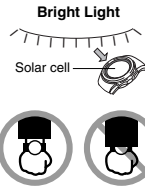


Operation Guide 3019 3039

Getting Acquainted

Congratulations upon your selection of this CASIO watch. To get the most out of your purchase, be sure to read this manual carefully.

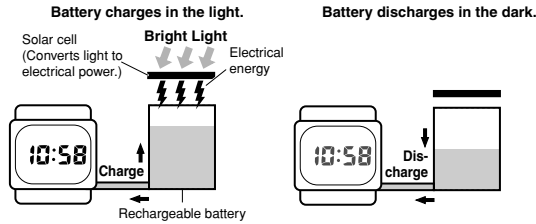
Keep the watch exposed to bright light



The electricity generated by the solar cell of the watch is stored by a built-in battery. Leaving or using the watch where it is not exposed to light causes the battery to run down. Make sure the watch is exposed to light as much as possible.

- When you are not wearing the watch on your wrist, position the face so it is pointed at a source of bright light.
- You should try to keep the watch outside of your sleeve as much as possible. Charging is reduced significantly if the face is only partially covered.

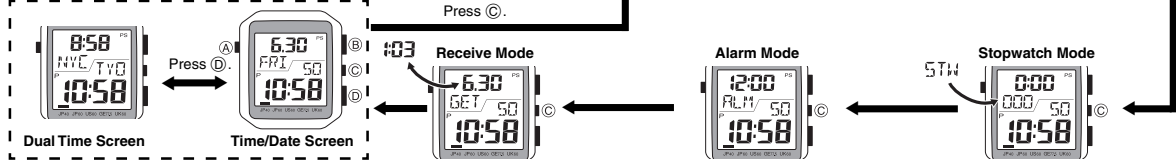
- The watch continues to operate, even when it is not exposed to light. Leaving the watch in the dark can cause the battery to run down, which will result in some watch functions to be disabled. If the battery goes dead, you will have to re-configure watch settings after recharging. To ensure normal watch operation, be sure to keep it exposed to light as much as possible.



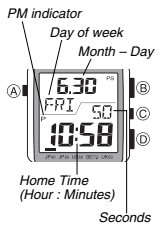
General Guide

- Press (C) to change from mode to mode.
- In any mode (except when a setting screen is on the display), press (B) to illuminate the display.

Timekeeping Mode



Radio-controlled Atomic Timekeeping



This watch receives a time calibration signal and updates its time setting accordingly.

- Supported time calibration signals: Germany (Mainflingen), England (Rugby), United States (Fort Collins), Japan.

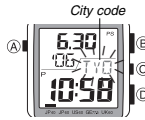
Current Time Setting

This watch adjusts its time setting automatically in accordance with a time calibration signal. You can also perform a manual procedure to set the time and date, when necessary.

- The first thing you should do after purchasing this watch is to specify your Home City (the city where you normally will use the watch). For more information, see "To specify your Home City" below.

- When using the watch outside the areas covered by the time signal transmitters, you will have to adjust the current time setting manually as required. See "Timekeeping" for more information about manual time settings.
- The Timekeeping Mode can be used to display the current time and date in your Home City, or the current time in your Home City (Home Time) and in one more time zone (Zone 2 Time). You can even specify a city code that supports time calibration signal reception as the Dual Time Zone 2 city code. For details about Dual Time, see "Timekeeping".
- The U.S. time calibration signal can be picked up by the watch while in North America. The term "North America" in this manual refers to the area that consists of Canada, the continental United States, and Mexico.

To specify your Home City



1. In the Timekeeping Mode, press (A) so the city code is flashing. This is the setting screen.
2. Press (D) (east) and (B) (west) to select the city code you want to use as your Home City.
 - Time calibration signal reception is supported when any one of the city codes shown in the table below is selected as your Home City.

German/U.K. Signal				Japan Signal		U.S. Signal			
City Code	City Name	City Code	City Name	City Code	City Name	City Code	City Name	City Code	City Name
LIS	Lisbon	ATH	Athens	HKG	Hong Kong	HNL	Honolulu	YWG	Winnipeg
LON	London	MOW	Moscow	BJS	Beijing	ANC	Anchorage	CHI	Chicago
MAD	Madrid			TPE	Taipei	YVR	Vancouver	MIA	Miami
PAR	Paris			SEL	Seoul	LAX	Los Angeles	YTO	Toronto
ROM	Rome			TYO	Tokyo	YEA	Edmonton	NYC	New York
BER	Berlin					DEN	Denver	YHZ	Halifax
STO	Stockholm					MEX	Mexico City	YYT	St. Johns

3. Press (A) to exit the setting screen.

- Frequent display illumination can run down the battery quickly and require charging. The following guidelines give an idea of the charging time required to recover from a single illumination operation.

Approximately five minutes exposure to bright sunlight coming in through a window

Approximately 50 minutes exposure to indoor fluorescent lighting

- **Be sure to read "Power Supply" for important information you need to know when exposing the watch to bright light.**

If the display of the watch is blank...

If the display of the watch is blank, it means that the watch's Power Saving function has turned off the display to conserve power.

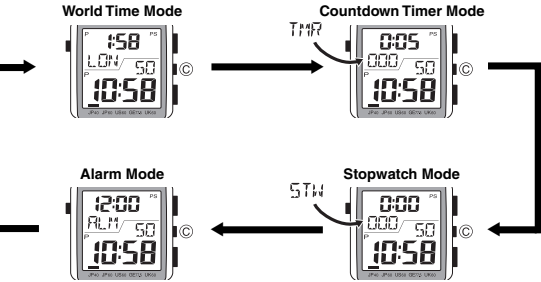
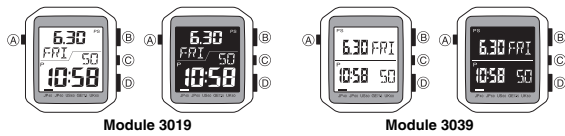
- See "Power Saving Function" for more information.

Bumps on the Solar Cell Surface

The surface of the solar cell has bumps in some locations. These bumps are electrical contacts and do not indicate any problem with the solar cell.

About This Manual

- Depending on the model of your watch, display text appears either as dark figures on a light background, or light figures on a dark background. All sample displays in this manual are shown using dark figures on a light background.
- Button operations are indicated using the letters shown in the illustration.
- Each section of this manual provides you with the information you need in order to perform operations in each mode. Further details and technical information can be found in the "Reference" section.



Important!

- Normally, your watch should show the correct time as soon as you select your Home City code. If it does not, it should adjust automatically after the next auto receive operation (in the middle of the night). You can also perform manual receive or you can set the time manually.
- The watch will receive the time calibration signal automatically from the applicable transmitter (in the middle of the night) and update its settings accordingly. For information about the relationship between city codes and transmitters, see "Home City Codes and Transmitters".
- Under factory default settings, auto receive is turned off for all of the following city codes: **MOW** (Moscow), **HKG** (Hong Kong), **BJS** (Beijing), **HNL** (Honolulu), and **ANC** (Anchorage). For details about turning on auto receive for these city codes, see "To turn auto receive on and off".
- You can disable time signal reception, if you want. See "To turn auto receive on and off" for more information.
- See the maps under "Reception Ranges" for information about the reception ranges of the watch.
- If you are in an area that does not use Daylight Saving Time (summertime), turn off the DST setting.

Time Calibration Signal Reception

There are two different methods you can use to receive the time calibration signal: auto receive and manual receive.

Auto Receive

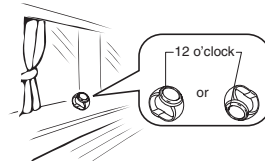
With auto receive, the watch receives the time calibration signal automatically up to six times a day. When any auto receive is successful, the remaining auto receive operations are not performed. For more information, see "About Auto Receive".

Manual Receive

Manual receive lets you start a time calibration receive operation with the press of a button. For more information, see "To perform manual receive".

Important!

- When getting ready to receive the time calibration signal, position the watch as shown in the nearby illustration, with its 12 o'clock side facing towards a window. Make sure there are no metal objects nearby.



- Make sure the watch is facing the right way.

- Proper signal reception can be difficult or even impossible under the conditions listed 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

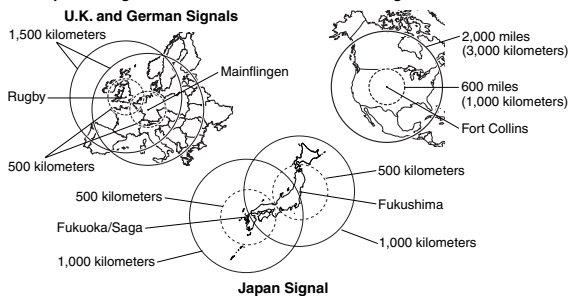
- Signal reception normally is better at night than during the day.
- Time calibration signal reception takes from one to seven minutes, but in some cases it can take as long as 13 minutes. Take care that you do not perform any button operations or move the watch during this time.
- The time calibration signal the watch will attempt to pick up depends on its current Home City code setting as shown below. If you use the watch in Japan or Europe (each of which has two different transmitter locations), it will try to receive the time calibration signal from one of the transmitters in your current location. If it cannot receive the signal, it will then try to receive the time calibration signal from the other transmitter.

Home City Codes and Transmitters

Home City Code	Transmitter	Frequency
LIS, LON, MAD, PAR, ROM, BER, STO, ATH, MOW*	Rugby (England) Mainflingen (Germany)	60.0 kHz 77.5 kHz
HKG*, BJS*, TPE, SEL, TYO	Fukushima (Japan) Fukuoka/Saga (Japan)	40.0 kHz 60.0 kHz
HNL*, ANC*, YVR, LAX, YEA, DEN, MEX, YWG, CHI, MIA, YTO, NYC, YHZ, YYT	Fort Collins, Colorado (the United States)	60.0 kHz

* The areas covered by the MOW, HKG, BJS, HNL, and ANC city codes are quite far from the time calibration signal transmitters, and so certain conditions may cause problems with signal reception.

Reception Ranges



- Signal reception may not be possible at the distances noted below during certain times of the year or day. Radio interference may also cause problems with reception. Mainflingen (Germany) or Rugby (England) transmitters: 500 kilometers (310 miles)
Fort Collins (United States) transmitter: 600 miles (1,000 kilometers)
Fukushima or Fukuoka/Saga (Japan) transmitters: 500 kilometers (310 miles)
- Even when the watch is within the reception range of the transmitter, signal reception will be impossible if the signal is blocked by mountains or other geological formations between the watch and signal source.
- Signal reception is affected by weather, atmospheric conditions, and seasonal changes.
- See the information under "Signal Reception Troubleshooting" if you experience problems with time calibration signal reception.

About Auto Receive

The watch receives the time calibration signal automatically up to six times a day. When any auto receive is successful, the remaining auto receive operations are not performed. The reception schedule (calibration times) depends on your currently selected Home City, and whether standard time or Daylight Saving Time is selected for your Home City.

Your Home City		Auto Receive Start Times					
		1	2	3	4	5	6
LIS, LON	Standard Time	1:00 am	2:00 am	3:00 am	4:00 am	5:00 am	Midnight next day
	Daylight Saving Time	2:00 am	3:00 am	4:00 am	5:00 am	Midnight next day	1:00 am next day
MAD, PAR, ROM, BER, STO	Standard Time	2:00 am	3:00 am	4:00 am	5:00 am	Midnight next day	1:00 am next day
	Daylight Saving Time	3:00 am	4:00 am	5:00 am	Midnight next day	1:00 am next day	2:00 am next day
ATH	Standard Time	3:00 am	4:00 am	5:00 am	Midnight next day	1:00 am next day	2:00 am next day
	Daylight Saving Time	4:00 am	5:00 am	Midnight next day	1:00 am next day	2:00 am next day	3:00 am next day
MOW	Standard Time	4:00 am	5:00 am	Midnight next day	1:00 am next day	2:00 am next day	3:00 am next day
	Daylight Saving Time	5:00 am	Midnight next day	1:00 am next day	2:00 am next day	3:00 am next day	4:00 am next day
HKG, BJS, TPE, SEL, TYO	Standard Time	Midnight	1:00 am	2:00 am	3:00 am	4:00 am	5:00 am
	Daylight Saving Time	Midnight	1:00 am	2:00 am	3:00 am	4:00 am	5:00 am
HNL, ANC, YVR, LAX, YEA, DEN, MEX, YWG, CHI, MIA, YTO, NYC, YHZ, YYT	Standard Time	Midnight	1:00 am	2:00 am	3:00 am	4:00 am	5:00 am
	Daylight Saving Time	Midnight	1:00 am	2:00 am	3:00 am	4:00 am	5:00 am

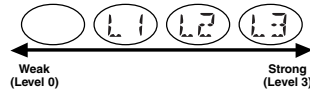
Note

- When a calibration time is reached, the watch will receive the calibration signal only if it is in either the Timekeeping Mode or World Time Mode. Reception is not performed if a calibration time is reached while you are configuring settings.
- Auto receive of the calibration signal is designed to be performed early in the morning, while you sleep (provided that the Timekeeping Mode time is set correctly). Before going to bed for the night, remove the watch from your wrist, and put it in a location where it can receive the signal easily.
- The watch receives the calibration signal for one to seven minutes everyday when the time in the Timekeeping Mode reaches each of the calibration times. Avoid performing any button operation within seven minutes before or after any one of the calibration times. Doing so can interfere with correct calibration.
- Remember that reception of the calibration signal depends on the current time in the Timekeeping Mode. The receive operation will be performed whenever the display shows any one of the calibration times, regardless of whether or not the displayed time actually is the correct time.

About the Receiving Indicator

The receiving indicator shows the strength of the calibration signal being received. For best reception, be sure to keep the watch in a location where signal strength is strongest.

Receiving indicator



- Use the receiving indicator as a guide for checking signal strength and for finding the best location for the watch during signal receive operations.
- Even in an area where signal strength is strong, it takes about 10 seconds for signal reception to stabilize enough for the receiving indicator to indicate signal strength.

Transmitter Indicator

The watch has transmitter names along the bottom of the display. The transmitter indicator flashes during signal reception above the name of the transmitter from which the watch is currently receiving a signal. After signal reception is complete, the indicator will remain, without flashing, above the name of the transmitter from which the signal was received.



Transmitter indicator

- The following shows the meaning of each of the transmitter names along the bottom of the display.
 - JP40: Fukushima (Japan)
 - JP60: Fukuoka/Saga (Japan)
 - US60: Fort Collins, Colorado (the United States)
 - GE77.5: Mainflingen (Germany)
 - UK60: Rugby (England)

- The transmitter indicator turns off automatically at the start of the first auto receive operation of a new day. The time of the first auto receive operation of a new day depends on your currently selected Home City.

To perform manual receive

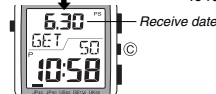
1. Enter the Receive Mode.
 2. Place the watch on a stable surface so its 12 o'clock side is facing towards a window.
 3. Hold down (D) for about two seconds until RC appears on the display.
- The transmitter indicator flashes above the name of the transmitter whose signal the watch is attempting to receive.
 - Time calibration signal reception takes from one to seven minutes. Take care that you do not perform any button operations or move the watch during this time.
 - If the receive operation is successful, the reception date and time appear on the display, along with the GET indicator.
 - The watch will enter the Timekeeping Mode if you press (C) or if you do not perform any button operation for about two or three minutes.
 - If the current reception fails but a previous reception was successful, the display shows the previous reception's date and time, and the ERR indicator.
 - - : - indicates that none of the reception operations were successful.
- The watch will enter the Timekeeping Mode without changing the time setting if you press (C) or if you do not perform any button operation for about two or three minutes.

To turn auto receive on and off

1. Enter the Receive Mode.
2. In the Receive Mode, press (A) so the current auto receive setting (on or OFF) is flashing. This is the setting screen.
- Note that the setting screen will not appear if the currently selected Home City is one that does not support time calibration reception.
3. Press (D) to toggle auto receive on (on) and off (OFF).
4. Press (A) to exit the setting screen.
- For information about city codes that support signal receive, see "To specify your Home City".

To check the latest signal reception results

- Enter the Receive Mode.
- When receive is successful, the display shows the time and date that receive was successful. - : - indicates that none of the reception operations were successful.
- To return to the Timekeeping Mode, press (C).



Signal Reception Troubleshooting

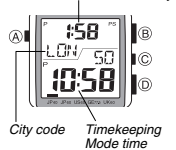
Check the following points whenever you experience problems with signal reception.

Problem	Probable Cause	What you should do
Cannot perform manual receive.	<ul style="list-style-type: none"> The watch is not in the Receive Mode. Your current Home City is not one of the following: LIS, LON, MAD, PAR, ROM, BER, STO, ATH, MOW, HKG, BJS, TPE, SEL, TYO, HNL, ANC, YVR, LAX, YEA, DEN, MEX, YWG, CHI, MIA, YTO, NYC, YHZ, or YYYT 	<ul style="list-style-type: none"> Enter the Receive Mode and try again. Select LIS, LON, MAD, PAR, ROM, BER, STO, ATH, MOW, HKG, BJS, TPE, SEL, TYO, HNL, ANC, YVR, LAX, YEA, DEN, MEX, YWG, CHI, MIA, YTO, NYC, YHZ, or YYYT as your Home City.
Time setting is incorrect following signal reception.	<ul style="list-style-type: none"> If the time is one hour off, the DST setting may be incorrect. The Home City code setting is not correct for the area where you are using the watch. 	<ul style="list-style-type: none"> Change the DST setting to Auto DST. Select the correct Home City code.

• For further information, see "Important!" under "Time Calibration Signal Reception" and "Radio-controlled Atomic Timekeeping Precautions".

World Time

Current time in selected city



The World Time Mode shows you the current time in 48 cities (29 time zones) around the world.

- If the current time shown for a city is wrong, check your Home City time settings and make the necessary changes.
- All of the operations in this section are performed in the World Time Mode, which you enter by pressing **C**.

To view the time in another city

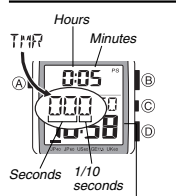
While in the World Time Mode, press **D** to scroll eastward through the city codes (time zones).

• For full information on city codes, see the "City Code Table".

To toggle a city code time between Standard Time and Daylight Saving Time

- In the World Time Mode, use **D** to display the city code (time zone) whose Standard Time/Daylight Saving Time setting you want to change.
 - Press **A** to toggle Daylight Saving Time (DST indicator displayed) and Standard Time (DST indicator not displayed).
- The DST indicator will appear whenever you display a city code for which Daylight Saving Time is turned on.
 - Note that the DST/Standard Time setting affects only the currently displayed city code. Other city codes are not affected.

Countdown Timer



You can set the countdown timer within a range of one minute to 24 hours. An alarm sounds when the countdown reaches zero.

- You can also select auto-repeat, which automatically restarts the countdown from the original value you set whenever zero is reached.
- All of the operations in this section are performed in the Countdown Timer Mode, which you enter by pressing **C**.

To set the countdown start time

- While the countdown start time is on the display in the Countdown Timer Mode, press **A** so the hour setting of the countdown start time is flashing. This is the setting screen.

• If the countdown start time is not displayed, use the procedure under "To use the countdown timer" to display it.

- Press **C** to move the flashing in the sequence shown below to select other settings.

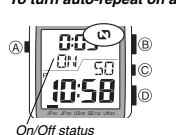


- While a setting is flashing, use **D** (+) and **B** (-) to change it.
 - To set the starting value of the countdown time to 24 hours, set **0:00**.
 - See "To turn auto-repeat on and off" below for details on the auto-repeat setting.
- Press **A** to exit the setting screen.

To use the countdown timer

- Press **D** while in the Countdown Timer Mode to start the countdown timer.
- When the end of the countdown is reached and auto-repeat is turned off, the alarm sounds for 10 seconds or until you stop it by pressing any button. The countdown time is automatically reset to its starting value after the alarm stops.
 - Press **D** while a countdown operation is in progress to pause it. Press **D** again to resume the countdown.
 - To completely stop a countdown operation, first pause it (by pressing **D**), and then press **A**. This returns the countdown time to its starting value.

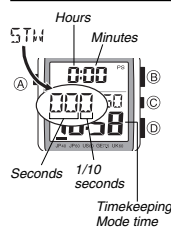
To turn auto-repeat on and off



- While the countdown start time is on the display in the Countdown Timer Mode, press **A** so the hour setting of the countdown start time is flashing. This is the setting screen.
- Press **C** twice to move the flashing to the auto-repeat setting.
- Press **D** to turn auto-repeat on (ON) and off (OFF).
- Press **A** to exit the setting screen.

- When auto-repeat is turned on, the alarm sounds and countdown starts again whenever the countdown reaches zero. You can stop the countdown by pressing **D**, and manually reset to the countdown start time by pressing **A**.
- The auto-repeat indicator (ON) is displayed on the Countdown Timer Mode screen while this function is turned on.
- Auto-repeat timing repeats up to seven times.

Stopwatch

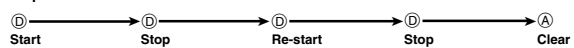


The stopwatch lets you measure elapsed time, split times, and two finishes.

- The display range of the stopwatch is 23 hours, 59 minutes, 59.9 seconds.
- The stopwatch continues to run, restarting from zero after it reaches its limit, until you stop it.
- Exiting the Stopwatch Mode while a split time is frozen on the display clears the split time and returns to elapsed time measurement.
- The stopwatch measurement operation continues even if you exit the Stopwatch Mode.
- All of the operations in this section are performed in the Stopwatch Mode, which you enter by pressing **C**.

To measure times with the stopwatch

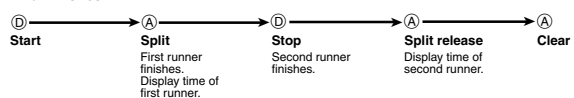
Elapsed Time



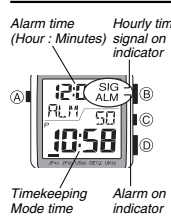
Split Time



Two Finishes



Alarm



After you set (and turn on) the daily alarm, the alarm tone sounds when the alarm time is reached. You can also turn on an Hourly Time Signal that causes the watch to beep for about one second every hour on the hour.

- All of the operations in this section are performed in the Alarm Mode, which you enter by pressing **C**.

To set the alarm time



- In the Alarm Mode, press **A** so the hour setting of the alarm time is flashing. This is the setting screen.
 - This automatically turns on the alarm.
- Press **C** to move the flashing between the hour and minute settings.

- While a setting is flashing, use **D** (+) and **B** (-) to change it.
 - When setting the alarm time using the 12-hour format, take care to set the time correctly as a.m. (no indicator) or p.m. (P indicator).
- Press **A** to exit the setting screen.

Alarm Operation

The alarm sounds at the preset time for about 10 seconds (in all modes), or until you stop it by pressing any button.

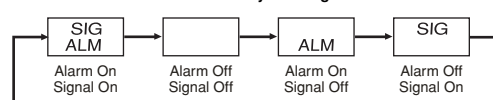
To test the alarm

In the Alarm Mode, hold down **D** to sound the alarm.

To turn the daily alarm and the Hourly Time Signal on and off

In the Alarm Mode, press **D** to cycle through the settings shown below.

Alarm On Indicator / Hourly Time Signal On Indicator

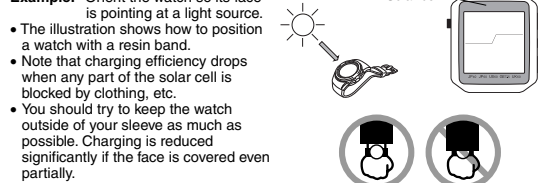


- The alarm on indicator and the Hourly Time Signal on indicator are shown on the display in all modes while these functions are turned on.

Power Supply

This watch is equipped with a solar cell and a special rechargeable battery (secondary battery) that is charged by the electrical power produced by the solar cell. The illustration shown below shows how you should position the watch for charging.

Example: Orient the watch so its face is pointing at a light source.



- The illustration shows how to position a watch with a resin band.
- Note that charging efficiency drops when any part of the solar cell is blocked by clothing, etc.
- You should try to keep the watch outside of your sleeve as much as possible. Charging is reduced significantly if the face is covered even partially.

Important!

- 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 rechargeable battery power to run down. Make sure that the watch is exposed to bright light whenever possible.
- This watch uses a special rechargeable battery to store power produced by the solar cell, so regular battery replacement is not required. However, after very long use, the rechargeable battery may lose its ability to achieve a full charge. If you experience problems getting the special rechargeable battery to charge fully, contact your dealer or CASIO distributor about having it replaced.
- Never try to remove or replace the watch's special battery yourself. Use of the wrong type of battery can damage the watch.
- The current time and all other settings return to their initial factory defaults whenever battery power drops to Level 4 and when you have the battery replaced.
- Turn on the watch's Power Saving function and keep it in an area normally exposed to bright light when storing it for long periods. This helps to keep the rechargeable battery from going dead.

Battery Power Indicator and Recover Indicator

The battery power indicator shows you the current power level of the rechargeable battery.



Level	Battery Power Indicator	Function Status
1	(No indicator)	All functions enabled.
2		Auto and manual receive, beeper tone, and illumination disabled.
3		Auto and manual receive, beeper tone, illumination, and display disabled.
4		All functions, including timekeeping, disabled and initialized.

- The **LOW** indicator flashes on the Timekeeping Mode Time/Date screen whenever the battery is at Level 2. You cannot change from the Time/Date screen to the dual time screen while the battery is at Level 2.
- The **LOW** indicator at Level 2 and the flashing charge indicator (**CHG**) at Level 3 tell you that battery power is very low, and that exposure to bright light for charging is required as soon as possible.
- At Level 4, all functions are disabled and settings return to their initial factory defaults. Functions are enabled once again after the rechargeable battery is charged, but you need to set the time and date, after the battery reaches Level 3 (indicated by the flashing charge indicator) from Level 4. You will not be able to configure any of the other settings until the battery reaches Level 1 after dropping to Level 4.
- The watch's Home City code setting will change automatically to **TYO** (Tokyo) whenever the battery drops to Level 4. With this Home City code setting, the watch is configured to receive the time calibration signals of Japan. If you are using the watch in North America or Europe, you will need to change the Home City code setting to match your location whenever the battery drops to Level 4.
- If you use the light or alarms a number of times during a short period, the recover indicator (**RECOV**) appears and the following operations become disabled until battery power recovers.

*Illumination
Beeper tone
Time calibration signal reception*

After some time, battery power will recover and the recover indicator will disappear, indicating that the above functions are enabled again.

Charging Precautions

Certain charging conditions can cause the watch to become very hot. Avoid leaving the watch in the areas described below whenever charging its rechargeable battery. Also note that allowing the watch to become very hot can cause its liquid crystal display to black out. The appearance of the LCD should become normal again when the watch returns to a lower temperature.

Warning!

Leaving the watch in bright light to charge its rechargeable battery 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

Charging Guide

- After a full charge, timekeeping remains enabled for up to about 9 months.
- The following table shows the amount of time the watch needs to be exposed to light each day in order to generate enough power for normal daily operations.

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

- Since these are the specs, we can include all the technical details.
 - Display on 18 hours per day, sleep state 6 hours per day
 - 1 illumination operation (1.5 seconds) per day
 - 10 seconds of alarm operation per day
 - 10 minutes of signal reception per day
- Stable operation is promoted by frequent exposure to light.

Recovery Times

The table below shows the amount exposure that is required to take the battery from one level to the next.

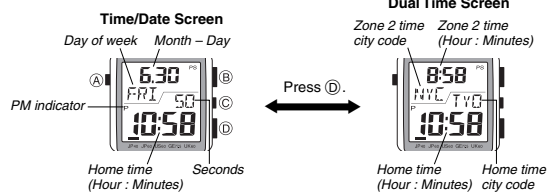
Exposure Level (Brightness)	Approximate Exposure Time			
	Level 4	Level 3	Level 2	Level 1
Outdoor Sunlight (50,000 lux)	→	→	→	→
Sunlight Through a Window (10,000 lux)		2 hours		39 hours
Daylight Through a Window on a Cloudy Day (5,000 lux)		5 hours		146 hours
Indoor Fluorescent Lighting (500 lux)		8 hours		236 hours
		86 hours		---

- The above exposure time values are all for reference only. Actual required exposure times depend on lighting conditions.

Timekeeping

Use the Timekeeping Mode to set and view the current time and date. The Timekeeping Mode can be used to display the current time in your Home City (Home Time) and in one more time zone (Zone 2 Time).

- Pressing **D** in the Timekeeping Mode will toggle between the Time/Date screen and the Dual Time screen.



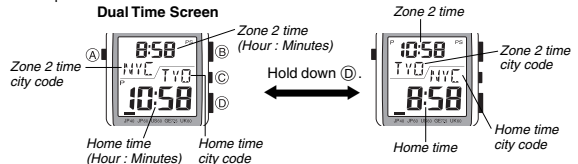
- You can also use the Timekeeping Mode setting screen to specify the 12/24-hour format and to toggle power saving on and off.
- All of the operations in this section are performed in the Timekeeping Mode, which you enter by pressing **C**.

Dual Time

The Timekeeping Mode can be used to display the current time in your Home City (Home Time) and in one more time zone (Zone 2 Time).

- The minute and second setting of the Home Time and Zone 2 Time are synchronized with each other. If the time setting of either the Home Time or the Zone 2 Time is changed manually or by a signal receive operation will cause the other time setting to be changed accordingly.
- You can change the time and city code setting only of the time that is currently in the Home Time position on the Dual Time screen. You cannot change the settings of Zone 2 Time position. If you want to change the time or city code setting of the Zone 2 Time, first move it to the Home Time position. After making the changes, you can move the time back to the Zone 2 Time position.
- Alarm operations are performed in accordance with the time that is currently in the Home Time position on the Dual Time screen.

To switch the Dual Time screen times between the Home Time and Zone 2 Time positions in the Timekeeping Mode, hold down **D** for about three seconds until the two times switch positions. Both of the city codes will flash for about two seconds after they switch positions.



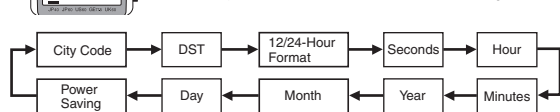
- After switching the positions of the Home Time and Zone 2 Time on the Dual Time screen, pressing **D** again will display the Time/Date screen. The Time/Date screen will show the time and date for the city code whose time was in the Home Time location on the Dual Time screen.

Setting the Time and Date

Make sure you select your Home City code before you change the current time and date settings. World Time Mode times are all displayed in accordance with the Timekeeping Mode settings. Because of this, World Time Mode times will not be correct if you do not select the proper Home City code before setting the time and date in the Timekeeping Mode.

To set the time and date

- On the Timekeeping Mode Dual Time screen, make sure the time you want to change is in the Home Time position on the display.
- Press **A** so the city code of the Home Time is flashing. This is the setting screen.
- Press **C** to change the flashing contents in the sequence shown below to select other settings.



4. When the setting you want to change is flashing, use (B) and/or (D) to change it as described below.

Screen:	To do this:	Do this:
TYO	Change the city code	Use (D) (east) and (B) (west).
RT	Cycle between auto DST (RT), Standard Time (ST), and Daylight Saving Time (DST)	Press (D).
12H	Toggle between 12-hour (12H) and 24-hour (24H) timekeeping	Press (D).
50	Reset the seconds to 00	Press (D).
6:30 10:58	Change the hour, minutes, year, month or day	Use (D) (+) and (B) (-).
PS ON	Toggle Power Saving on (PS) and off (OFF)	Press (D).

- See "City Code Table" for a complete list of available city codes.
 - Auto DST (RT) can be selected only while LIS, LON, MAD, PAR, ROM, BER, STO, ATH, MOW, HKG, BJS, TPE, SEL, TYO, HNL, ANC, YVR, LAX, YEA, DEN, MEX, YWG, CHI, MIA, YTO, NYC, YHZ, or YTT is selected as the Home City code. For more information, see "Daylight Saving Time (DST)" below.
5. Press (A) to exit the setting screen.

Daylight Saving Time (DST)

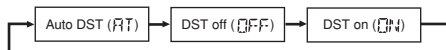
Daylight Saving Time (summer time) advances the time setting by one hour from Standard Time. Remember that not all countries or even local areas use Daylight Saving Time.

The time calibration signals transmitted from Mainflingen (Germany), Rugby (England), or Fort Collins (the United States) include both Standard Time and DST data. When the Auto DST setting is turned on, the watch switches between Standard Time and DST (summer time) automatically in accordance with the signals.

- The time calibration signals transmitted from Fukushima and Fukuoka/Saga (Japan) do not include summer time data.
- The default DST setting is Auto DST (RT) whenever you select LIS, LON, MAD, PAR, ROM, BER, STO, ATH, MOW, TYO, HNL, ANC, YVR, LAX, YEA, DEN, MEX, YWG, CHI, MIA, YTO, NYC, YHZ, or YTT as your Home City code.
- 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 (summer time) manually.

To change the Daylight Saving Time (summer time) setting

1. On the Timekeeping Mode Dual Time screen, make sure the time whose DST setting you want to change is in the Home Time position on the display.
 - You must make separate DST settings for the Home Time and the Zone 2 Time.
2. Press (A) so the city code is flashing. This is the setting screen.
3. Press (C) and the DST setting screen appears.
4. Use (D) to cycle through the DST settings in the sequence shown below.

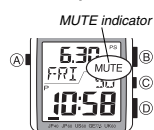


5. When the setting you want is selected, press (A) to exit the setting screen.
- The DST indicator appears to indicate that Daylight Saving Time is turned on.

Reference

This section contains more detailed and technical information about watch operation. It also contains important precautions and notes about the various features and functions of this watch.

Button Operation Tone



The button operation tone sounds any time you press one of the watch's buttons. You can turn the button operation tone on or off as desired.

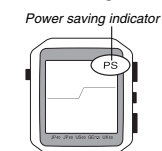
- Even if you turn off the button operation tone, the alarm, Hourly Time Signal, and Countdown Timer Mode alarm all operate normally.

To turn the button operation tone on and off

In any mode (except when a setting screen is on the display), hold down (C) to toggle the button operation tone on (MUTE not displayed) and off (MUTE displayed).

- Since the (C) button is also the mode change button, holding it down to turn the button operation tone on or off also causes the watch's current mode to change.
- The MUTE indicator is displayed in all modes when the button operation tone is turned off.

Power Saving Function



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

Elapsed Time in Dark	Display	Operation
60 to 70 minutes	Blank, with Power Saving indicator (PS) flashing	All functions enabled, except for the display
6 or 7 days	Blank, with Power Saving indicator (PS) not flashing	Beeper tone, illumination, and display are disabled.

- Wearing the watch inside the sleeve of clothing can cause it to enter the sleep state.
- The watch will not enter the sleep state between 6:00 AM and 10:59 PM. If the watch is already in the sleep state when 6:00 AM arrives, however, it will remain in the sleep state.

To recover from the sleep state

Perform any one of the following operations.

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

To turn Power Saving on and off

On/Off status



1. In the Timekeeping Mode, press (A) so the city code is flashing. This is the setting screen.
 2. Press (C) nine times until the Power Saving on/off screen appears.
 3. Press (D) to toggle Power Saving on (PS) and off (OFF).
 4. Press (A) to exit the setting screen.
- The Power Saving indicator (PS) is on the display in all modes while Power Saving is turned on.

Auto Return Features

- If you leave the watch in the Alarm Mode for two or three minutes without performing any operation, it returns to the Timekeeping Mode automatically.
- If you leave the watch with a flashing setting on the display for two or three minutes without performing any operation, the watch exits the setting screen automatically.

Scrolling

The (B) and (D) buttons are used in various modes and setting screens to scroll through data. In most cases, holding down these buttons during a scroll operation scrolls through the data at high speed.

Initial Screens

When you enter the World Time or Alarm Mode, the data you were viewing when you last exited the mode appears first.

Radio-controlled Atomic Timekeeping Precautions

- Strong electrostatic charge can result in the wrong time being set.
- The time calibration signal is bounced off the ionosphere. Because of this, such factors as changes in the reflectivity of the ionosphere, as well as movement of the ionosphere to higher altitudes due to seasonal atmospheric changes or the time of day may change the reception range of the signal and make reception temporarily impossible.
- Even if the time calibration signal is received properly, certain conditions can cause the time setting to be off by up to one second.
- The current time setting in accordance with the time calibration signal takes priority over any time settings you make.
- The watch is designed to update the date and day of the week automatically for the period January 1, 2000 to December 31, 2099. Setting of the date by a time calibration signal cannot be performed starting from January 1, 2100.
- This watch can receive signals that differentiate between leap years and non-leap years.
- Though this watch is designed to receive both time data (hour, minutes, seconds) and date data (year, month, day), certain signal conditions can limit reception to time data only.
- Normally, the signal reception date shown by the Receive Mode is the date data included in the received time calibration signal. When only time data is received, however, the Receive Mode shows the date as kept in the Timekeeping Mode at the time of signal reception.
- If you are in an area where proper time calibration signal reception is impossible, the watch keeps time within ±20 seconds a month at normal temperature.
- If you have problems with proper time calibration signal reception or if the time setting is wrong after signal reception, check your current city code, DST (summer time), and auto receive settings.
- You can change the time and city code setting only of the time that is currently in the Home Time position on the Dual Time screen. You cannot change the settings of Zone 2 Time position. If you want to change the time or city code setting of the Zone 2 Time, first move it to the Home Time position. After making the changes, you can move the time back to the Zone 2 Time position.

Timekeeping

- Resetting the seconds to 00 while the current count is in the range of 30 to 59 causes the minutes to be increased by 1. In the range of 00 to 29, the seconds are reset to 00 without changing the minutes.
- The day of the week is displayed automatically in accordance with the date (year, month, and day) settings.
- The year can be set in the range of 2000 to 2099.
- The watch's built-in full automatic calendar makes allowances for different month lengths and leap years. Once you set the date, there should be no reason to change it except after you have the watch's battery replaced or when battery power drops to Level 4.
- The times for the Timekeeping Mode and all the city codes of the World Time Mode are calculated in accordance with each city's UTC differential.
- The UTC differential is a value that indicates the time difference between a reference point in Greenwich, England and the time zone where a city is located.
- The letters "UTC" is the abbreviation for "Universal Time Coordinated", which is the world-wide scientific standard of timekeeping. It is based upon carefully maintained atomic (cesium) clocks that keep time accurately to within microseconds. Leap seconds are added or subtracted as necessary to keep UTC in sync with the Earth's rotation.

12-hour/24-hour Timekeeping Formats

- The 12-hour/24-hour timekeeping format you select in the Timekeeping Mode is also applied in all other modes.
- With the 12-hour format, the PM indicator (P) appears on the display for times in the range of noon to 11:59 p.m. and no indicator appears for times in the range of midnight to 11:59 a.m.
 - With the 24-hour format, times are displayed in the range of 0:00 to 23:59, without any indicator.

Illumination

The watch has an EL (electro-luminescent) panel that causes the entire display to glow for easy reading in the dark. In any mode (except when a setting screen is on the display), press (B) to illuminate the display for about one second.

Illumination Precautions

- The electro-luminescent panel that provides illumination loses power after very long use.
- Illumination may be hard to see when viewed under direct sunlight.
- The watch may emit an audible sound whenever the display is illuminated. This is due to vibration of the EL panel used for illumination, and does not indicate malfunction.
- Illumination turns off automatically whenever an alarm sounds.
- Frequent use of illumination runs down the battery.

City Code Table

City Code	City	UTC Differential	Other major cities in same time zone
PPG	Pago Pago	-11.0	
HNL	Honolulu	-10.0	Papeete
ANC	Anchorage	-09.0	Nome
YVR	Vancouver	-08.0	San Francisco, Las Vegas, Seattle/Tacoma, Dawson City
LAX	Los Angeles		
YEA	Edmonton		
DEN	Denver	-07.0	El Paso
MEX	Mexico City		
YWG	Winnipeg	-06.0	Houston, Dallas/Fort Worth, New Orleans
CHI	Chicago		
MIA	Miami		
YTO	Toronto	-05.0	Montreal, Detroit, Boston, Panama City, Havana, Lima, Bogota
NYC	New York		
CCS	Caracas	-04.0	La Paz, Santiago, Port Of Spain
YHZ	Halifax		
YYT	St. Johns	-03.5	
RIO	Rio De Janeiro	-03.0	Sao Paulo, Buenos Aires, Brasilia, Montevideo
RAI	Prata	-01.0	
LIS	Lisbon	+00.0	Dublin, Casablanca, Dakar, Abidjan
LON	London		
MAD	Madrid		
PAR	Paris		
ROM	Rome	+01.0	Milan, Amsterdam, Algiers, Hamburg, Frankfurt, Vienna
BER	Berlin		
STO	Stockholm		
ATH	Athens		
CAI	Cairo	+02.0	Helsinki, Istanbul, Beirut, Damascus, Cape Town
JRS	Jerusalem		
MOW	Moscow		
JED	Jeddah	+03.0	Kuwait, Riyadh, Aden, Addis Ababa, Nairobi
THR	Tehran	+03.5	Shiraz
DXB	Dubai	+04.0	Abu Dhabi, Muscat
KBL	Kabul	+04.5	
KHI	Karachi	+05.0	Male
DEL	Delhi	+05.5	Mumbai, Kolkata
DAC	Dhaka	+06.0	Colombo
RGN	Yangon	+06.5	
BKK	Bangkok	+07.0	Jakarta, Phnom Penh, Hanoi, Vientiane
HKG	Hong Kong		
BJS	Beijing	+08.0	Singapore, Kuala Lumpur, Manila, Perth, Ulaanbaatar
TPE	Taipei		
SEL	Seoul		
TYO	Tokyo	+09.0	Pyongyang
ADL	Adelaide	+09.5	Darwin
GUM	Guam		
SYD	Sydney	+10.0	Melbourne, Rabaul
NOU	Noumea	+11.0	Port Vila
WLG	Wellington	+12.0	Christchurch, Nadi, Nauru Island

• Based on data as of December 2005.