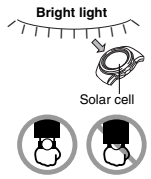
Operation Guide 3068

CASIO

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.

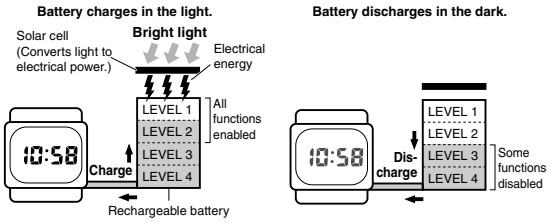
Keep the watch exposed to bright light



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 covered only partially.

- 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 cause 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.



- The actual level at which some functions are disabled depends on the watch model.
- 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.**

Warning!

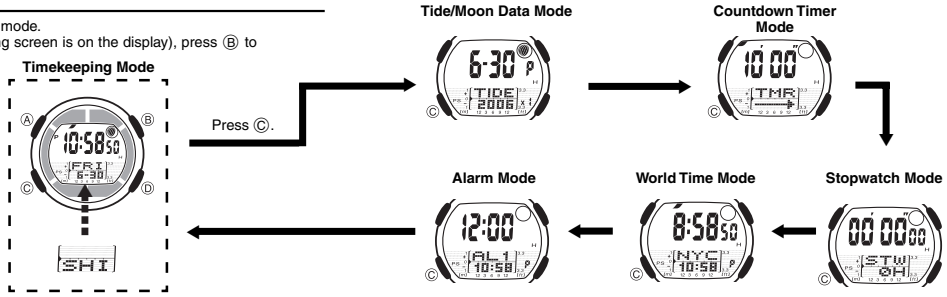
- The measurement functions built into this watch are not intended for use in taking measurements that require professional or industrial precision. Values produced by this watch should be considered as reasonably accurate representations only.
- The Moon phase indicator and tide graph data that appear on the display of this watch are not intended for navigation purposes. Always use proper instruments and resources to obtain data for navigation purposes.
- This watch is not an instrument for calculating low tide and high tide times. The tide graph of this watch is intended to provide a reasonable approximation of tidal movements only.
- CASIO COMPUTER CO., LTD. assumes no responsibility for any loss, or any claims by third parties that may arise through the use of this watch.

About This Manual

- Button operations are indicated using the letters shown in the illustration.
- Each section of this manual provides you with the information you need to perform operations in each mode. Further details and technical information can be found in the "Reference" section.

General Guide

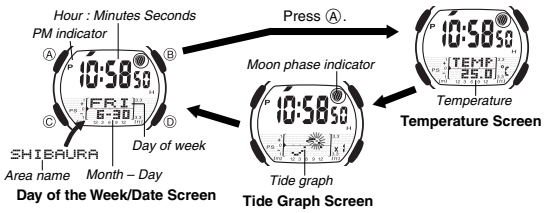
- Press Ⓒ to change from mode to mode.
- In any mode (except when a setting screen is on the display), press Ⓑ to illuminate the display.



Timekeeping

Use the Timekeeping Mode to set and view the current time and date. You can also use the Timekeeping Mode to view the current temperature, the Tide Graph, and the Moon phase indicator.

- Pressing Ⓐ in the Timekeeping Mode cycles through the screens shown below.



- The current area name appears at the bottom of the display whenever you enter the Timekeeping Mode.
- Only three letters appear on the display at one time, so the area name scrolls from right to left.

Temperature Measurements

When you display the Temperature screen in the Timekeeping Mode, the watch starts taking automatic temperature readings at an interval of approximately two minutes.

- You can select either Celsius (°C) or Fahrenheit (°F) units for the Temperature screen. See "To specify the temperature display unit" for more information.
- The Temperature screen displays temperature values in 0.1°C units (or 0.2°F units).
- The display range of the temperature screen is –10.0°C to 60.0°C (or 14.0°F to 140.0°F).
- You can calibrate the Temperature sensor if you feel that the displayed temperature values are not correct. See "Temperature Sensor Calibration" for more information.

Important!

- Temperature measurements are affected by your body temperature (while you are wearing the watch), direct sunlight, and moisture. To achieve a more accurate temperature measurement, remove the watch from your wrist, place it in a well ventilated location out of direct sunlight, and wipe all moisture from the case. It takes approximately 20 to 30 minutes for the case of the watch to reach the actual surrounding temperature.

Tide Graph and Moon Phase Indicator

- The tide graph shows tidal movements for the current date in accordance with the current time as kept in the Timekeeping Mode.
- The Moon phase indicator shows the current Moon phase in accordance with the current date as kept in the Timekeeping Mode.
- Because the watch needs to read certain data, it takes about 40 seconds before the graph appears. The Moon phase indicator flashes while the watch is reading data.

Important!

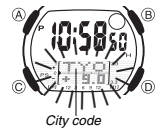
- Moon phase indicator and tide graph data will not be displayed properly unless the Timekeeping Mode current date and time settings and Home Site data are configured correctly. See "Home Site Data" for more information.

Home Site Data

Note that tide graph data and the Moon phase indicator will not show the correct information unless your Home Site (city code and area) is specified correctly. World Time Mode times are all calculated based on the Home Site time and date setting in the Timekeeping Mode.

- First select the city code for your Home Site and specify the UTC differential. Next, specify the area that is nearest the location where you will be using the watch. Areas are preset with the names of coastal areas that match the city code and UTC differential you specify.
- The UTC differential indicates the time differential with Greenwich, England.
- The letters UTC is the abbreviation for Coordinated Universal Time, 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.
- The following is the initial factory default Home Site data (Tokyo, Japan) when you first purchase the watch and whenever you have the battery replaced. Change these settings to match the area where you normally use the watch.
  Home City Code: TYO, Tokyo (UTC Differential: +9.0); Area: SHIBAURA

To configure Home Site data

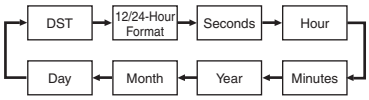


1. In the Timekeeping Mode, hold down Ⓐ until the city code starts to flash. This is the setting screen.
2. Press Ⓓ to scroll eastward through the city codes (time zones) or Ⓑ to scroll westward.
   - For full information on city codes, see "UTC Differential/City Code List".
   - **–2** and **KBL** cannot be selected as the Home Site in the Timekeeping Mode.
3. Press Ⓒ to move the flashing to the area indicator.
4. Use Ⓓ to select the area you want.
   - See "Area List" for information about all the areas that are available.
5. Press Ⓐ three times to exit the setting screen.

- Pressing Ⓐ once changes to a screen for calibrating the temperature sensor, for selecting the temperature unit, and for configuring power saving settings.
- Pressing Ⓐ twice changes to a screen for configuring time and date settings.

To set the time and date

1. In the Timekeeping Mode, hold down Ⓐ until the city code starts to flash. This is the setting screen.
   - Before configuring any other Timekeeping Mode settings, be sure first to configure your Home Site correctly.
2. Press Ⓐ twice.
   - This displays the DST (summer time) setting screen.
3. Press Ⓒ to move the flashing in the sequence shown below to select other settings.



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

Screen	To do this:	Do this:
ON	Toggle between Daylight Saving Time (ON) and Standard Time (OFF)	Press Ⓓ.
12H	Toggle between 12-hour (12H) and 24-hour (24H) timekeeping	
50	Reset the seconds to 00	
10:58	Change the hour or minutes	Use Ⓓ (+) and Ⓑ (–).
2006 6-30	Change the year, month, or day	

   - Pressing Ⓓ while the seconds are in the range of 30 to 59 resets them to 00 and adds 1 to the minutes. In the range of 00 to 29, the minutes are unchanged.
5. Press Ⓐ to exit the setting screen.

- See "Daylight Saving Time (DST)" below for details about the DST setting.
- The 12-hour/24-hour timekeeping format you select in the Timekeeping Mode is applied in all modes.
- The day of the week is displayed automatically in accordance with the date (year, month, and day) setting.

Daylight Saving Time (DST)

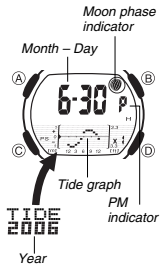
Daylight Saving Time (summer time) advances the time setting by one hour from Standard Time. Remember that not all countries or even local areas use Daylight Saving Time.

To toggle the Timekeeping Mode time between DST and Standard Time

1. In the Timekeeping Mode, hold down Ⓐ until the city code starts to flash. This is the setting screen.
   - Before configuring any other Timekeeping Mode settings, be sure first to configure your Home Site correctly.
2. Press Ⓐ twice to display the DST (summer time) setting screen.
3. Press Ⓓ to toggle between Daylight Saving Time (ON displayed) and Standard Time (OFF displayed).
4. Press Ⓐ to exit the setting screen.

- The **DST** indicator appears on the display to indicate that Daylight Saving Time is turned on.

Tide/Moon Data



Tide/Moon data provides you with the Moon phase at your Home Site on a date you specify, and tidal movements at your Home Site for a date and time you specify.

- If you suspect that the Tide/Moon data is not correct for some reason, check the Timekeeping Mode data (current time, date, and Home Site settings), and make changes as required.
- See "Moon Phase Indicator" for information about the Moon phase indicator and "Tide Graph" for information about the tide graph.
- All of the operations in this section are performed in the Tide/Moon Data Mode, which you enter by pressing Ⓒ.

To view the Tide Graph and Moon phase for a particular date

In the Tide/Moon Data Mode, press Ⓓ to scroll the date forward.

- Because the watch needs to read certain data, it takes about 40 seconds before the graph appears.
- Pressing Ⓐ will toggle the Tide Graph data between a.m. (**R**) and p.m. (**P**) data.
- You can also specify a particular date to view its Tide Graph and Moon phase data. See "To specify a date" below for more information.

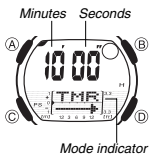
To specify a date

1. In the Tide/Moon Data Mode, hold down Ⓐ until the year setting starts to flash, which indicates the setting screen.
2. Press Ⓒ to move the flashing in the sequence shown below to select the other settings.

3. While a setting is flashing, use Ⓓ (+) or Ⓑ (–) to change it.
   - You can specify a date in the range of January 1, 2000 to December 31, 2099.
4. Press Ⓐ to exit the setting screen.

- Because the watch needs to read certain data, it takes about 40 seconds before the graph appears.
- Pressing Ⓐ will toggle the Tide Graph data between a.m. (**R**) and p.m. (**P**) data.

Countdown Timer



The countdown timer can be set within a range of one minute to 60 minutes. An alarm sounds when the countdown reaches zero. The countdown timer has two modes: auto-repeat and elapsed time, and a progress beeper signals the progress of the countdown. All of this makes the countdown timer a valuable tool for timing the start of a yacht race.

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

Configuring Countdown Timer Settings

The following are the settings you should configure before actually using the countdown timer.

Countdown start time and reset time
Timer type (auto-repeat, elapsed time)

- See "To configure countdown timer settings" for information about setting up the timer.

Reset Time

You can set a "reset time", which is a kind of alternate countdown start time you can recall with the press of a button any time a countdown operation is in progress.

Timer Type

The countdown timer gives you a choice of two types of timer: auto-repeat and elapsed time.

Auto-repeat

Auto-repeat automatically restarts the countdown from the countdown start time whenever zero is reached.

- Auto-repeat is best when timing the starts of match races.
- Even if you start a countdown operation from the reset time, the countdown restarts automatically from the countdown start time whenever it reaches zero.
- Auto repeat timing repeats up to seven times.

Elapsed Time

When the elapsed time timer reaches the end of the countdown, it switches to an elapsed time measurement operation automatically.

- The elapsed time timer is best when timing the speed of yachts during ocean races.
- The elapsed time operation is performed in one-second increments up to 99 hours, 59 minutes, 59 seconds.

Countdown Timer Beeper Operations

The watch beeps at various times during a countdown so you can keep informed about the countdown status without looking at the display. The following describes the types of beeper operations the watch performs during a countdown.

Countdown End Beeper

The watch beeps each second of the final 10 seconds before a countdown reaches zero, and at zero. The first five beeps (seconds 10 through 6) are higher pitched than the final five beeps (seconds 5 through 1). The watch emits a longer beep to signal when the countdown reaches zero.

Progress Beeper

The progress beeper actually includes two beepers: a reset time beeper and a reset period progress beeper.

Reset Time Beeper

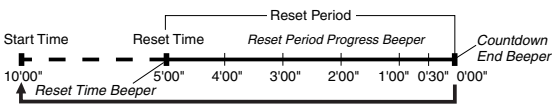
The reset time beeper is similar to the countdown end beeper. The watch beeps each second of the final 10 seconds before the countdown reaches the reset time.

Reset Period Progress Beeper

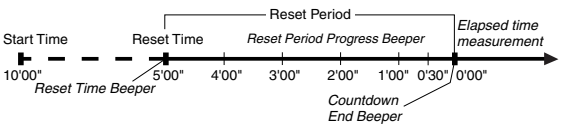
The reset period is the portion of the countdown between the reset time and zero. While timing is the reset period, the watch will beep four times at the top of each minute and 30 seconds before the end of the countdown.

Countdown Timer Examples

Countdown start time: 10 minutes; Reset time: 5 minutes; Timer type: Auto-repeat

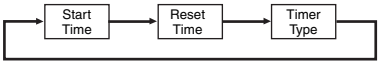


Countdown start time: 10 minutes; Reset time: 5 minutes; Timer type: Elapsed time



To configure countdown timer settings

1. While the countdown start time is on the display in the Countdown Timer Mode, hold down Ⓐ until the countdown start time setting starts to flash, which indicates the setting screen.
   - If the countdown start time is not displayed, use the procedure under "To use the countdown timer" to display it.
2. Press Ⓒ to move the flashing in the sequence shown below to select other settings.



3. When the setting you want to change is flashing, use Ⓓ and Ⓑ to change it as described below.

Setting	Screen	Button Operations
Start Time	10 00 TMR	Use Ⓓ (+) and Ⓑ (–) to change the setting. • You can set a start time in the range of 1 to 60 minutes in 1-minute increments.
Reset Time	05 00 RST	Use Ⓓ (+) and Ⓑ (–) to change the setting. • You can set a reset time in the range of 1 to 5 minutes in 1-minute increments.
Timer Type	RPT	Press Ⓓ to toggle between the auto-repeat mode (RPT) and the elapsed time mode (⟶).

4. Press Ⓐ to exit the setting screen.

- The reset time setting must be less than the countdown start time setting.

To use the countdown timer

In the Countdown Timer Mode, press Ⓓ to start the countdown timer.

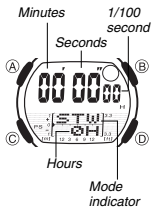
- The countdown timer measurement operation continues even if you exit the Countdown Timer Mode.
- The table below describes button operations you can perform to control countdown operations.

To do this:	Do this:
Stop the countdown operation	Press Ⓓ.
Resume a stopped countdown operation	Press Ⓓ again.
Display the countdown start time	While the countdown is stopped, press Ⓐ.
Stop the countdown operation and display the reset time	Press Ⓐ.
Start the countdown from the displayed reset time	Press Ⓓ.

- The table below describes button operations you can perform during an elapsed time measurement operation in the elapsed time mode.

To do this:	Do this:
Stop the elapsed time operation	Press Ⓓ.
Resume a stopped elapsed time operation	Press Ⓓ again.
Display the countdown start time	While the elapsed time is stopped, press Ⓐ.
Stop the elapsed time operation and display the reset time	Press Ⓐ.
Start the countdown from the displayed reset time	Press Ⓓ.

Stopwatch



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

- The display range of the stopwatch is 99 hours, 59 minutes, 59.99 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 Ⓒ.

To measure times with the stopwatch

Elapsed Time

Ⓓ **Start** → Ⓓ **Stop** → Ⓓ **Re-start** → Ⓓ **Stop** → Ⓐ **Clear**

Split Time

Ⓓ **Start** → Ⓐ **Split** (**SPL** displayed) → Ⓐ **Split release** → Ⓓ **Stop** → Ⓐ **Clear**

Two Finishes

Ⓓ **Start** → Ⓐ **Split** (First runner finishes. Display time of first runner.) → Ⓓ **Stop** (Second runner finishes.) → Ⓐ **Split release** (Display time of second runner.) → Ⓐ **Clear**

World Time

The World Time Mode shows you the current time in 32 cities (30 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 Ⓒ.

To view the time in another city

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

- For full information on city codes, see "UTC Differential/City Code List".

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

1. In the World Time Mode, use Ⓓ to display the city code (time zone) whose Standard Time/Daylight Saving Time setting you want to change.
2. Hold down Ⓐ 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.

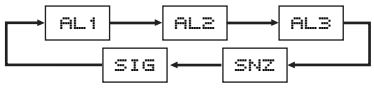
Alarms

The Alarm Mode gives you a choice of three one-time alarms and one snooze alarm.
Also use the Alarm Mode to turn the Hourly Time Signal (SIG) on and off.

- There are four alarms numbered AL1 through AL3, and SNZ. You can configure SNZ as a snooze alarm only. Alarms AL1 through AL3 can be used as one-time alarms only.
- All of the operations in this section are performed in the Alarm Mode, which you enter by pressing Ⓒ.

To set an alarm time

1. In the Alarm Mode, use Ⓓ to scroll through the alarm screens until the one whose time you want to set is displayed.



2. After you select an alarm, hold down Ⓐ until the hour setting of the alarm time starts to flash, which indicates the setting screen.
   - This operation turns on the alarm automatically.
3. Use Ⓒ to move the flashing between the hour and minute settings.
4. While a setting is flashing, use Ⓓ (+) and Ⓑ (–) to change it.
5. Press Ⓐ to exit the setting screen.

- 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).

Alarm Operation

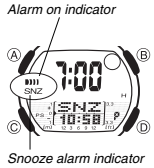
The alarm tone sounds at the preset time for 10 seconds, regardless of the mode the watch is in. In the case of the snooze alarm, the alarm operation is performed a total of seven times, every five minutes, or until you turn the alarm off.

- Pressing any button stops the alarm tone operation.
- Performing any one of the following operations during a 5-minute interval between snooze alarms cancels the current snooze alarm operation.
  Displaying the Timekeeping Mode setting screen
  Displaying the snooze alarm setting screen

To test the alarm

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

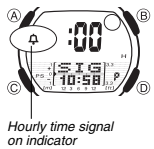
To turn an alarm on and off



1. In the Alarm Mode, use Ⓓ to select an alarm.
2. Press Ⓐ to toggle it on and off.

- Turning on a one-time alarm (AL1, AL2, AL3) displays the alarm on indicator on its Alarm Mode screen. Turning on the snooze alarm (SNZ) displays the alarm on indicator and snooze alarm indicator on its Alarm Mode screen.
- In all modes, the alarm on indicator is shown for any alarm that is currently turned on. When the snooze alarm is on, the snooze alarm indicator and the alarm on indicator are displayed in all modes.
- The alarm on indicator flashes while the alarm is sounding.
- The snooze alarm indicator flashes during the 5-minute intervals between alarms.

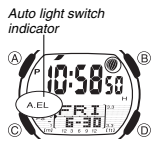
To turn the Hourly Time Signal on and off



1. In the Alarm Mode, use Ⓓ to select the Hourly Time Signal (SIG).
2. Press Ⓐ to toggle it on (Hourly Time Signal on indicator displayed) and off (Hourly Time Signal on indicator not displayed).

- The Hourly Time Signal on indicator is displayed in all modes when the Hourly Time Signal is turned on.

Illumination



The watch has an EL (electro-luminescent) panel that causes the entire display to glow for easy reading in the dark. The watch's auto light switch illuminates the display automatically when you angle the watch towards your face.

- The auto light switch must be turned on (indicated by the auto light switch indicator) for it to operate.
- See "Illumination Precautions" for other important information.

To turn on illumination manually

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

- You can specify 1.5 seconds or 2.5 seconds as the illumination duration. See "To specify the illumination duration" for more information.
- The above operation turns on illumination regardless of the current auto light switch setting.

About the Auto Light Switch

Turning on the auto light switch causes illumination to turn on whenever you position your wrist as described below in any mode. Note that this watch features a "Full Auto EL Light," so the auto light switch operates only when available light is below a certain level. It does not illuminate the display under bright light.

Moving the watch to a position that is parallel to the ground and then tilting it towards you at more than 40 degrees causes illumination to turn on.

- Wear the watch on the outside of your wrist.

Warning!

- **Always make sure you are in a safe place whenever you are reading the watch using the auto light switch. Be especially careful when running or engaged in any other activity that can result in accident or injury. Also take care that sudden illumination by the auto light switch does not startle or distract others around you.**
- **When you are wearing the watch, make sure that its auto light switch is turned off before riding on a bicycle, or operating a motorcycle or any other motor vehicle. Sudden and unintended operation of the auto light switch can create a distraction, which can result in a traffic accident and serious personal injury.**

To turn the auto light switch on and off

In any mode (except when a setting screen is on the display), hold down Ⓑ for about two seconds to toggle the auto light switch on (auto light switch indicator displayed) and off (auto light switch indicator not displayed).

- The auto light switch indicator remains in all modes while the auto light switch is turned on.

To specify the illumination duration

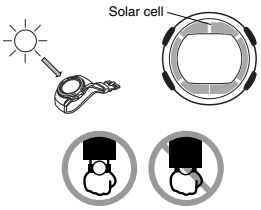
1. In the Timekeeping Mode, hold down Ⓐ until the city code starts to flash, which indicates the setting screen.
2. Press Ⓐ two more times.
3. Press Ⓒ twice to move the flashing to the seconds setting.
4. Press Ⓑ to toggle the illumination duration setting between 2.5 seconds (☼) and 1.5 seconds (✧).
5. After the setting is the way you want, press Ⓐ to exit the setting screen.

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 only partially.

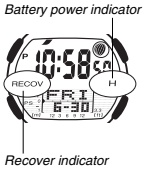


Important!

- 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 5 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	H	All functions enabled.
2	M	All functions enabled.
3	LOW	Alarm, hourly time signal, illumination, auto light switch, and display disabled.
4	CHG *(Charge Soon Alert)*	Except for timekeeping and the **CHG** indicator, all functions and display are disabled.
5		All functions, including timekeeping, disabled and initialized.

- The charge indicator (**CHG**) at Level 4 tells you that battery power is very low, and that exposure to bright light for charging is required as soon as possible.
- At Level 5, 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 **L** indicator) from Level 5. You will not be able to configure any of the other settings until the battery reaches Level 2 (no charge indicator) after dropping to Level 5.
- Leaving the watch in direct sunlight or exposed to some other very strong light source can cause the battery power indicator to show a reading that is momentarily higher than the actual battery level. The correct battery power indicator should appear after a few minutes.
- 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
  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 eight 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)	5 minutes
Sunlight Through a Window (10,000 lux)	24 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.
  - Watch is not exposed to light
  - 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 every other day
- Stable operation is promoted by frequent charging.

Recovery Times

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

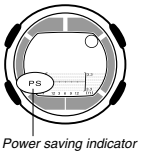
Exposure Level (Brightness)	Approximate Exposure Time				
	Level 5 →	Level 4 →	Level 3 →	Level 2 →	Level 1
Outdoor Sunlight (50,000 lux)	2 hours			18 hours	8 hours
Sunlight Through a Window (10,000 lux)	6 hours			91 hours	41 hours
Daylight Through a Window on a Cloudy Day (5,000 lux)	10 hours			184 hours	83 hours
Indoor Fluorescent Lighting (500 lux)	126 hours			– – –	

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

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.

Power Saving Function



Power saving indicator

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.
- Angle the watch towards your face for reading.

To turn Power Saving on and off

On/Off status

1. In the Timekeeping Mode, hold down Ⓐ until the city code starts to flash, which indicates the setting screen.
2. Press Ⓐ one more time.
3. Press Ⓒ twice until the Power Saving on/off screen appears.
4. Press Ⓓ to toggle Power Saving on (ON) and off (OFF).
5. Press Ⓐ twice 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 Tide/Moon Data Mode or 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

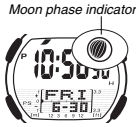
The Ⓑ and Ⓓ buttons are used in various modes and setting screens to scroll through data. In most cases, holding down these buttons during a scroll operation scrolls through the data at high speed.

Initial Screens

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

Moon Phase Indicator

Moon phase indicator



The Moon phase indicator of this watch indicates the current phase of the Moon as shown below.

(part you cannot see) — Moon phase (part you can see)

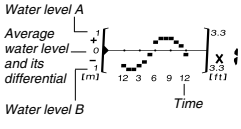
Moon Phase Indicator								
Moon Age	0.0 - 1.8	1.9 - 3.6	3.7 - 5.5	5.6 - 7.3	7.4 - 9.2	9.3 - 11.0	11.1 - 12.9	13.0 - 14.7
Moon Phase	New Moon				First Quarter (Waxing)			

Moon Phase Indicator								
Moon Age	14.8 - 16.6	16.7 - 18.4	18.5 - 20.3	20.4 - 22.1	22.2 - 24.0	24.1 - 25.8	25.9 - 27.7	27.8 - 29.4
Moon Phase	Full Moon				Last Quarter (Waning)			

- The Moon phase indicator shows the Moon as viewed at noon from a position in the Northern Hemisphere looking south. Note that at times the image shown by the Moon phase indicator may differ from that of the actual Moon in your area.
- The left-right orientation of the Moon phase is reversed when viewing from the Southern Hemisphere or from a point near the equator.

Tide Graph

The tide graph shows the relative rise and fall of the water level from the average level.
- The vertical axis of the graph represents level differential (1 dot = 0.2 meters), while the horizontal axis represents time (1 dot = 1 hour).



	X1	X2	X3
Water Level A	1 meter	2 meters	3 meters
Water Level B	–1 meter	–2 meters	–3 meters
1Dot (Vertical Axis)	20 centi-meters	40 centi-meters	60 centi-meters
1Dot (HorizontalAxis)	1 hour	1 hour	1 hour

- Periods when the differential from the average water level exceeds three meters are not shown on the graph.

Thermometer

Temperature Sensor Calibration

The temperature sensor built into the watch is calibrated at the factory and normally requires no further adjustment. If you notice serious errors in the temperature readings produced by the watch, you can calibrate the sensor to correct the errors.

Important!

Incorrectly calibrating the temperature sensor can result in incorrect readings. Carefully read the following before doing anything.
- *Compare the readings produced by the watch with those of another reliable and accurate thermometer.*
- *If adjustment is required, remove the watch from your wrist and wait for 20 or 30 minutes to give the temperature of the watch time to stabilize.*

To calibrate the temperature sensor

Calibration value

1. In the Timekeeping Mode, hold down Ⓐ until the city code starts to flash, which indicates the setting screen.
2. Press Ⓐ one more time to display the temperature sensor calibration screen.
3. Use Ⓓ (+) and Ⓑ (–) to change the calibration value.
   - You can change the value in 0.1°C (0.2°F) steps, in a range of ±10°C (±18°F). The calibration value shows "--.-" when the setting is outside the allowable range.
   - Temperature sensor calibration will not be possible if the current reading is outside the allowable display range (–10.0°C/14.0°F to 60.0°C/140.0°F) and the calibration value shows "- -".
4. After configuring the setting you want, press Ⓐ twice to exit the setting screen.

To specify the temperature display unit

Temperature unit

1. In the Timekeeping Mode, hold down Ⓐ until the city code starts to flash, which indicates the setting screen.
2. Press Ⓐ one more time.
3. Press Ⓒ once to display the temperature unit setting screen.
4. Use Ⓓ to switch between Celsius (°C) and Fahrenheit (°F).
   - The initial factory default and the initial default after battery replacement is Celsius (°C).
5. After configuring the setting you want, press Ⓐ twice to exit the setting screen.

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.
- With the 12-hour format, the **P** (PM) indicator 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.
- 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 5.

World Time

- The seconds count of the World Time is synchronized with the seconds count of the Timekeeping Mode.
- All World Time Mode times are calculated from the current time in the Timekeeping Mode using UTC time differential values.

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.

Auto light switch precautions

- The auto light switch will not turn on illumination during about the first 40 seconds (until the tide graph and Moon phase indicator appear) after you enter the Timekeeping Mode or Tide/Moon Data Mode. This is because the watch is reading data required to display the tide graph and Moon phase indicator.
- The auto light switch is turned off automatically whenever battery power is at Level 4.
- Wearing the watch on the inside of your wrist, movement of your arm, or vibration of your arm can cause frequent activation of the auto light switch and illumination of the display. To avoid running down the battery, turn off the auto light switch whenever engaging in activities that might cause frequent illumination.
- Note that wearing the watch under your sleeve while the auto light switch is turned on can cause frequent illumination of the display and can run down the battery.

- Illumination may not turn on if the face of the watch is more than 15 degrees above or below parallel. Make sure that the back of your hand is parallel to the ground.
- Illumination turns off after the preset illumination duration (see "To specify the illumination duration"), even if you keep the watch pointed towards your face.
- Static electricity or magnetic force can interfere with proper operation of the auto light switch. If illumination does not turn on, try moving the watch back to the starting position (parallel with the ground) and then tilt it back towards you again. If this does not work, drop your arm all the way down so it hangs at your side, and then bring it back up again.

- Under certain conditions, illumination may not turn on until about one second after you turn the face of the watch towards you. This does not necessarily indicate malfunction of the auto light switch.
- You may notice a very faint clicking sound coming from the watch when it is shaken back and forth. This sound is caused by mechanical operation of the auto light switch, and does not indicate a problem with the watch.

CASIO

UTC Differential/City Code List

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
LAX	Los Angeles	–08.0	San Francisco, Las Vegas, Seattle/Tacoma, Dawson City, Vancouver
DEN	Denver	–07.0	Edmonton, El Paso
CHI	Chicago	–06.0	Houston, Dallas/Fort Worth, New Orleans, Mexico City, Winnipeg
NYC	New York	–05.0	Montreal, Detroit, Boston, Miami, Panama City, Havana, Lima, Bogota
CCS	Caracas	–04.0	La Paz, Santiago, Port Of Spain
RIO	Rio De Janeiro	–03.0	Sao Paulo, Buenos Aires, Brasilia, Montevideo
–02		–02.0	
–01		–01.0	
LON	London	+00.0	Dublin, Lisbon, Casablanca, Dakar, Abidjan
PAR	Paris	+01.0	Amsterdam, Hamburg, Frankfurt, Vienna, Rome, Madrid, Stockholm, Algiers
BER	Berlin		
ATH	Athens	+02.0	Helsinki, Johannesburg, Istanbul, Beirut, Damascus, Cape Town
CAI	Cairo		
JRS	Jerusalem		
JED	Jeddah	+03.0	Kuwait, Riyadh, Aden, Addis Ababa, Nairobi, Moscow
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, Colombo
DAC	Dhaka	+06.0	
RGN	Yangon	+06.5	
BKK	Bangkok	+07.0	Phnom Penh, Hanoi, Vientiane, Jakarta
HKG	Hong Kong	+08.0	Singapore, Kuala Lumpur, Manila, Beijing, Taipei, Ulaanbaatar
OSA	Osaka	+09.0	Seoul, Pyongyang
TYO	Tokyo		
ADL	Adelaide	+09.5	Darwin
SYD	Sydney	+10.0	Melbourne, Rabaul, Guam
NOU	Noumea	+11.0	Port Vila
WLG	Wellington	+12.0	Christchurch, Nadi, Nauru Island
TBU	Nuku'alofa	+13.0	

- Based on data as of June 2006
- **–2** or **KBL** can be selected in the World Time Mode only. They cannot be selected as the Home site in the Timekeeping Mode.

Area List

City Code	Area		City Code	Area	
PPG	PAGO PAGO	AMERICAN SAMOA	OSA	HAKATA	JAPAN
	APIA	SAMOA		KARATSU	JAPAN
	WELLES HARBOUR	USA		SASEBO	JAPAN
HNL	MASSACRE BAY	ALEUTIAN ISLANDS		MATSUSHIMA	JAPAN
	PAPEETE	TAHITI		KUMAMOTO	JAPAN
	HONOLULU	USA		TOMIOKA	JAPAN
ANC	CORDOVA	USA		NISHIOITA	JAPAN
	PORT CLARENCE	USA		HOSOSHIMA	JAPAN
	JUNEAU	USA		MIYAZAKI	JAPAN
LAX	VANCOUVER	CANADA		ABURATSU	JAPAN
	SAN DIEGO	USA		SHIBUSHI	JAPAN
	SANTA MONICA	USA		KAGOSHIMA	JAPAN
DEN	WINTER HARBOUR	CANADA		MAKURAZAKI	JAPAN
	CABO SAN LUCAS	MEXICO		AKUNE	JAPAN
	BAHIA MAGDALENA	MEXICO		NISHINOOMOTE	JAPAN
CHI	ACAPULCO	MEXICO		NAZE	JAPAN
	LA UNION	EL SALVADOR		NAHA	JAPAN
	GALVESTON	USA		HIRARA	JAPAN
	PUERTO LIMON	COSTA RICA		ISHIGAKI	JAPAN
NYC	POINTE-AU-PERE	CANADA		MAIZURU	JAPAN
	PUERTO CHICAMA	PERU	TYO	SHIBAURA	JAPAN
	MAIAMI HARBOUR	USA		OSHIMA	JAPAN
	BUENAVENTURA	PANAMA		KOZU SHIMA	JAPAN
CCS	BRIDGETOWN	BARBADOS		HACHIJO JIMA	JAPAN
	HALIFAX	CANADA		CHICHI JIMA	JAPAN
	IQUIQUE	CHILE		YOKOHAMA	JAPAN
	SANTO DOMINGO	DOMINICAN R.		YOKOSUKA	JAPAN
RIO	BUENOS AIRES	ARGENTINA		ZUSHI	JAPAN
	RIO DE JANEIRO	BRAZIL		ENOSHIMA	JAPAN
	F. DE NORONHA	BRAZIL		MANAZURU	JAPAN
–01	S. VICENTE	CAPE VERDE		NIIGATA	JAPAN
	SANTA CRUZ	AZORES		TERADOMARI	JAPAN
	PONTA DELGADA	AZORES		KASHIWAZAKI	JAPAN
LON	PLYMOUTH	ENGLAND		NAOETSU	JAPAN
	CASABLANCA	MOROCCO		OGI	JAPAN
	LISBON	PORTUGAL		TOYAMA	JAPAN
PAR, BER	DUNKERQUE	FRANCE		TAKI	JAPAN
	VENEZIA	ITALY		KANAZAWA	JAPAN
	NARVIK	NORWAY		HUKUI	JAPAN
ATH, CAI JRS	ALEXANDRIA	EGYPT		WADA	JAPAN
	NISOS LEROS	GREECE		ITO	JAPAN
	CAPE TOWN	SOUTH AFRICA		SHIMODA	JAPAN
JED	SHATT AL ARAB	IRAQ		SHIMIZU	JAPAN
	TOAMASINA	MADAGASCAR		SAGARA	JAPAN
	JEDDAH	SAUDI ARABIA		OMAEZAKI	JAPAN
THR	BANDAR-E LENGEH	IRAN		MAISAKA	JAPAN
	KHOWR-E MUSA	IRAN		AKABANE	JAPAN
	KHARK	IRAN		NAGOYA	JAPAN
DXB	SULTAN QABOOS	OMAN		HAMAJIMA	JAPAN
	DUBAI	ARAB		ABASHIRI	JAPAN
	MINA JEBEL ALI	ARAB		RUMOI	JAPAN
KHI	MALE MALDIVES	MALDIVES		OTARU	JAPAN
	KARACHI	PAKISTAN		HAKODATE	JAPAN
	GWADAR	PAKISTAN		MURORAN	JAPAN
DEL	MUMBAI	INDIA		TOMAKOMAI	JAPAN
	CHENNAI	INDIA		KUSHIRO	JAPAN
	COCHIN	INDIA		AOMORI	JAPAN
DAC	CHITTAGONG	BANGLADESH		HACHINOHE	JAPAN
	COXS BAZAR	BANGLADESH		KUJI	JAPAN
	COLOMBO	SRI LANKA		KAMAISHI	JAPAN
RGN	ELEPHANT POINT	BURMA		KESENNUMA	JAPAN
	BASSEIN RIVER	BURMA		SENDAI	JAPAN
	YANGON	MYANMAR		NOSHIRO	JAPAN
BKK	CHRISTMAS IS.	INDIAN OCEAN ISLAND		OGA	JAPAN
	LANGSA BAY	SUMATERA		AKITA	JAPAN
	SURABAYA	INDONESIA		SAKATA	JAPAN
	PHUKET	THAILAND		NEZUGASEKI	JAPAN
	BANGKOK BAR	THAILAND		SOMA	JAPAN
	MUI VUNG TAU	VIET NAM		YOTSUKURA	JAPAN
HKG	ESPERANCE	AUSTRALIA		HITACHI	JAPAN
	SANDAKAN	SABAH		OARAI	JAPAN
	HONG KONG	CHINA		KASHIMA	JAPAN
	MANADO	SULAWESI		CHOSHIGYOKO	JAPAN
	MELAKA	MALAYSIA		KAZUSAKATSUURA	JAPAN
	CEBU	PHILIPPINES		KAMOGAWA	JAPAN
	TANJONG PAGAR	SINGAPORE		TATEYAMA	JAPAN
OSA	OSAKA	JAPAN	ADL	PORT ADELAIDE	AUSTRALIA
	KOBE	JAPAN		WALLAROO	AUSTRALIA
	AKASHI	JAPAN		WHYALLA	AUSTRALIA
	TSUIYAMA	JAPAN		PORT LINCOLN	AUSTRALIA
	URAGAMI	JAPAN		DARWIN	AUSTRALIA
	TANABE	JAPAN		GOVE	AUSTRALIA
	WAKAYAMA	JAPAN	SYD	BRISBANE	AUSTRALIA
	TAJIRI	JAPAN		SYDNEY	AUSTRALIA
	TONOURA	JAPAN		MELBOURNE	AUSTRALIA
	KURE	JAPAN		YAP ISLAND	CAROLINE ISLAND
	UBE	JAPAN		PORT MORESBY	PAPUA NEW GUINEA
	SHIMONOSEKI	JAPAN		GUAM	USA
	YUYA	JAPAN	NOU	NOUMEA	NEW CALEXONIA
	HAGI	JAPAN		CHOISEUL BAY	SOLOMON ISLAND
	HIWASA	JAPAN		PORT VILA	VANUATU
	TAKAMATSU	JAPAN	WLG	SUVA HARBOUR	FIJI ISLAND
	NIIHAMA	JAPAN		KWAJALEIN ATOLL	MARSHALL ISLAND
	UWAJIMA	JAPAN		AUCKLAND	NEW ZEALAND
	KANNOURA	JAPAN		WESTPORT	NEW ZEALAND
	MUROTOZAKI	JAPAN		LYTTELTON	NEW ZEALAND
	MUROTSU	JAPAN		FUNAFUTI	TUVALU
	KOCHI	JAPAN	TBU	NUKUALOFA	TONGA
	TOSASHIMIZU	JAPAN		NEIAFU	TONGA
	TSUYAZAKI	JAPAN		PANGAI	TONGA

- Based on data as of December 2005