- The watch does not enter the sleep state if it is in the Stopwatch Mode or Countdown Timer Mode.

How the sleep state works

Sleep Level 1

Sleep Level 1 is triggered whenever the watch is left in the dark for about one hour any time between the hours of 10 p.m. and 6 a.m. At this time, watch functions will operate as described below.

- The second hand will stop at its current position.
- The hour hand, 24-hour time hands, minute hand, and date indicator will continue to operate normally.
- Auto Receive is performed normally.
- Alarms and the hourly time signal will continue to operate normally. At this time, watch functions will operate as described below.

Sleep Level 2

Sleep Level 2 is triggered whenever the watch is left in the dark while in Sleep Level 1 for six or seven days.

- The hour hand, 24-hour time hand, minute hand, and World Time will stop at their current positions.
- World Time timekeeping will stop at the point the current time in the Timekeeping Mode reached 0:00.
- Auto Receive will be disabled.
- Alarms and the hourly time signal will be disabled.
- Date display will continue to operate normally.

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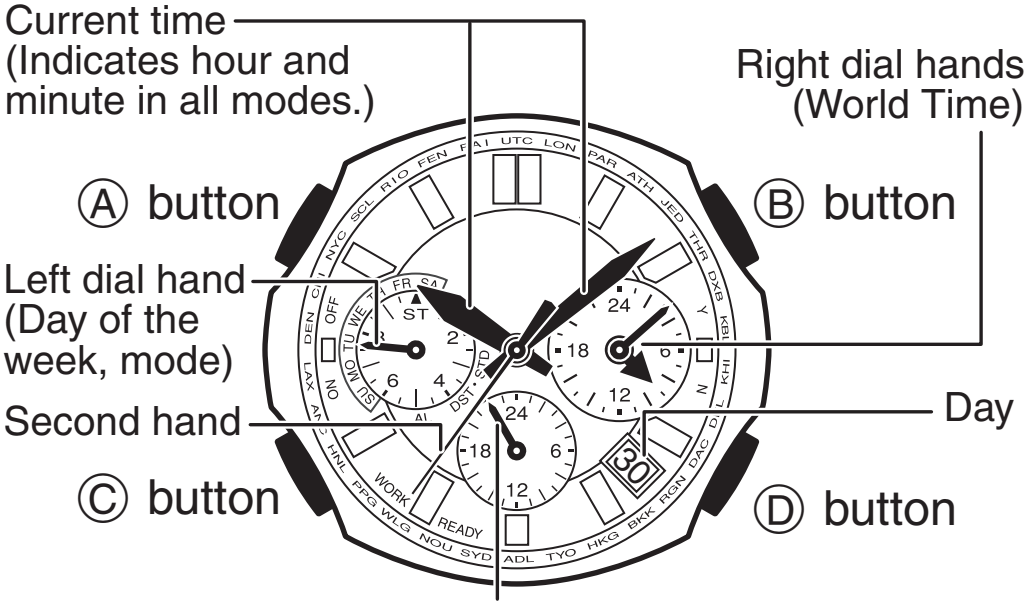
Modes and Indicators

Each press of Ⓒ cycles through modes in the sequence shown below.

- Stopping at a mode for about one second will cause the display to change to the data for that mode.
- Operating a button while the hands are moving at high speed may cause the hands to stop temporarily.

Timekeeping Mode



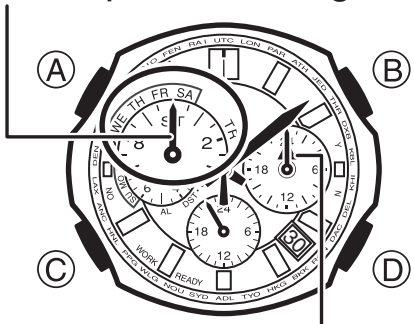
Ⓒ

- Ⓐ button
- Press once to view the last receive result (page 37).
- Any time except while the watch is performing auto hand home position correction, holding down Ⓒ for about two seconds will return directly to the Timekeeping Mode.
- See page 24 for more information.

- **The shape and markings of the face depend on the watch model.**

Stopwatch Mode

After indicating ST, indicates 1/20 seconds for stopwatch timing.



Stopwatch time hours and minutes

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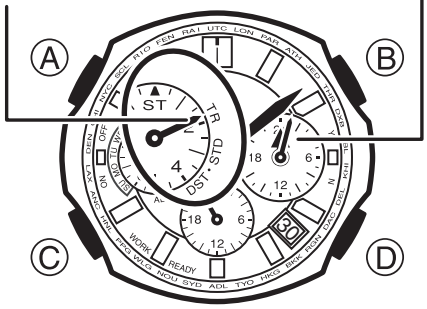
Ⓒ

Countdown Timer Mode

Countdown Timer hours and minutes

Indicates TR.



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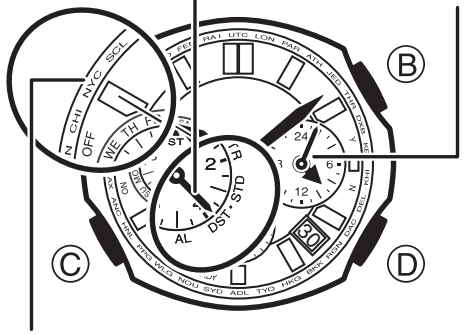
Ⓒ

World Time Mode

Indicates STD or DST.

World Time



City code

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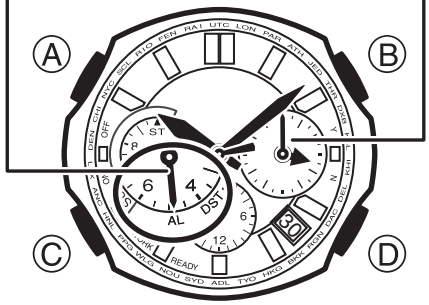
Ⓒ

Alarm Mode

Indicates AL.

Alarm time



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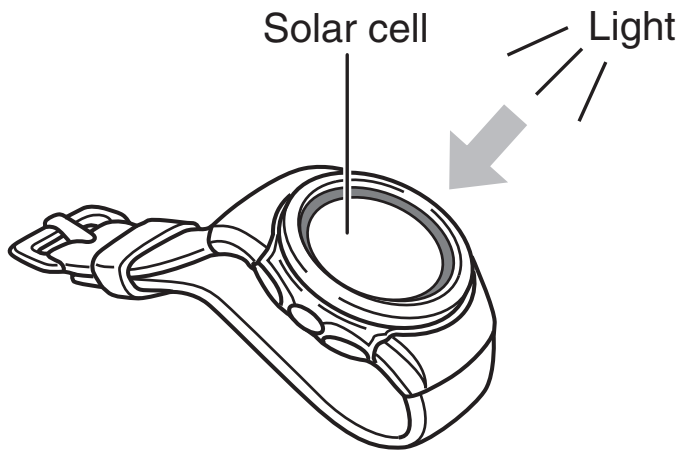
Ⓒ

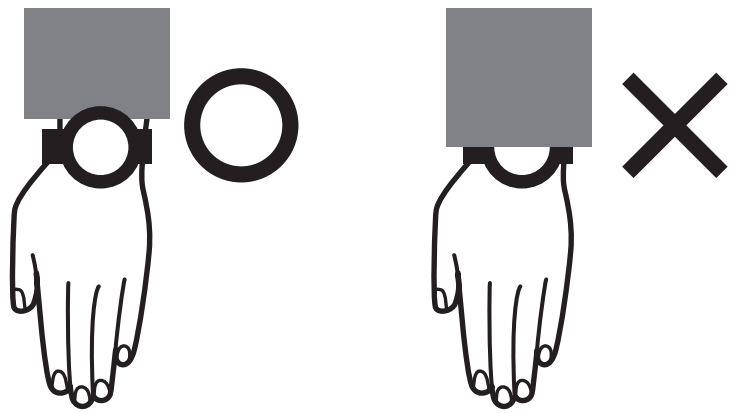
Solar Charging

Your watch runs on electrical power generated from light, which is stored by a rechargeable battery.
To ensure stable operation, make sure that the watch is exposed to light as much as possible.

- Whenever you are not wearing the watch on your wrist, position it so the face (solar cell) is pointed in the direction of a source of bright light. Leave the watch under fluorescent lighting, near a window, etc.

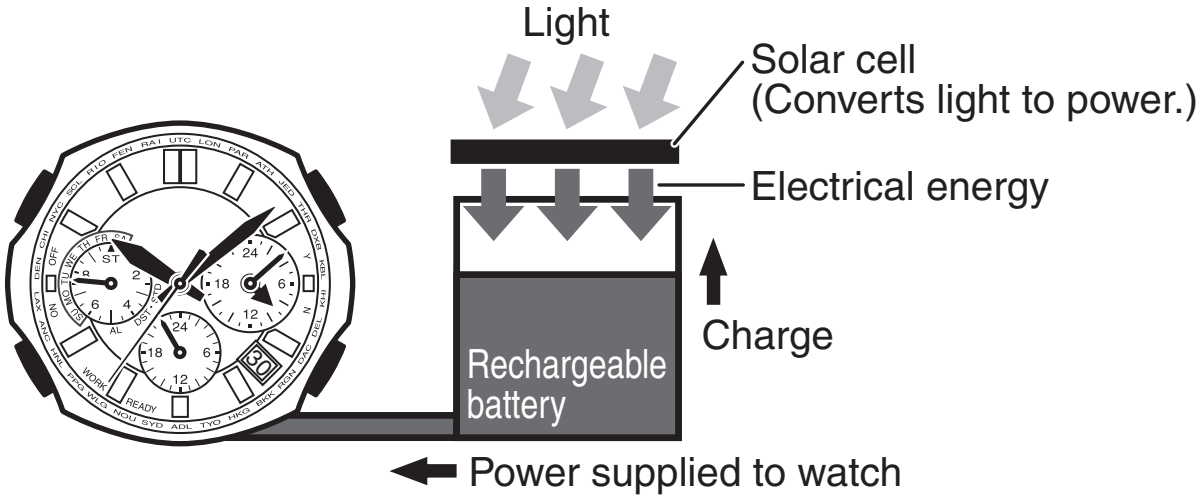


- The solar cell is located in the watch's face. When wearing the watch, try to keep your clothing from blocking its face. Charging efficiency is reduced significantly even if the face of the watch is covered only partially by your sleeve.

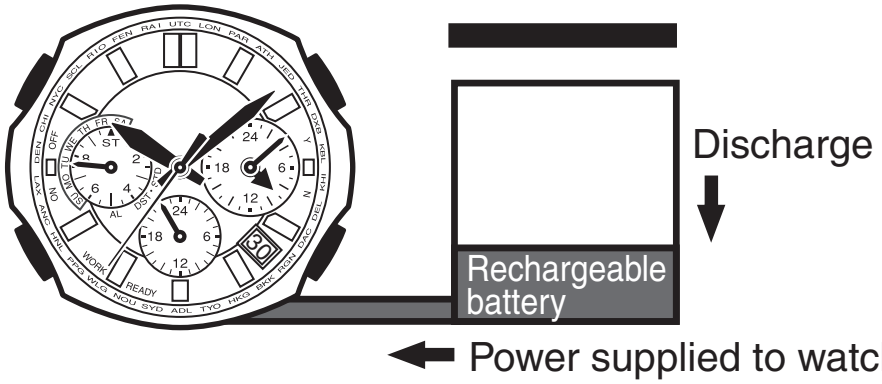


How the solar cell and battery work

While the watch is exposed to light...



While the watch is not exposed to light...



Your watch continues to operate even when it is not exposed to light. Leaving the watch in the dark can run down its battery and cause functions to become disabled.

Charging Precautions

Avoid charging the watch in the following locations, and anywhere else where the watch may become very hot.

- On the dashboard of an automobile parked in the sun
- Very close to an incandescent light source or other sources of heat
- In a location exposed to direct sunlight for long periods

Depending on the light source you are using, the case of the watch may become quite hot when charging. Take care to guard against burn injury after charging.

Low Battery Alert

When battery power is low, the second hand of the watch will jump at 2-second intervals in the Timekeeping Mode to let you know that charging is required.

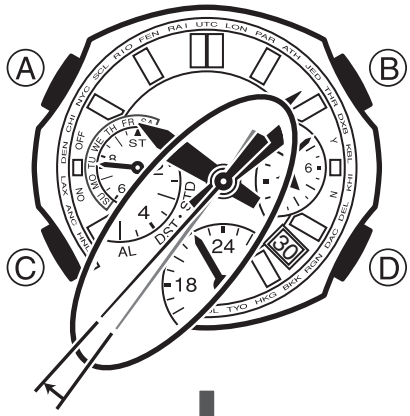
Important!

The following functions are disabled when battery power is low.

- Auto receive and manual receive
- Alarm beeper
- Timer countdown (If a countdown is in progress when the battery goes low, it continues. However, time up alert does not sound.)

- Even if the battery level drops to point that all functions become disabled, you still will be able to recharge the battery and use the watch again.
- When you recharge the battery after it drops to a level where functions become disabled, the hands will move automatically back to the current time setting.
- Try to keep the watch exposed to light as much as possible during normal use.

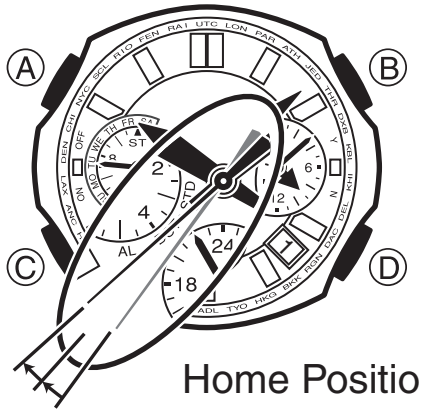
Normal Operation



Moves every second

When battery runs low

Low Battery Alert



Second hand jumps every two seconds. At midnight, the date indicator will change to 1 (which is the home position).

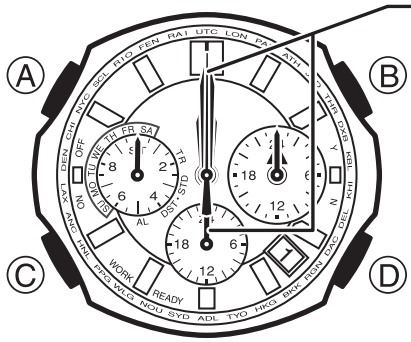
Home Position

Jumps every two seconds

If power drops even more...

Stopped

Hands stop at 12 o'clock.



All hands stop at 12 o'clock (home positions).

Recover Mode

If you use the alarm, calibration signal receive or any other function that puts a large load on the battery, the hands will stop temporarily. During this time all watch functions will be disabled.
Normal operation will return after the battery recovers.

Charging Guide

- **The tables in this section provide some guidelines about the amount of time required each day to ensure stable operation of the watch.**
- The values in this section are base on approximately four minutes of signal reception and 10 seconds of alarm operation per day.

Exposure Level (Brightness)	Approximate Charging Time
Outdoor Sunlight (50,000 lux)	8 minutes
Sunlight through a Window (10,000 lux)	30 minutes
Daylight through a Window on an Overcast Day (5,000 lux)	48 minutes
Indoor Fluorescent Lighting (500 lux)	8 hours

- Stable operation is enabled by frequent charging.

- **Approximate Charge Times Required to Advance to a Higher Level**

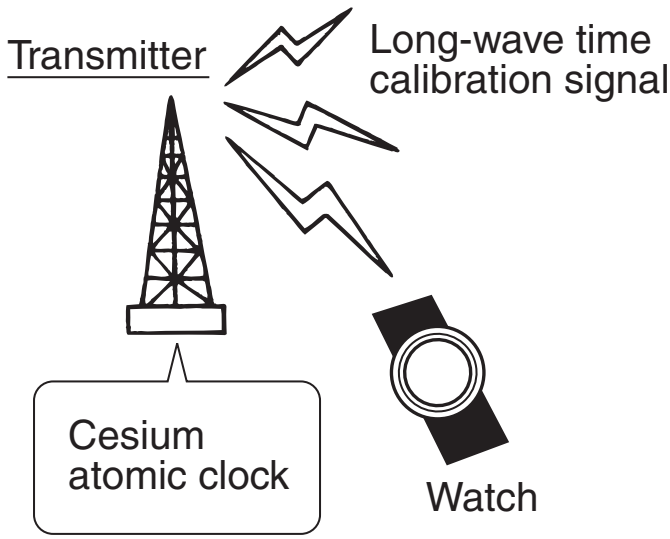
Exposure Level (Brightness)	Approximate Charging Time	
	Until Hand Movement Restarts	Until Full Charge
Outdoor Sunlight (50,000 lux)	2 hours	23 hours
Sunlight through a Window (10,000 lux)	6 hours	85 hours
Daylight through a Window on an Overcast Day (5,000 lux)	8 hours	138 hours
Indoor Fluorescent Lighting (500 lux)	92 hours	– – –

- Note that the above charging times are for reference only. Actual charging time depends on a variety of environmental factors.

How a Radio-controlled Watch Works

What is a radio-controlled watch?

A radio-controlled watch is designed to receive a time calibration signal that contains standard time data and adjust its current time setting accordingly.



After the watch receives the Standard Time signal, it performs internal calculations to determine the current time. Because of this, there may be an error of up to one second in the displayed time.

Calibration Signal

- The Japanese calibration signal (Call Sign: JJY) is maintained by the National Institute of Information and Communications Technology (NICT). It is transmitted 24 hours a day from Mt. Otakadoya (40 kHz) located in Tamura-gun, Fukushima Prefecture, and from Mt. Hagane (60 kHz) located on the border between Saga Prefecture and Fukuoka Prefecture.
- The Chinese time calibration signal (BPC) is maintained by National Time Service center (NTSC) of China and is transmitted from Shangqiu.
- The U.S. calibration signal (Call Sign: WWVB) is transmitted by the National Institute of Standards and technology from Fort Collins, Colorado.
- The U.K. calibration signal (Call Sign: MSF) is transmitted by the National Physical Laboratory (NPL) from Anthorn, which is located near Anthorn, Cumbria.
- The German calibration signal (Call Sign: DCF77) is transmitted by Physikalisch - Technische Bundesanstalt (PTB) in Mainflingen, which is located southeast of Frankfurt.
- Time calibration signal frequencies and transmitter locations are subject to change.

Note that transmission of the Japanese calibration signal may be interrupted occasionally due to maintenance, lightning, etc. For more information, visit the website of the Japan Standard Time Group of the National Institute of Information and Communications Technology (NICT) at the following URL.

http://jjy.nict.go.jp

- Note that the above URL is subject to change.

Reception Ranges

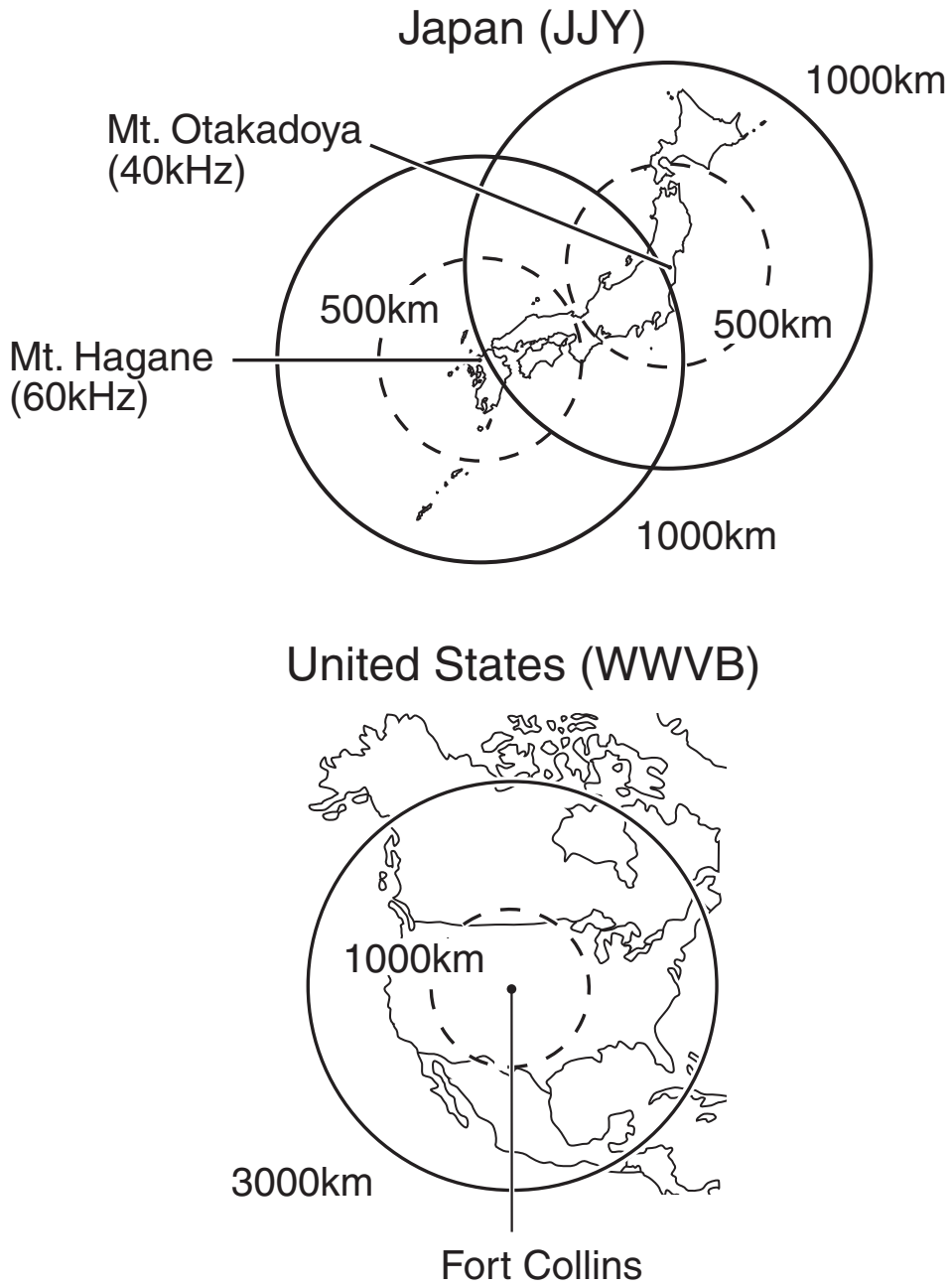
The table below shows the time calibration signal that the watch receives when a particular city code is selected as your Home City.

- For information about the Home City setting, see page 62. See page 56 for details on city codes.

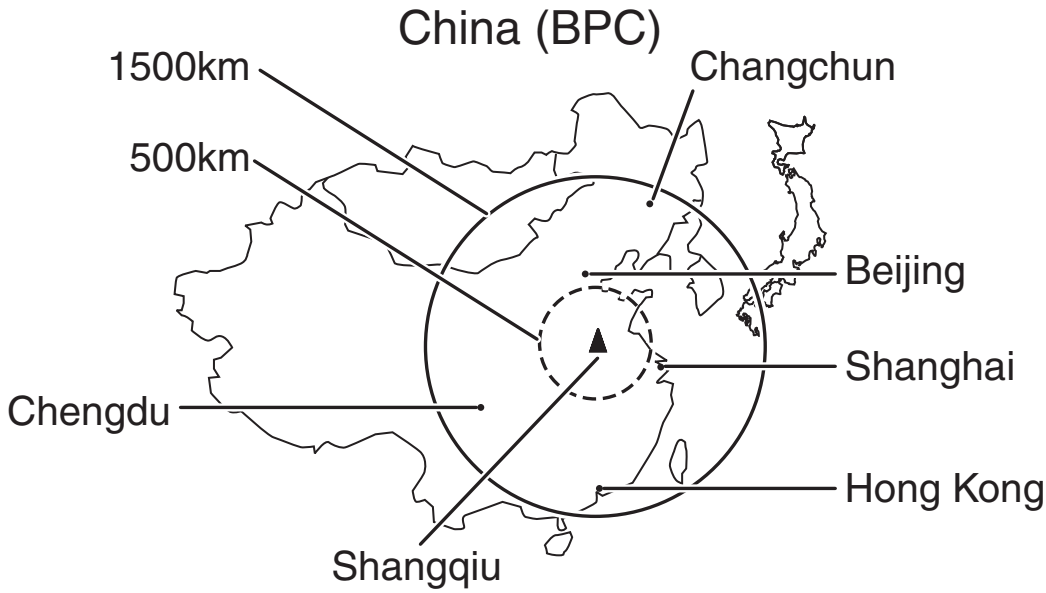
Home City (Supports signal reception)	Receivable Transmitter
TYO	Japan (JJY)
HKG	Chinese Time Calibration Signal (BPC)
(HNL), (ANC), LAX, DEN, CHI, NYC	United States (WWVB)
LON, PAR, ATH	U.K. (MSF) and Germany (DCF77)

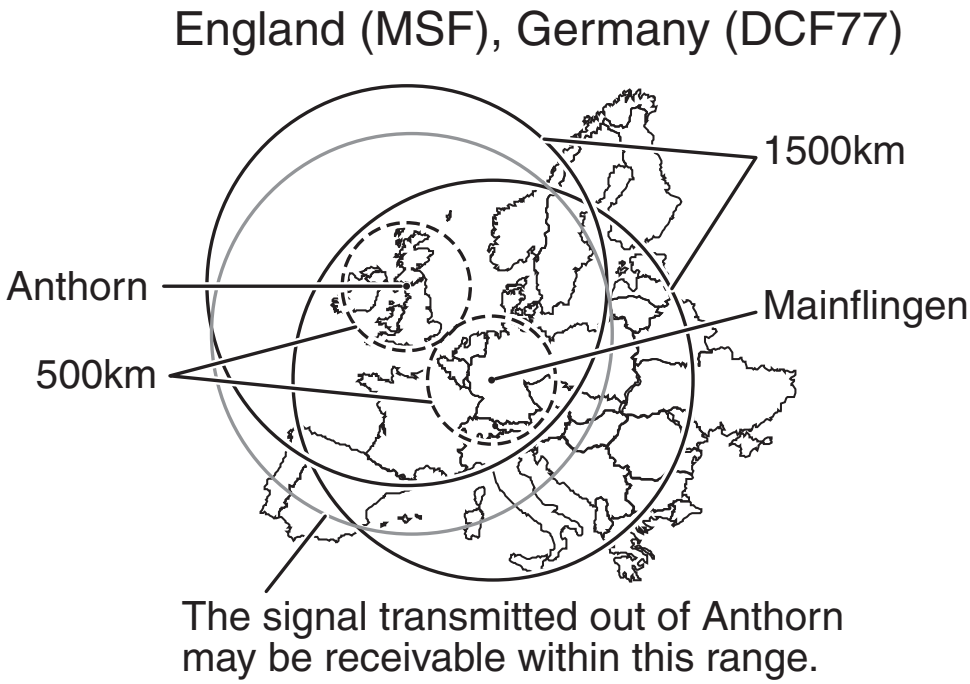
- City codes in parentheses indicate areas where reception may be possible when conditions are good.

Transmitter Locations



- Certain conditions can make reception impossible even when the watch is within one of the reception ranges shown above. Signals become weaker outside of the smaller circles indicated by dashed lines in the nearby maps, so the reception environment has a greater effect on signal reception.





- The following also can affect signal reception: geographic contours, structures, weather, climate, time of day (afternoon, evening), noise.

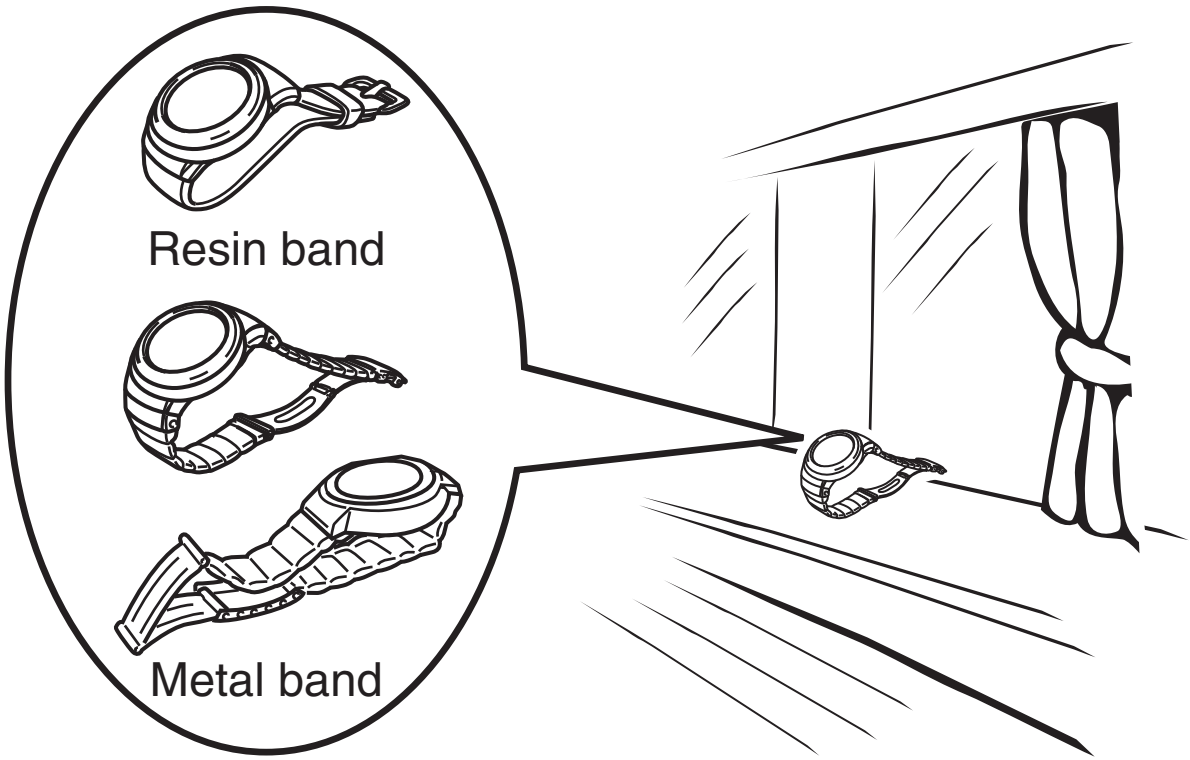
Reception Time

A receive operation can take anywhere from about two to seven minutes.

- Under certain conditions, a receive operation can take as long as 14 minutes.

Positioning the Watch for Best Reception

Remove the watch from your wrist and place it somewhere so its top (12 o'clock side, where the antenna is located) is facing approximately in the direction of the signal transmitter. Keep the watch away from metal objects.



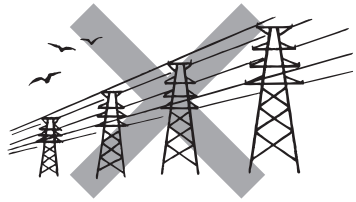
- Orienting the watch so it is sideways to the transmitter makes it more difficult for it to receive the signal.
- Do not move the watch while it is receiving the calibration signal.

Important!

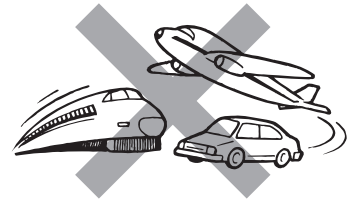
Reception is difficult and may even be impossible in the locations described below. Avoid such locations when performing signal reception.

- You should think of your watch as operating like a radio or TV when it is receiving the calibration signal.

Among or near buildings



Near high-voltage lines



Inside an automobile, train, plane, or other vehicle

Next to a TV, speaker, fax, computer, cellphone, or other household appliances or office equipment

At a construction site, airport, or other location where there is radio interference

Near mountains

If you are experiencing problems with reception, move away from the types of locations described above to a location with better reception, and try again.

Receiving a Calibration Signal

There are two methods you can use in order to receive the time calibration signal.

- Auto Receive: Six times a day (five times for the China signal)
- Manual Receive: Hold down Ⓐ in the Timekeeping Mode.

Auto receive

- You will need to perform the operations described below before you can use Auto Receive.
  - In the Timekeeping Mode, select a Home City that supports reception of your local time calibration signal. See pages 27 to 29, and page 62 for more information.
  - Put the watch into the Timekeeping Mode or World Time Mode. See “Modes and Indicators” on page 16.
  - During the Auto Receive times, position the watch correctly for best reception. See “Auto Receive Start Times” (below) and “Positioning the Watch for Best Reception” on page 30.

Home City		Auto Receive Start Times	
		1	2
TYO	Standard Time	Midnight	1:00 a.m.
HKG	Standard Time	1:00 a.m.	2:00 a.m.
HNL, ANC, LAX, DEN, CHI, NYC	Standard Time Summer time	Midnight	1:00 a.m.
LON	Standard Time	1:00 a.m.	2:00 a.m.
	Summer time	2:00 a.m.	3:00 a.m.
PAR	Standard Time	2:00 a.m.	3:00 a.m.
	Summer time	3:00 a.m.	4:00 a.m.
ATH	Standard Time	3:00 a.m.	4:00 a.m.
	Summer time	4:00 a.m.	5:00 a.m.

- Calibration signal reception will start automatically whenever the current time in the Timekeeping mode (page 16) reaches one of the Auto Receive Start Times shown below. Auto receive can be performed up to six times a day, but any time a signal receive operation is successful, no more auto receive operations are performed that day. Note that the Auto Receive Start Times differ according to the current Home City setting and the summer time setting.
- Summer time, or Daylight Saving Time (DST) as it is called in some countries, calls for setting clocks ahead one hour from standard time during the summer season.
- Note that the start and end of daylight time, and whether it is used at all depends on each country and geographic area.

Auto Receive Start Times			
3	4	5	6
2:00 a.m.	3:00 a.m.	4:00 a.m.	5:00 a.m.
3:00 a.m.	4:00 a.m.	5:00 a.m.	
2:00 a.m.	3:00 a.m.	4:00 a.m.	5:00 a.m.
3:00 a.m.	4:00 a.m.	5:00 a.m.	Midnight*
4:00 a.m.	5:00 a.m.	Midnight*	1:00 a.m.*
4:00 a.m.	5:00 a.m.	Midnight*	1:00 a.m.*
5:00 a.m.	Midnight*	1:00 a.m.*	2:00 a.m.*
5:00 a.m.	Midnight*	1:00 a.m.*	2:00 a.m.*
Midnight*	1:00 a.m.*	2:00 a.m.*	3:00 a.m.*

* Following day

When reception is successful

After a receive operation is complete, the watch will return to regular timekeeping, which will show the newly adjusted time.

When reception fails

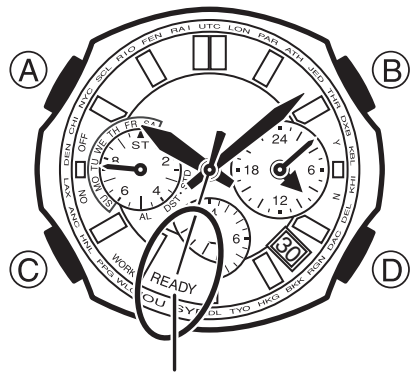
This will cause the watch to return to regular timekeeping without adjusting the time setting.

Using Manual Receive

Hold down Ⓐ for about two seconds in the Timekeeping Mode.

- You will need to perform the operations described below before you can perform Manual Receive.
- In the Timekeeping Mode, select a Home City that supports reception of your local time calibration signal. See pages 27 to 29, and page 62 for more information.
- Put the watch into the Timekeeping Mode. See “Modes and Indicators” on page 16.
- Position the watch correctly as shown under “Positioning the Watch for Best Reception” on page 30.

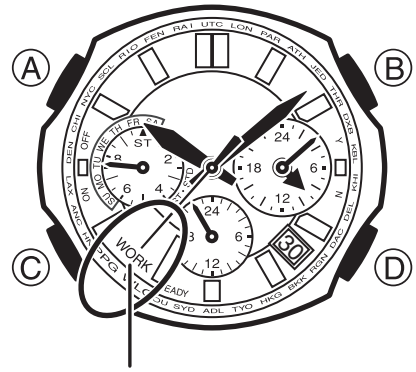
In the Timekeeping Mode, hold down Ⓐ for about two seconds.



READY (or R)

- The second hand will indicate the result of the reception, and then move to READY (R for some models).
- The hour and minute hands will continue to operate normally during signal reception.

While reception is in progress...

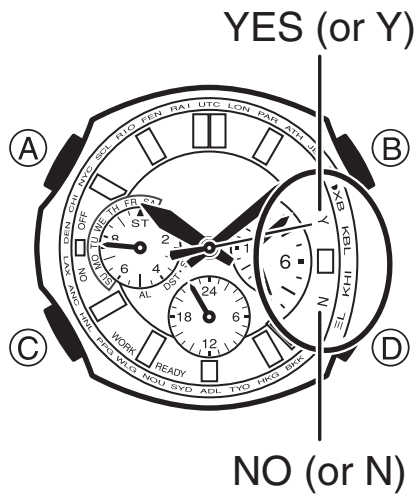


WORK (or W)

- The second hand will indicate the current reception status.
  READY (or R): Unstable reception
  WORK (or W): Stable reception
- Keep the watch in a location where reception is stable while a receive operation is in progress.
- Do not move the watch while signal reception is in progress (second hand at “WORK”).
- Even under optimum reception conditions, it can take about 10 seconds for reception to stabilize.
- Use the second hand position to check the status of a receive operation and to determine the best location for signal reception.
- Note that weather, the time of day, surroundings, and other factors all can affect reception.
- The hour and minute hands will continue to operate normally during signal reception.

When reception is complete...

- When signal reception is successful, the second hand will move to YES (Y for some models) and the current time setting will be adjusted according to the received information. Next, the watch will return to regular timekeeping.
- If signal reception is not successful, the second hand will move to NO (N for some models). Then after about five seconds the watch will return to regular timekeeping.



■ To cancel a manual receive operation

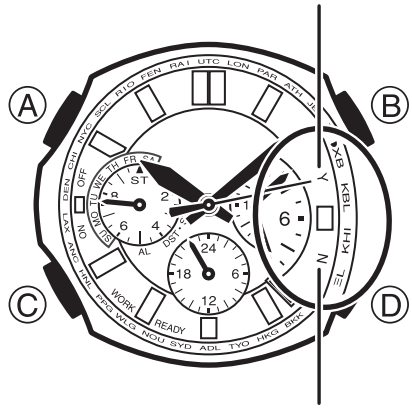
Press any button.

■ To check the result of the last receive operation

In the Timekeeping Mode, press Ⓐ.

- The second hand will move to YES (or Y) if the last receive operation was successful or to NO (or N) if the last receive operation was unsuccessful.
- Press Ⓐ once to return to regular timekeeping.
- If you do not perform any operation for about five seconds, the watch will return automatically to regular timekeeping.

YES (or Y): Successful



NO (or N): Unsuccessful

Calibration Signal Reception Precautions

- Auto receive can be performed while the watch is in the Timekeeping Mode or World Time Mode only.
- The receive operation is disabled under any of the following conditions.
  - When a timer operation is in progress
  - When the battery is dead
  - When the watch is in the recover mode
- Pressing any button while auto receive is in progress will cause the watch to exit the receive operation.
- Make sure you are within the range of a calibration signal transmitter before performing the receive operation. Remember that geographic contours, nearby buildings, the season, or the time of day can make reception impossible even when you are within range of the transmitter.
- Proper reception may be impossible if there is something blocking the signal. If reception is unsuccessful, try again.
- You will need to adjust the current time manually when using this watch in an area that is not covered by receivable time calibration signal.
- When the watch is unable to adjust its time using the calibration signal for some reason, timekeeping accuracy is as noted in the specifications at the back of this manual.
- Strong electrostatic charge can cause timekeeping error.
- Receive is cancelled if an alarm operation starts while it is being performed.
- The watch's calendar shows dates up to the year 2099. Attempting a receive operation after that causes an error.

Troubleshooting

1 The watch cannot receive the time calibration signal.

- Is there something in the immediate area that may be interfering with reception?
  Even if you are within the reception range of a transmitter, electrical noise or objects between you and the transmitter can interfere with reception. Avoid such areas during signal reception.
  See page 31 for more information.
- Are you within the reception range of a transmitter?
  See page 27 for information about areas where the watch can receive the signal.
- Are your Home City settings configured correctly?
  Select the correct Home City code using the procedure under “Configuring Home City Settings” on page 62.
- Is the signal being transmitted?
  Transmission of time calibration signals may be interrupted occasionally due to maintenance, lightning, etc.
- Is a timer operation in progress?
  Auto receive cannot be performed while a timer operation is in progress.

2 Time calibration signal reception is successful, but the hourly time signal and current time are slightly off.

- After the watch receives the time calibration signal, it performs an internal decoding process before updating its time setting. Because of this, the time setting may be off slightly (within one second).

3 Time calibration signal reception is successful, but the current time setting is wrong.

- Are your Home City settings configured correctly?
  Select the correct Home City code using the procedure under “Configuring Home City Settings” on page 62.
- Are the home positions of the hands off?
  Strong magnetism or impact can cause the hands and/or date of the watch to be off. Normally the watch adjusts the hand and date positions automatically once every hour. You also can perform manual hand adjustment, when required. See “Auto Hand Home Position Correction” on page 73 and “Manual Home Position Correction” on page 75 for more information.

- If you cannot receive the calibration signal or if the time setting is incorrect after signal reception, check the setup of the watch.
  - The following are the watch’s factory default settings, which are configured automatically whenever you have the battery of the watch replaced.

Home City	TYO	Tokyo
Summer time	STD	Standard Time

For more information about summer time, see page 52.

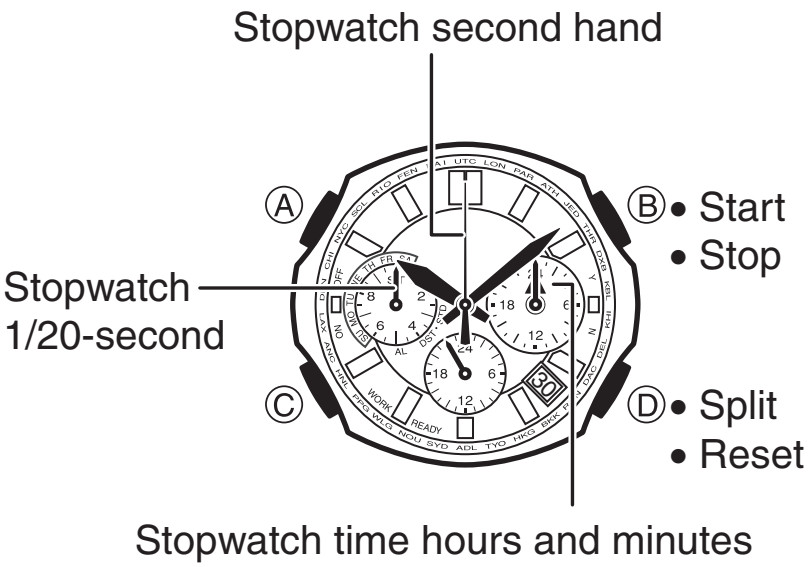
Stopwatch

The stopwatch measures elapsed time in units of 1/20 second up to 23 hours, 59 minutes, 59.95 seconds (24 hours). When the maximum limit is reached, the elapsed time returns to zero automatically and timing continues from there.

■ To start or stop an elapsed time operation

In the Stopwatch Mode, press Ⓑ to start and stop the stopwatch.

- Press Ⓑ to start and stop the stopwatch.

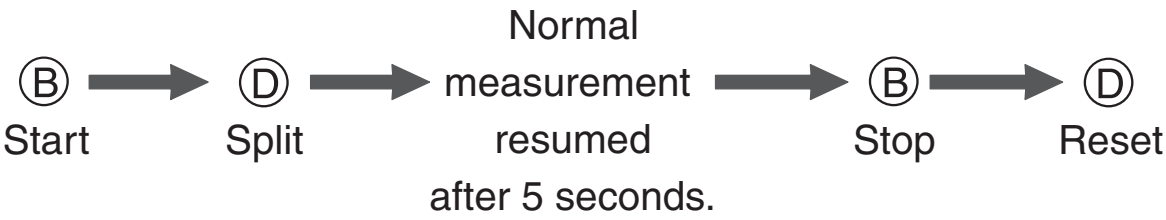


Use the Ⓒ button to enter the Stopwatch Mode as shown under "Modes and Indicators" on page 16.

- Pressing Ⓓ during an elapsed time operation stops the hands at the split time. Elapsed time measurement continues internally. After about five seconds, the hands will return to normal elapsed time indication.
- 1/20-second timing is performed only for the first 30 seconds after you start or restart an elapsed time operation. The left dial (1/20-second) hand also jumps to the 1/20-second position when you stop an elapsed time operation.
- Pressing Ⓓ while the stopwatch is stopped will reset stopwatch to zero.
- The following operations are not possible while the watch's hands are moving during a stopwatch elapsed time operation. Split, reset

■ To measure elapsed time

■ To measure split times



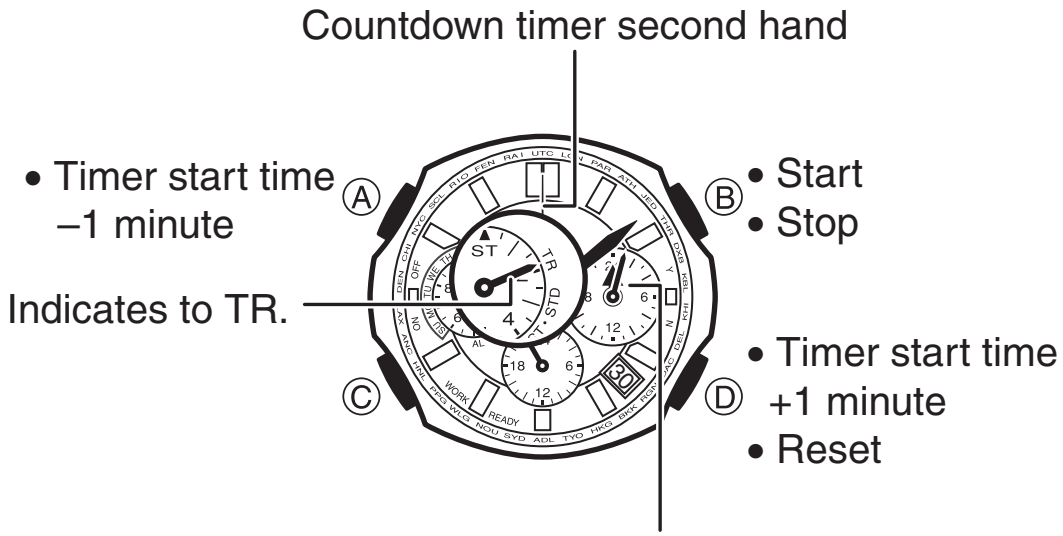
- Pressing Ⓓ again while a split time is indicated will cause the hands to jump to a new (current) split time.
- Pressing Ⓑ while a split time is indicated will stop the elapsed time operation, causing the hands to jump to the stop time.

Cumulative Elapsed Time Measurement

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

Countdown Timer

- The Countdown Timer lets you set a start time of up to 24 hours in 1-minute steps, and then countdown from there in one-second steps.
- The watch beeps for 10 seconds when the end of the countdown is reached.
- When the end of the countdown is reached, the watch switches automatically to measurement of the time elapsed since the end of the countdown (in units of one second).
- When the maximum limit (24 hours) of the elapsed time measurement operation is reached, the elapsed time operation continues from zero.



Use the Ⓒ button to enter the Countdown Timer Mode as shown under "Modes and Indicators" on page 16.

■ To set the countdown timer start time

1. **With the countdown timer stopped in the Countdown Timer Mode, press Ⓓ.**

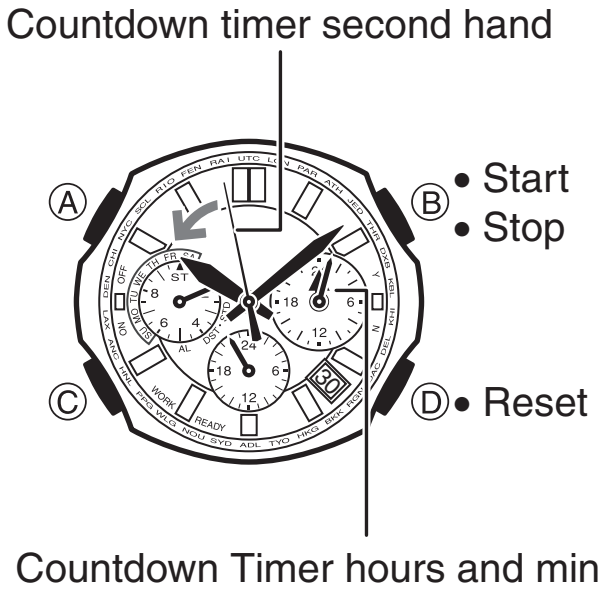
2. **Use Ⓓ (+) and Ⓐ (–) to change the countdown timer start time.**

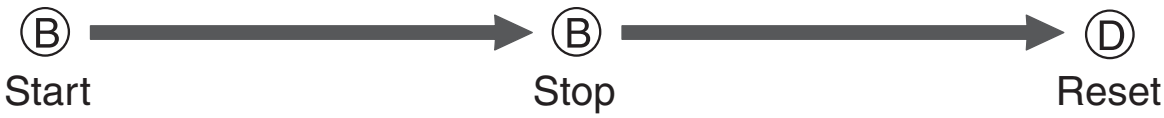
- Holding down either button will cause the hands to move at high speed. Once started, high-speed hand movement will continue even if you release the button. To stop high-speed hand movement, press any button.

■ To use the countdown timer

In the Countdown Timer Mode, press Ⓑ to start and stop the countdown timer.

- The right dial hands count down the time in one-second steps.
- The right dial hands move counterclockwise during countdown timer operation.





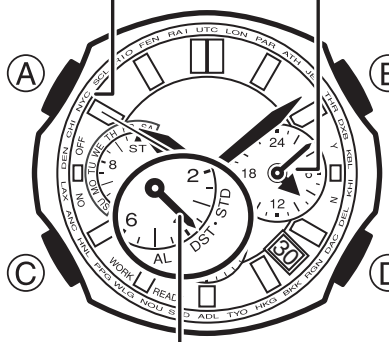
- Pressing Ⓓ while the countdown timer is stopped resets the displayed time to the start time.
- Pressing Ⓑ while the countdown timer is stopped will restart the countdown.
- When the end of the countdown is reached, the watch will beep and start an elapsed time operation. The right dial hands move clockwise during the elapsed time operation. Pressing Ⓑ will stop the elapsed time operation. Pressing Ⓓ while an elapsed time operation is stopped will reset the countdown timer to its start time.
- The countdown timer cannot be reset to its starting time while the right dial hands are moving during a countdown timer operation.

■ To stop the time up alert

Pressing any button while the alert is sounding will stop it.

World Time

World time lets you display the current time in any one of 29 cities (29 time zones) around the world.

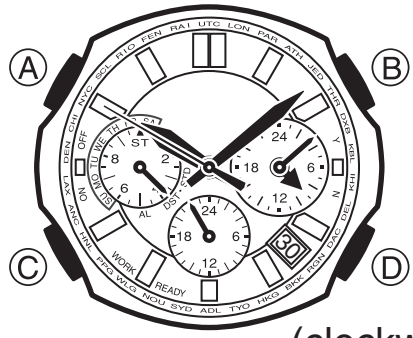


- If the current time is not correct, check your current Home City settings and make adjustments as required (page 62).
- The following operations are not possible while the watch's hands are moving to the current time for a newly selected city code.
  Ⓐ Button: STD/DST switching
  Ⓑ Button: Home Time/World Time swapping

Use the Ⓒ button to enter the World Time Mode as shown under "Buttons and Indicators" on page 16.

■ To search for a city

In the World Time Mode, press Ⓓ to move the second hand (which is pointing at the currently selected city code) clockwise.



(clockwise)

- About one second after you release Ⓓ, the hands of the watch will move to the current time in the zone of the city code indicated by the second hand.

Summer Time

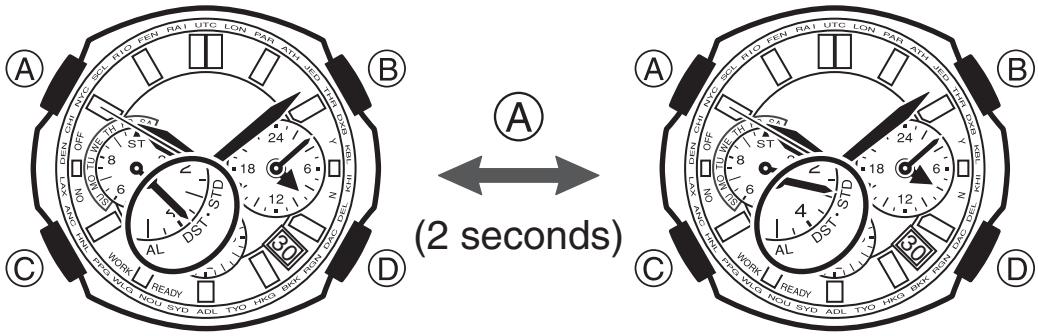
Summer time, or Daylight Saving Time (DST) as it is known in some countries, calls for setting clocks ahead one hour from standard time (STD) during the summer season.

- Note that the start and end of daylight time, and whether it is used at all depends on each country and geographic area.

■ To switch between standard time and summer time manually

In the World Time Mode, press Ⓓ to move the second hand clockwise to the city code of the city whose STD/DST setting you want to change.

- Hold down Ⓐ for about two seconds to toggle the currently selected city between STD (standard time) and DST (summer time).
- You can specify STD or DST individually for each World Time city. Note, however, that you cannot change the setting of the UTC zone.



- **Standard time**

The left dial hand points to STD (standard time).

- **Summer time**

The left dial hand points to DST (summer time). Summer time is one hour ahead of standard time.

Home Time/World Time Swapping

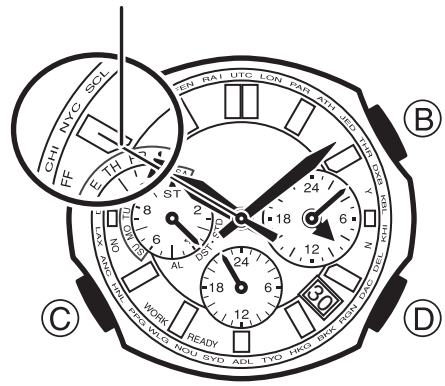
Use the procedure below to swap the city you currently have selected in the World Time Mode with your Home city.

Example: To swap your Home City Tokyo (TYO) with the World Time City New York (NYC)

	Home City	World Time City
Before swapping	Tokyo (TYO)	New York (NYC)
After swapping	New York (NYC)	Tokyo (TYO)

1. **In the World Time Mode, press Ⓓ to move the second hand clockwise to the city code of the city you want to use as your new Home City.**

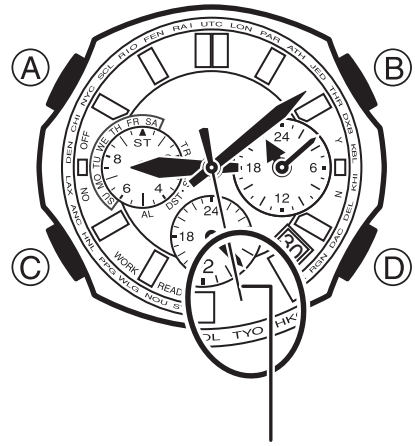
NYC selected



2.

Hold down Ⓑ for about three seconds until the watch beeps.

- This will make the World Time City you selected in step 1 (New York) your new Home City.
- Your previous Home City (Tokyo) will be your new World Time City.



Second hand moves to TYO.

Important!

If you are using the watch in Japan, be sure to select TYO (Tokyo) as your Home City. Selecting another city code will make it impossible to receive the time calibration signal, which will cause the watch's time setting to be off.

City Code List

City Code	UTC Offset	City Name
UTC	0	Coordinated Universal Time
LON	0	London
PAR	+1	Paris
ATH	+2	Athens
JED	+3	Jeddah
THR	+3.5	Tehran
DXB	+4	Dubai
KBL	+4.5	Kabul
KHI	+5	Karachi
DEL	+5.5	Delhi
DAC	+6	Dhaka
RGN	+6.5	Yangon
BKK	+7	Bangkok
HKG	+8	Hong Kong
TYO	+9	Tokyo

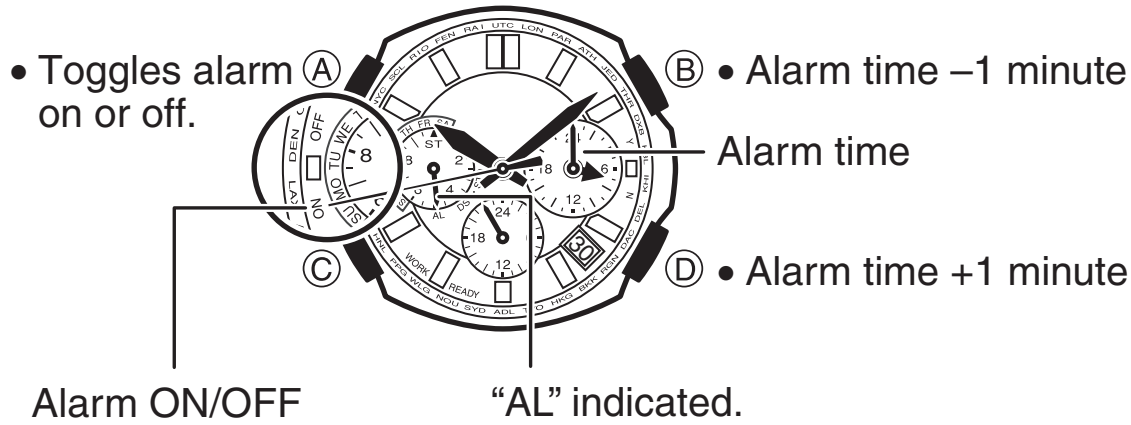
City Code	UTC Offset	City Name
ADL	+9.5	Adelaide
SYD	+10	Sydney
NOU	+11	Noumea
WLG	+12	Wellington
PPG	–11	Pago Pago
HNL	–10	Honolulu
ANC	–9	Anchorage
LAX	–8	Los Angeles
DEN	–7	Denver
CHI	–6	Chicago
NYC	–5	New York
SCL	–4	Santiago
RIO	–3	Rio de Janeiro
FEN	–2	Fernando de Noronha
RAI	–1	Praia

- The contents of the above table are current as of March 2008.
- Time differentials in the above table are in accordance with Coordinated Universal Time (UTC).
- The rules governing UTC offsets and summer time are determined by each individual country.

Alarm

The watch will beep for 10 seconds when the Timekeeping Mode time reaches the currently set alarm time.

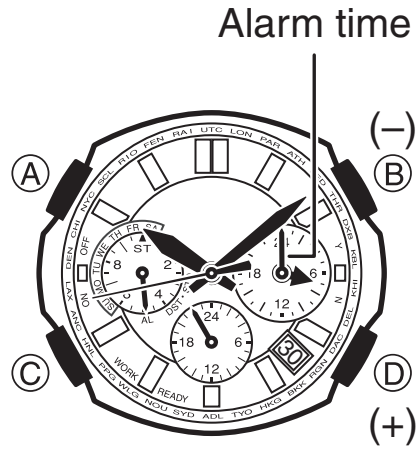
- The alarm will sound when the current time in the Timekeeping Mode matches the alarm time.
- If you do not perform any operation for about two or three minutes in the Alarm Mode, the watch will return automatically to the Timekeeping Mode.



Use the Ⓒ button to enter the Alarm Mode as shown under "Modes and Indicators" on page 16.

■ To set the alarm time

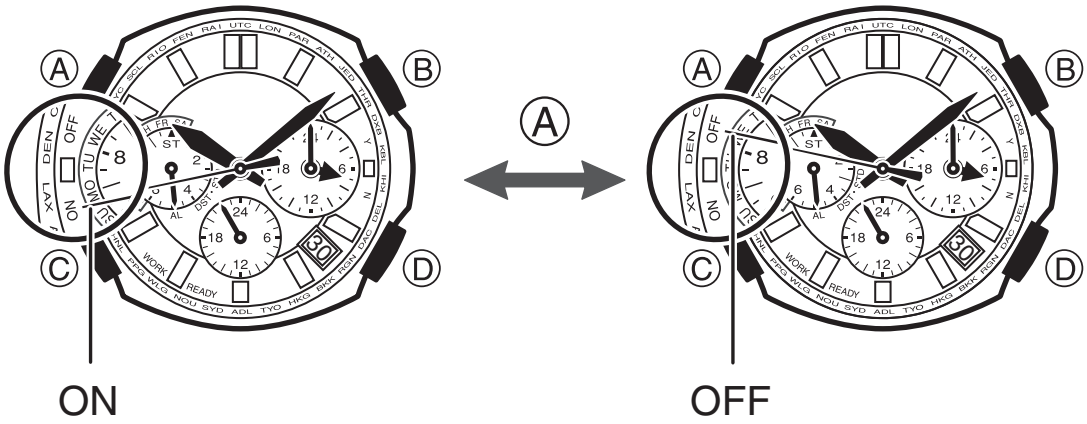
In the Alarm Mode, use Ⓓ (+) and Ⓑ (–) to change the alarm setting.



- Holding down either button will cause the hands to move at high speed. Once started, high-speed hand movement will continue even if you release the button. To stop high-speed hand movement, press any button.

■ To turn the alarm on or off

In the Alarm Mode, press Ⓐ to toggle the alarm on and off.



■ To stop the time up alert

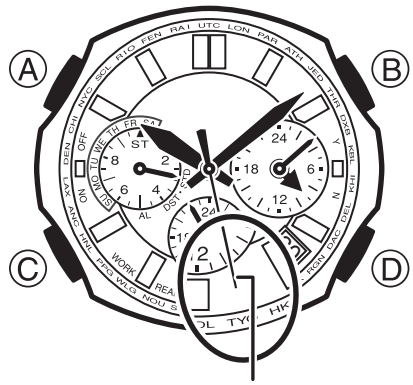
Pressing any button while the alert is sounding will stop it.

Configuring Home City Settings

Use the procedure in this section to configure your Home City (the place where you normally use the watch) and standard/summer time settings.

- Use the Timekeeping Mode to configure Home City and standard/summer time settings.

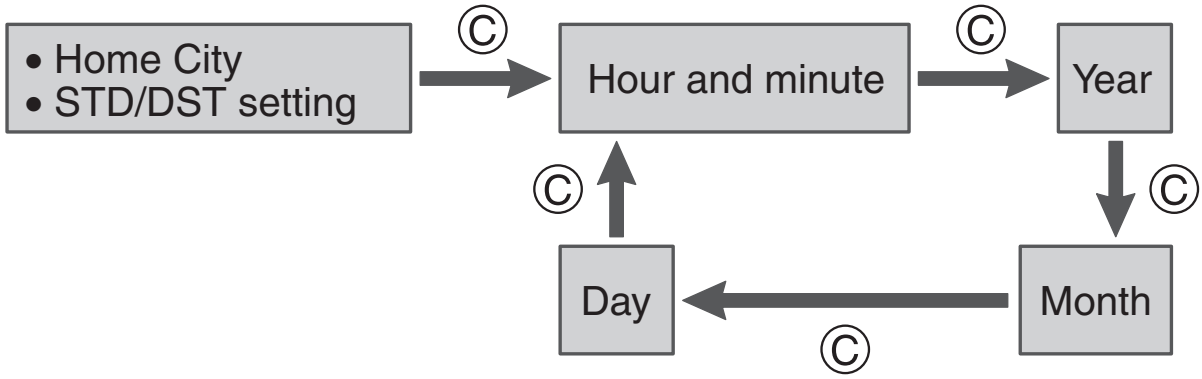
1. **In the Timekeeping Mode, keep Ⓐ depressed (for about five seconds) as the second hand goes through the sequence described below.**



Second hand

- Moves to the city code of the current Home City setting.
- Moves to the last signal reception result (“Y” or “N”), then to “Ready” (or “R” for some models), and then back to the city code of the currently selected Home City.
- The watch will exit the setting screen automatically if you do not perform any operation for about two or three minutes. Any changes you have made to settings up to that point will be saved.

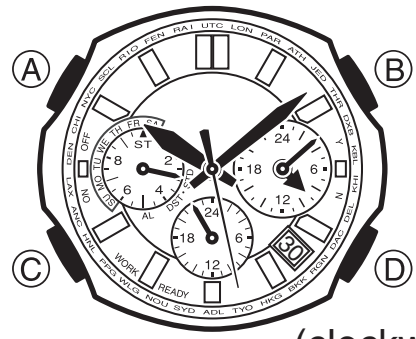
- Each press of Ⓒ cycles through available settings in the sequence shown below.



For information about configure time and date settings, see “Configuring Time and Date Settings Manually” (page 66).

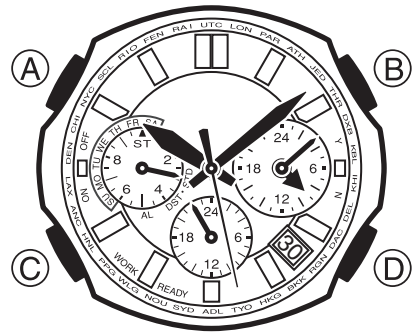
2.

Press Ⓓ to move the second hand clockwise until it points at the city you want to select as your Home City.



(clockwise)

3. **Press Ⓑ to toggle between standard time (STD) and summer time (DST).**



- You will not be able to change the STD/DST setting while the watch's hands are moving to the current time for a newly selected city code. Wait until the hands stop moving.

- **Standard time**

The left dial hand points to STD (standard time).

- **Summer time**

The left dial hand points to DST (summer time).
Summer time is one hour ahead of standard time.

- The watch will adjust the STD/DST setting automatically when it receives a time calibration signal while any one of the following city codes is selected as the Home City.

  LON, PAR, ATH, TYO, ANC, LAX, DEN, CHI, NYC

  The watch will not adjust the DST setting automatically while either of city codes shown below is selected as the Home City. In this case, you will need to change between standard time and summer time manually.

  HKG, HNL

- If you want to proceed with adjusting the current time and date setting, continue from step 2 under “Configuring Time and Date Settings Manually” (page 67). If you do go the date and time adjustment procedure, note that you will not be able to return directly to this Home City and summer time setting procedure. To return to this procedure, you will need to press Ⓐ to exit the time and date setting procedure, and then perform this procedure from step 1, above.

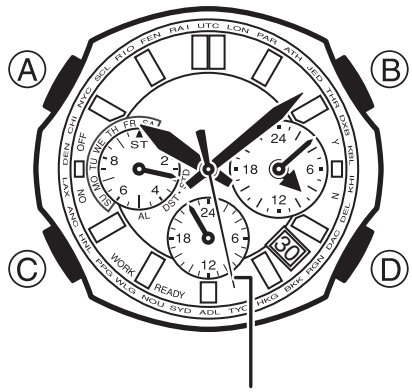
4. **When everything is the way you want, press Ⓐ.**

- This will apply your settings and return to regular timekeeping. The second hand will move to and start timekeeping from the appropriate seconds count in accordance with the watch’s internal timekeeping.

Configuring Time and Date Settings Manually

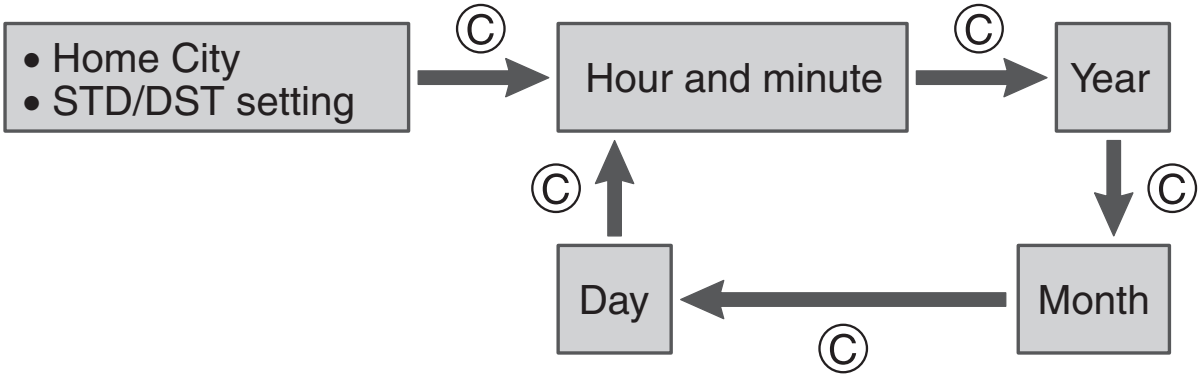
You can use the following procedures to adjust the time and date settings when the watch is unable to receive a time calibration signal for some reason.

1. **In the Timekeeping Mode, keep Ⓐ depressed (for about five seconds) as the second hand goes through the sequence described below.**



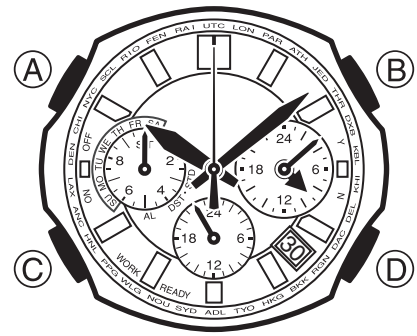
- Moves to the city code of the current Home City setting.
- Moves to the last signal reception result (“Y” or “N”), then to “Ready” (or “R” for some models), and then back to the city code of the currently selected Home City.
- The watch will exit the setting screen automatically if you do not perform any operation for about two or three minutes. Any changes you have made to settings up to that point will be saved.

- Each press of Ⓒ cycles through available settings in the sequence shown below. For information about the STD (standard time)/DST (summer time) setting, see “Configuring Home City Settings” (page 62).



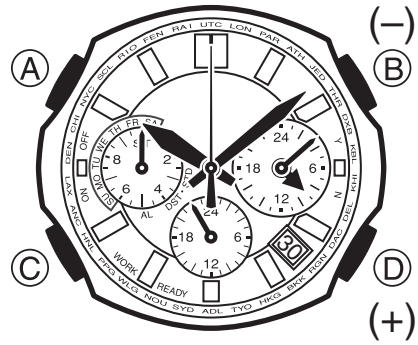
2. Press Ⓒ.

- The second hand will move to 12 o’clock, and the left dial hand will move to “0” (“60” for some models).



3.

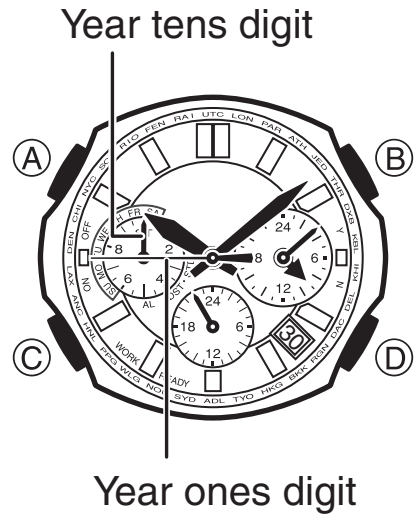
Use Ⓓ (+) and Ⓑ (–) to change the time setting in one-minute increments.



- Holding down either button will cause the hands to move at high speed. Once started, high-speed hand movement will continue even if you release the button. To stop high-speed hand movement, press any button.
- Check the hour (24-hour) to make sure that the time is set properly (1:00 a.m. = 1 o’clock, 1:00 p.m. = 13 o’clock).

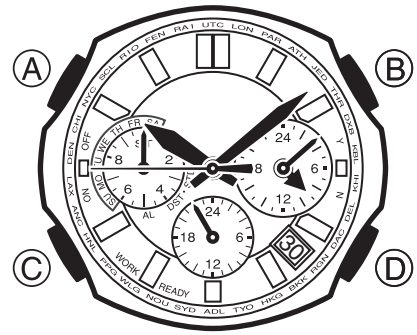
4. **Press Ⓒ to advance to the year setting.**

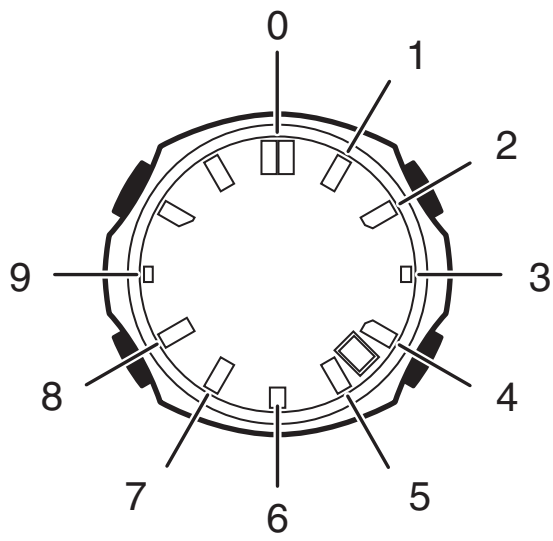
- The year setting consists of a tens digit and a ones digit setting.



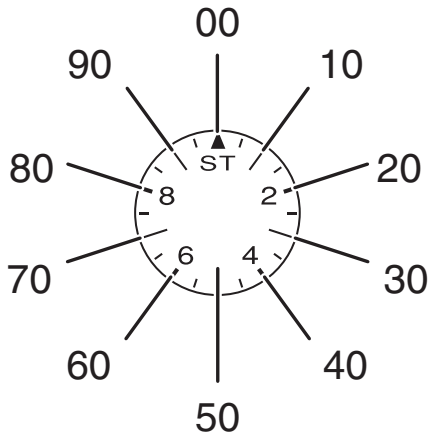
5. **Use Ⓓ (ones digit) and Ⓑ (tens digit) to change the year setting.**

- Ⓓ: Increases the ones digit by 1.



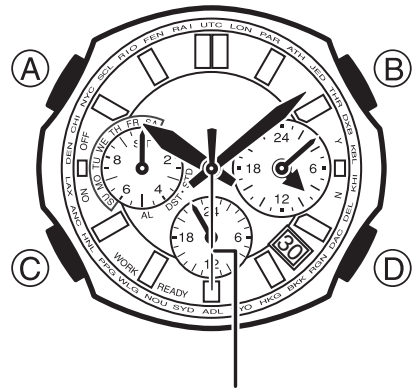


- Ⓑ: Increases the tens digit by 10.



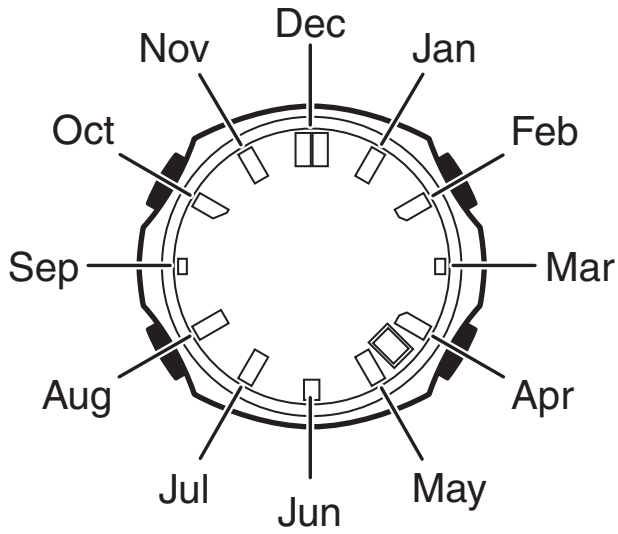
6.

Press Ⓒ to advance to the month setting.

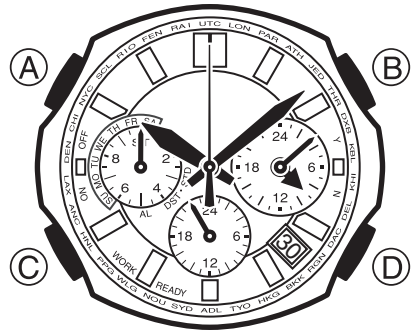


Moves to the current month setting.

7. **Press Ⓓ to move the second hand clockwise to the next month.**

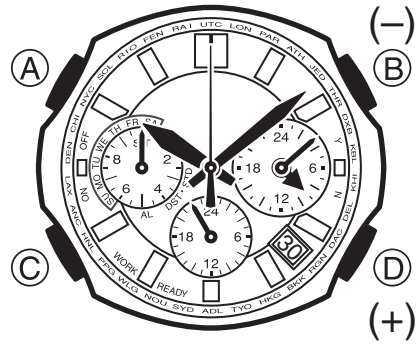


8. **Press Ⓒ to advance to the day setting.**



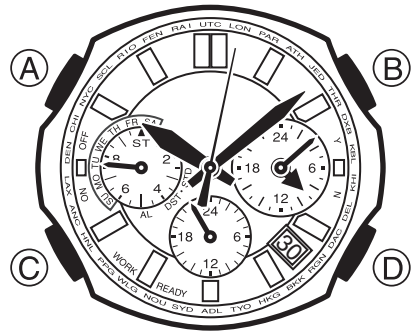
9.

Use Ⓓ (+) and Ⓑ (–) to change the day setting in one-day increments.



10.

When everything is the way you want, press Ⓐ.



- This will reset the seconds count to zero and return to regular timekeeping.
- For best timekeeping accuracy, press Ⓐ on a time signal from the TV or radio.
- The day of the week is calculated automatically.

Auto Hand Home Position Correction

Strong magnetism or impact can cause the hands and/or date of the watch to be off, even if the watch is able to perform the signal receive operation. Auto hand home position correction corrects the hand position automatically.

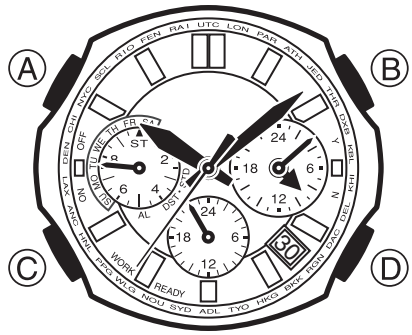
- Auto correction is performed in the Timekeeping Mode only. However, auto correction is never performed while a countdown timer operation is in progress.
- The auto correction operation corrects the positions of the second, minute, and hour hands. Home position correction of the dial hands and date can be performed manually, using the procedure under “Manual Home Position Correction” (page 75).
- Each hour, the watch performs automatic correction of the hand positions from –55 minutes to +5 minutes.
- You also can trigger the auto hand home position correction operation manually, if you want. See “To trigger the auto hand home position correction operation manually” (page 74) for more information.

- The auto hand home position correction operation can take up to three and a half minutes to complete.
- If hand positions are off by one hour or more, correct them using the procedure under “To trigger the auto hand home position correction operation manually” (page 74) or “Manual Home Position Correction” (page 75).

■ To trigger the auto hand home position correction operation manually

- Perform the following procedure when the time setting is off.

In the Timekeeping Mode, hold down Ⓓ for about six seconds until the second hand completes one full revolution.



- Though the watch will beep and second hand will stop momentarily about three seconds after you hold down Ⓓ, do not release the button yet. Wait until the second hand completes a full revolution before you release Ⓓ.
  The watch will perform hand home position correction automatically, which takes up to three and a half minutes to complete. Do not operate the watch during that time. The watch will return to regular timekeeping after auto hand home time correction is complete.
- To interrupt an ongoing correction operation and return to regular timekeeping, press Ⓓ again.
- If you release Ⓓ when the watch beeps and the second hand momentarily stops after three seconds, the watch will go into manual home position correction, which is described under “Manual Home Position Correction” (page 75). If this happens, press Ⓐ to return to regular timekeeping and then perform the above operation again.

The manually triggered auto home position correction operation performs the following two steps.

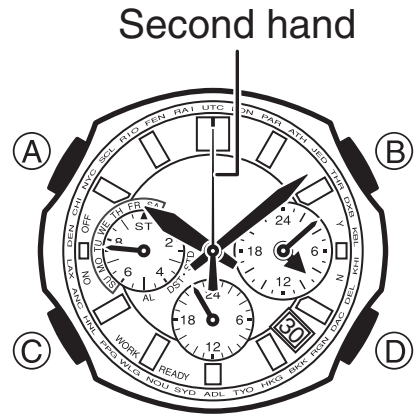
1. The hands will move automatically in order to determine their home positions.
2. After auto home position correction is complete (about three and a half minutes), the watch will return to regular timekeeping automatically.

Manual Home Position Correction

Strong magnetism or impact can cause the hands and/or date of the watch to be off, even if the watch is able to perform the signal receive operation. If this happens, perform the following home position correction procedure.

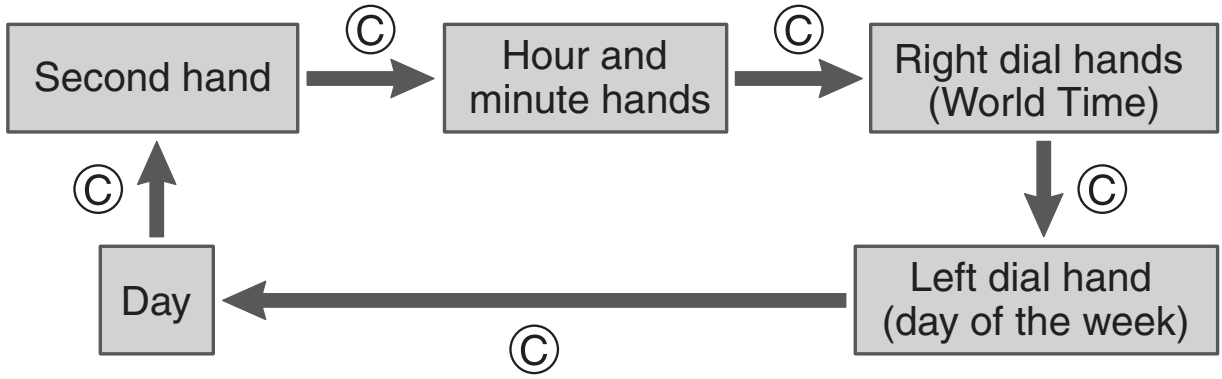
- Hand home position correction is not required if the time and date settings are correct.
- You also can use auto hand home position correction (page 73) to correct the home positions of the second, minute, and hour hands.

1. **In the Timekeeping Mode, hold down Ⓓ for about three seconds until the watch beeps and the second hand stops. Release Ⓓ at this time.**



- If you do not perform any operation for about two or three minutes, the watch will return automatically to regular timekeeping. Any settings you have configured up to that point will be saved.

- Each press of Ⓒ cycles through available settings in the sequence shown below.



2. Check the second hand position.

Home Position
Second Hand: 12 o'clock

- **If the second is at its proper home position, advance to step 4.**
- The watch will return to regular timekeeping automatically if you do not perform any operation for about two or three minutes. Any changes you have configured to settings up to that point will be saved.

If the second hand home position is off

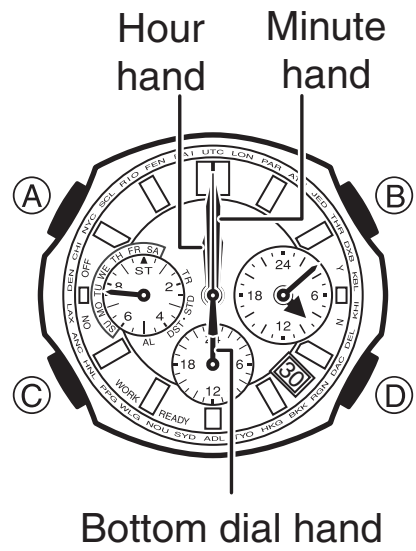
3. **Use Ⓓ to adjust the second hand position.**

- The second hand moves clockwise only. Keep pressing the button until the second hand is at its proper home position.
- Holding Ⓓ will cause the hand to start to move at high speed. To stop high-speed hand movement, press any button.

4. **Press Ⓒ to change to hour and minute hand correction.**

- This will cause the hour and minute hands (and the bottom dial hand) to move to their home positions.

Home Positions
Hour hand: 12 o'clock
Minute hand: 12 o'clock
Bottom dial hand: 12 o'clock



- **If the hour, minute, and bottom dial hands all are at their proper home positions, advance to step 6.**

If the hour and minute hands are off

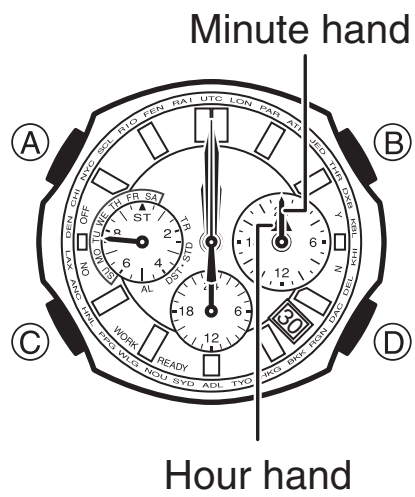
5. **Use Ⓓ (+) and Ⓑ (–) to adjust the hands.**

- Holding down either button will cause the hands to move at high speed. Once started, high-speed hand movement will continue even if you release the button. To stop high-speed hand movement, press any button.
- The position of the bottom dial hand is synchronized automatically with the hour and minute hands.

6. **Press Ⓒ to advance to right dial correction.**

- This will cause the hour and minute hands of the right dial to move to their home positions.

Home Positions
Hour hand: 12 o'clock
Minute hand: 12 o'clock



- **If the right dial hands are at their proper home positions, advance to step 8.**

If the right dial hands are off

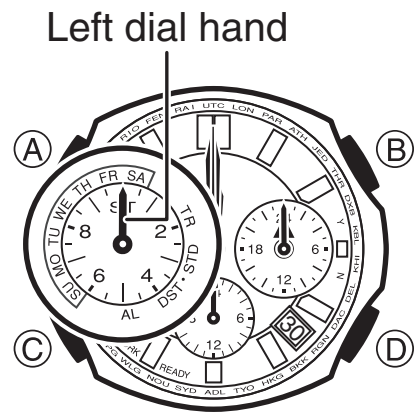
7. **Use Ⓓ (+) and Ⓑ (–) to adjust the right dial hands.**

- Holding down either button will cause the hands to move at high speed. Once started, high-speed hand movement will continue even if you release the button. To stop high-speed hand movement, press any button.

8. **Press Ⓒ to change to left dial correction.**

- This causes the left dial hand to move to its home position.

Home Position
Left dial hand: 12 o'clock



- **If left dial hand is at its proper home position, advance to step 10.**

If the left dial hand is off

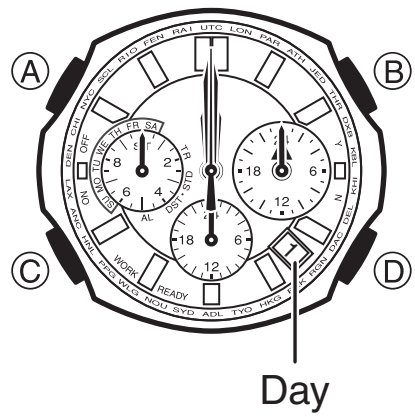
9. **Use Ⓓ (+) and Ⓑ (–) to adjust the left dial hand.**

- Holding down either button will cause the hand to move at high speed. Once started, high-speed hand movement will continue even if you release the button. To stop high-speed hand movement, press any button.

10. **Press Ⓒ to change to day correction.**

- This causes the day to move to its home position.

Home Position
Day: 1



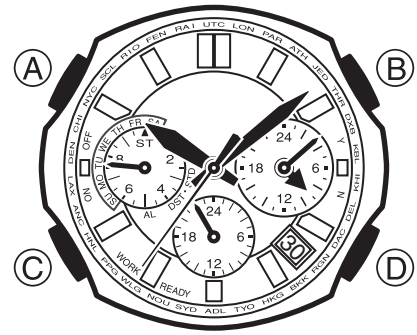
- **If the day is at its proper home position, advance to step 12.**

If the day is off

11. **Use Ⓓ (+) and Ⓑ (–) to adjust the day.**

- Holding down either button will cause the day to scroll at high speed. Once started, high-speed day scrolling will continue even if you release the button. To stop high-speed hand movement, press any button.

12. **Press Ⓐ to exit home position correction and return to regular timekeeping.**



- If you press Ⓒ instead of Ⓐ, the watch will return to step 1 (second hand home position adjustment) of this procedure.

Check to make sure that the time, day, and day of the week are being indicated correctly.

Specifications

Quartz Oscillation Frequency: 32,768Hz

Accuracy: Within an average of ±15 seconds per month when time calibration signal reception is not performed

Basic Functions: Hour, minute (moves every 10 seconds), second; 24-hour timekeeping; date; day of the week

Radio-controlled Watch Functions: Auto receive; manual receive
Last reception result
Auto standard time/summer time switching
Auto transmitter selection (for JJY, MSF/DCF77)
Transmitters
Call Signs: JJY (40kHz/60kHz), BPC (68.5kHz), WWVB (60kHz), MSF (60kHz), DCF77 (77.5kHz)

Stopwatch: Measuring unit: 1/20 second
Measuring Capacity: 23:59'59.95" (24 hours)
Measurement Functions: Elapsed time, split times, cumulative time

Countdown Timer: Setting Unit: 1 minute
Measurement Range: 24 hours
Countdown Unit: 1 second
Beeper: 10 seconds
Auto switching to elapsed time measurement (1-second units) when the end of a countdown timer operation is reached

World Time: Current time in 29 cities (29 time zones) around the globe, summer time, Home City

Alarm: Setting Units: Hour, minute
Beeper: 10 seconds

Other: Auto hand home position adjustment; auto return to regular timekeeping; Power Saving

Main Element: Tuning fork type high-performance quartz oscillator; one-chip CMOS-LSI

Battery: Rechargeable battery

Battery Operating Time: 5 months
(no exposure to light; 10 seconds alarm beeper operation and one signal reception of approximately 4 minutes per day)

Operating Precautions

■ Water Resistance

- The following applies to watches with WATER RESIST or WATER RESISTANT marked on the back cover.

		Water resistance Under Daily Use	Enhanced Water Resistance Under Daily Use		
			5 Atmospheres	10 Atmospheres	20 Atmospheres
Marking	On watch front or on back cover	No BAR mark	5BAR	10BAR	20BAR
Example of Daily Use	Hand washing, rain	Yes	Yes	Yes	Yes
	Water-related work, swimming	No	Yes	Yes	Yes
	Windsurfing	No	No	Yes	Yes
	Skin diving	No	No	Yes	Yes

- Do not use this watch for scuba diving or other types of diving that requires air tanks.
- Watches that do not have WATER RESIST or WATER RESISTANT marked on the back cover are not protected against the effects of sweat. Avoid using such a watch under conditions where it will be exposed to large amounts of sweat or moisture, or to direct splashing with water.
- Even if a watch is water-resistant, do not operate its buttons or crown while the watch is submersed in water or wet.
- Even if a watch is water-resistant, avoid wearing it in the bath or in areas where detergents (soap, shampoo, etc.) are being used. Such conditions can reduce water resistance.
- After submersion in seawater, use plain water to rinse all salt and dirt from the watch.
- In order to maintain water resistance, have the gaskets of your watch replace periodically (about once every two or three years).

- A trained technician will know how to check your watch for proper water resistance whenever you have its battery replaced. Battery replacement requires the use of special tools. Always request battery replacement from your original retailer or from an authorized CASIO service center.
- Some water-resistant watches come with fashionable leather bands. Avoid swimming, washing, or any other activity that causes direct exposure of a leather band to water.
- The inside surface of the watch glass may fog when the watch is exposed to a sudden drop in temperature. No problem is indicated if the fogging clears up relatively quickly. If the fogging does not clear or if water has gotten into the watch, take the watch in for repair immediately.
- Continued use of the watch with water inside can result in damage to electronic and mechanical components, the face of the watch, etc.

■ Band

- Tightening the band too tightly can cause you to sweat and make it difficult for air to pass under the band, which can lead to skin irritation. Do not fasten the band too tightly. There should be enough room between the band and your wrist so you can insert your finger.
- Deterioration, rust, or corrosion of the band can cause it to break, which may result in the watch falling off your wrist and becoming lost. Always take good care of you band and keep it clean. Should you notice any loss of flexibility, breakage, discoloration, looseness or other problem with the band, immediately contact your original retailer or an authorized CASIO service center to have it checked, repaired, or replaced. Note that you will be charged for any repair or replacement of the band. Request band replacement (for which you will be charged) from your original retailer or an authorized CASIO service center.

■ Temperature

- Never leave the watch on the dashboard of a car, near a heater, or in any other location that is subject to very high temperatures. Do not leave the watch where it will be exposed to very low temperatures, either. Temperature extremes can cause the watch to lose or gain time, to stop, or otherwise malfunction.

■ Impact

- Your watch is designed to withstand impact incurred during normal daily use and light activity such as playing catch, tennis, etc. Dropping the watch or otherwise subjecting it to strong impact, however, can lead to malfunction. Note that watches with shock-resistant designs (G-SHOCK, Baby-G, G-ms) can be worn while operating a chain saw or engaging in other activities that generate strong vibration, or while engaging in strenuous sports activities (motocross, etc.)

■ Magnetism

- The hands of analog and combination (analog-digital) watches are moved by a motor that uses magnetic force. When such a watch is close to a device (audio speakers, magnetic necklace, cell phone, etc.) that emits strong magnetism, the magnetism can cause timekeeping to slow down, speed up, or stop, resulting in the incorrect time being displayed.

■ Electrostatic Charge

- Exposure to very strong electrostatic charge can cause the watch to display the wrong time. Very strong electrostatic charge even can damage electronic components.

■ Chemicals

- Do not allow the watch to come into contact with thinner, gasoline, solvents, oils, or fats, or with any cleaners, adhesives, paints, medicines, or cosmetics that contain such ingredients. Doing so can cause discoloration of or damage to the case, resin band, leather, and other parts.

■ Storage

- If you do not plan to use the watch for a long time, wipe it thoroughly free of all dirt, sweat, and moisture, and store it in a cool, dry place.

■ Resin Components

- Allowing the watch to remain in contact with other items or storing it together with other items while it is wet for long periods can cause the color of the other items to transfer to the resin components of the watch. Be sure to dry off the watch thoroughly before storing it and make sure it is not in contact with other items.
- Leaving the watch where it is exposed to direct sunlight (ultraviolet rays) for long periods or failure to clean dirt from the watch for long periods can cause it to become discolored.
- Friction caused by certain conditions (frequent external force, sustained rubbing, impact, etc.) can cause discoloration of painted components.
- If there are printed figures on the band, strong rubbing of the printed area can cause discoloration.
- Failure to clean dirt from the watch for long periods can cause fluorescent color to fade. Wash dirt off with water as soon as possible and then dry the watch.
- Semi-transparent resin parts can become discolored due to sweat and dirt, and if exposed to high temperatures for long periods.
- Contact an authorized CASIO service center to have resin components replaced. Note that you will be charged for replacement costs.

■ Natural Leather and Imitation Leather Bands

- Allowing the watch to remain in contact with other items or storing it together with other items while it is wet for long periods can cause the color of the other items to transfer to the natural leather or imitation leather band of the watch. Be sure to dry off the watch thoroughly before storing it and make sure it is not in contact with other items.

- Leaving a leather band where it is exposed to direct sunlight (ultraviolet rays) for long periods or failure to clean dirt from a leather band for long periods can cause it to become discolored.

Important!

- Subjecting a natural leather or imitation leather band to rubbing or dirt can cause color transfer and discoloration.

■ Metal Components

- Failure to clean dirt from a metal band can lead to formation of rust, even if the band is stainless steel or plated. If the watch is exposed to sweat or water, wipe it thoroughly with a soft, absorbent cloth and then store it in a well-ventilated location to dry.
- To clean the band, use a soft toothbrush or similar tool to scrub it with a weak solution of water and a mild neutral detergent, or with soapy water. Take care to avoid getting solution on the watch case.

■ Bacteria and Odor Resistant Band

- The bacteria and odor resistant band protects against odor generated by the formation of bacteria from sweat, which ensures comfort and hygiene. In order to ensure maximum bacteria and odor resistance, keep the band clean. Use an absorbent soft cloth to wipe the band clean of dirt, sweat, and moisture. The bacteria and odor resistant band suppresses the formation of organisms and bacteria. It does not protect against rash due to allergic reaction, 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 this watch or its malfunction.

Battery

- The special rechargeable battery used by your watch is not intended to be removed or replaced by you. Use of a rechargeable battery other than the special one specified for this watch can damage the watch.
- The rechargeable battery is charged when the solar cell is exposed to light, and so regular periodic replacement is not required. However, charging and discharging of the battery over the years leads naturally to a loss in its ability to sustain a charge and shortens its operating time. If this happens, contact your original retailer or authorized CASIO service center.

User Maintenance

■ Caring for Your Watch

- A dirty or rusty case or band can soil the sleeve of your clothing, cause skin irritation, and even interfere with watch performance. Be sure to keep the case and band clean at all times. Rust tends to form easily after the watch is exposed to seawater and then left without cleaning.
- Sometimes a smudge like pattern may appear on the surface of a resin band. This will not have any affect on your skin or clothing. Wipe the band with a cloth to clean it.
- Keep a leather band clean by wiping it with a dry cloth. Both resin bands and leather band can become worn and cracked over time when subjected to normal daily use.
- Should your band become badly cracked or worn, be sure to have it replaced with a new one. Request band replacement from your original retailer or an authorized CASIO service center. Note that you will be charged for band replacement costs, even if your watch is still covered by its warranty.
- Remember that you wear your watch next to your skin, just like a piece of clothing. Because of this, you should always keep your watch clean. Use a soft absorbent cloth to wipe off any dirt, sweat, water, or other foreign matter from the case and band.

■ Dangers of Poor Watch Care

Rust

- Though the stainless steel used for the watch is highly rust-resistant, rust can form if the watch is not cleaned after it becomes dirty. Failure of oxygen to come into contact with the metal because it is dirty causes breakdown of the oxidization layer on the metal surface, which leads to the formation of rust.
- Even if the surface of the metal appears clean, sweat and rust in crevasses can soil the sleeves of clothing, cause skin irritation, and even interfere with watch performance.

Premature Wear

- Leaving sweat or water on a resin band or storing it an area subject to high moisture can lead to premature wear, cuts, and breaks.

Skin Irritation

- Individuals with sensitive skin or in poor physical condition may experience skin irritation when wearing a watch. Such individuals should keep their leather band or resin band particularly clean, or switch to a metal band. Should you ever experience a rash or other skin irritation, immediately remove the watch and contact a skin care professional.