Operation Guide 3194

CASIO

Getting Acquainted

Warning!

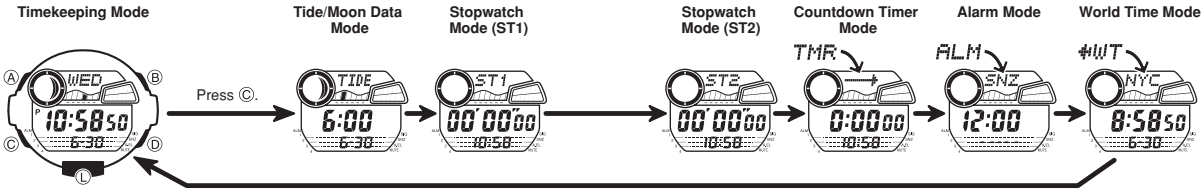
- The measurement functions built into this watch are not intended for use in taking measurements that require professional or industrial precision. Values produced by this watch should be considered as reasonably accurate representations only.
- The longitude, lunitidal interval, Moon phase indicator 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

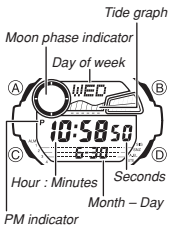
- Button operations are indicated using the letters shown in the illustration.
- Each section of this manual provides you with the information you need to perform operations in each mode. Further details and technical information can be found in the “Reference” section.

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.

- 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.

Important!

- Be sure to configure the current time and date, and your Home Site data (data for the site where you use the watch) correctly before using the functions of this watch. See “Home Site Data” for more information.

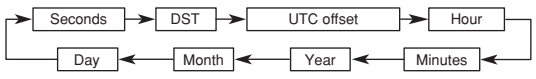
Setting the Time and Date

This watch is preset with UTC offset values that represent each time zone around the globe. Before setting the time, be sure to set the UTC offset for your Home Site first, which is the location where you normally will be using the watch.

- Note that World Time Mode times are all displayed based on the time and date settings you configure in the Timekeeping Mode.

To set the time and date

1. In the Timekeeping Mode, hold down Ⓐ until the seconds start to flash, which indicates the setting screen.
   - Be sure to configure the correct UTC offset for your Home Site before configuring any other Timekeeping Mode settings.
   - See the “City Code Table” for information about the UTC offset settings that are supported.
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.

Screen	To do this:	Do this:
50	Reset the seconds to 00	Press Ⓓ.
OFF	Toggle between Daylight Saving Time (On) and Standard Time (OFF)	Press Ⓓ.
+ 90	Specify the UTC offset	Use Ⓓ (+) and Ⓑ (–).
10:58	Change the hour or minutes	Use Ⓓ (+) and Ⓑ (–).
2010	Change the year	
6-30	Change the month or day	

- See “Daylight Saving Time (DST)” for details about DST setting.
- The UTC offset setting range is –12.0 to +14.0, in 0.5-hour units.
- When DST is turned on, the UTC offset setting range is –11.0 to +15.0, in 0.5-hour units.

4. Press Ⓐ twice to exit the setting screen.

- The day of the week is displayed automatically in accordance with the date (year, month, and day) settings.

Daylight Saving Time (DST)

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

To toggle the Timekeeping Mode time between DST and Standard Time

1. In the Timekeeping Mode, hold down Ⓐ until the seconds start to flash, which indicates the setting screen.
2. Press Ⓒ to display the DST setting screen.
3. Press Ⓓ to toggle between Daylight Saving Time (On displayed) and Standard Time (OFF displayed).
4. Press Ⓐ twice to exit the setting screen.

- The **DST** indicator appears on the Timekeeping, and Tide/Moon Data screens to indicate that Daylight Saving Time is turned on. In the case of the Tide/Moon Data Mode, the DST indicator appears on the Tide Data screen only.

To toggle between 12-hour and 24-hour timekeeping

In the Timekeeping Mode, press Ⓓ to toggle between 12-hour timekeeping and 24-hour timekeeping.

- With the 12-hour format, the **P** (PM) indicator appears to the left of the hour digits for times in the range of noon to 11:59 p.m. and no indicator appears to the left of the hour digits 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 12-hour/24-hour timekeeping format you select in the Timekeeping Mode is applied in all other modes.
- The **P** indicator is not displayed when the current time is displayed in other modes.

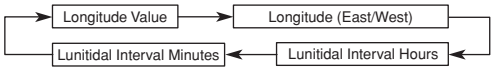
Home Site Data

Moon phase, tide graph data, and Tide/Moon Data Mode data will not be displayed properly unless Home Site data (UTC offset, longitude, and lunitidal interval) is configured correctly.

- The UTC offset 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 “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 lunitidal interval is the time elapsing between the Moon’s transit over a meridian and the next high tide at that meridian. See “Lunitidal Interval” for more information.
- This watch displays lunitidal intervals in terms of hours and minutes.
- The “Site/Lunitidal Interval Data List” provides UTC offset and longitude information around the world.
- 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.
  UTC offset (+9.0); Longitude (East 140 degrees); Lunitidal interval (5 hours, 20 minutes)

To configure Home Site data

1. In the Timekeeping Mode, hold down Ⓐ until the seconds start to flash, which indicates the setting screen.
2. Press Ⓒ twice to display the UTC offset setting screen, and confirm that the setting is correct.
   - If the UTC offset setting is not correct, use Ⓓ (+) and Ⓑ (–) to change it.
3. Press Ⓐ to display the longitude value setting screen.
4. Press C to move the flashing in the sequence shown below to select other settings.

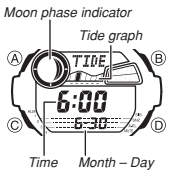


5. When the setting you want to change is flashing, use Ⓓ and Ⓑ to change it as described below.

Setting	Screen	Button Operations
Longitude Value	LONG 140° E	Use Ⓓ (+) and Ⓑ (–) to change the setting. • You can specify a value in the range of 0° to 180°, in 1-degree units.
Longitude (East/West)		Use Ⓓ to switch between east longitude (E) and west longitude (W).
Lunitidal Interval Hours, Minutes	INT 5:20	Use Ⓓ (+) and Ⓑ (–) to change the setting.

6. Press Ⓐ to exit the setting screen.

Tide/Moon Data

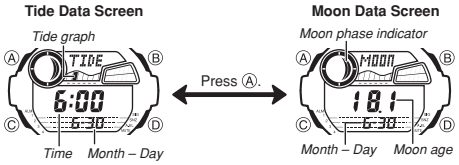


Tide/Moon data lets you view the Moon age and Moon phase for a particular date, and tidal movements for a particular date and time at your Home Site.

- When you enter the Tide/Moon Data Mode, the data for 6:00 a.m. on the current date appears first.
- 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 Ⓒ .

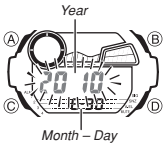
Tide/Moon Data Screens

In the Tide/Moon Data Mode, press Ⓐ to toggle between the tide data screen and the Moon data screen.



- While the tide data screen is displayed, use Ⓓ (+) and Ⓑ (–) to change the displayed time in one-hour increments.
- While the Moon data screen is displayed, use Ⓓ (+) and Ⓑ (–) to change the displayed date in one-day increments. Pressing Ⓓ and Ⓑ will display the year of the displayed date for about one second.
- You also can specify a particular date (year, month, day) to view its tide data and Moon data. See “To specify a date” for more information.
- When you enter the Tide/Moon Data Mode, the screen (tide data or Moon data) that was displayed the last time you exited the mode appears first.

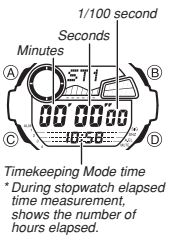
To specify a date



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 D (+) or B (–) 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.
5. Use Ⓐ to display either the tide data screen or the Moon data screen.

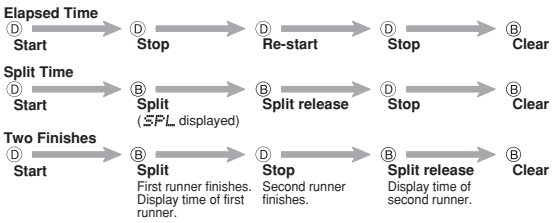
Stopwatches



Your watch has two stopwatch modes:Stopwatch Mode (ST1) and Stopwatch Mode (ST2). Both stopwatch modes let you measure elapsed time, split times, and two finishes. The Stopwatch Mode (ST1) includes Auto-Start.

- A display range of the stopwatch is 999 hours, 59 minutes, 59.99 seconds.
- A stopwatch continues to run, restarting from zero after it reaches its limit, until you stop it.
- A stopwatch measurement operation continues even if you exit a Stopwatch Mode.
- Exiting a Stopwatch Mode while a split time is frozen on the display clears the split time and returns to elapsed time measurement.
- All of the operations in this section are performed in the Stopwatch Mode (ST1) or Stopwatch Mode (ST2), which you enter by pressing Ⓒ.

To measure times with the stopwatch (Stopwatch Mode (ST1) and Stopwatch Mode (ST2))



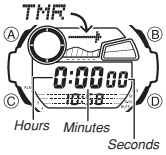
About Auto-Start (Stopwatch Mode (ST1))

With Auto-Start, the watch performs a 5-second countdown, and stopwatch operation starts automatically when the countdown reaches zero.
During the final three seconds of the countdown, a beeper sounds with each second.

To use Auto-Start (ST1)

1. While the stopwatch screen is showing all zeros in the Stopwatch Mode, press Ⓑ.
   - This displays a 5-second countdown screen.
   - To return to the all zeros screen, press Ⓑ again.
2. Press Ⓓ to start the countdown.
   - When the countdown reaches zero, a tone sounds and a stopwatch timing operation starts automatically.
   - Pressing Ⓓ while the Auto-Start countdown is in progress starts the stopwatch immediately.

Countdown Timer



The countdown timer can be set within a range of one minute to 24 hours. An alarm sounds when the countdown reaches zero. The countdown timer also has an auto-repeat feature and a progress beeper that signals the progress of the countdown.

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

Configuring the Countdown Timer

The following are the settings you should configure before actually using the countdown timer.
Countdown start time; Auto-repeat on/off; Progress beeper on/off

- See “To configure the countdown timer” for information about setting up the timer.

Auto-repeat

When auto-repeat is turned on, the countdown restarts automatically from the countdown start time when it reaches zero.
When auto-repeat is turned off, the countdown stops when it reaches zero and the display shows the original countdown start time.

- Pressing Ⓓ while an auto-repeat countdown is in progress pauses the current countdown. You can resume the auto-repeat countdown by pressing Ⓓ, or you can press Ⓐ to reset to the countdown time starting value.

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 countdown end beeper lets you know when the countdown reaches zero.

- When the progress beeper is turned off, the countdown end beeper sounds for about 10 seconds, or until you press any button to stop it.
- When the progress beeper is turned on, the countdown end beeper sounds for about one second.

Progress Beeper

When the progress beeper is turned on, the watch uses beeps to signal countdown progress as described below.

- Starting from five minutes before the end of the countdown, the watch emits four short beeps at the top of each countdown minute.
- 30 seconds before the end of the countdown, the watch emits four short beeps.
- The watch emits a short beep for each of the last 10 seconds of the countdown.
- If the countdown start time is six minutes or greater, the watch emits a short beep for each second of the final 10 seconds before the five-minute point is reached. Four short beeps are emitted to signal when the five-minute point is reached.

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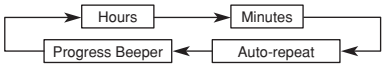
To configure the countdown timer

1. While the countdown start time is on the display in the Countdown Timer Mode, hold down Ⓐ until the current countdown start time 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 Operation
Hours, Minutes	0:00	Use Ⓓ (+) and Ⓑ (–) to change the setting.
Auto-repeat	AUTO	Press Ⓓ to toggle auto-repeat on (AUTO displayed) and off (⟶ displayed).
Progress Beeper	bOFF	Press Ⓓ to toggle the progress beeper on (ON) and off (OFF).

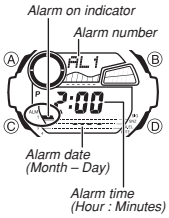
   - To specify a countdown start time of 24 hours, set 0:00.
4. Press Ⓐ to exit the setting screen.

- You can also perform steps 1 and 2 of the above procedure whenever you need to view the current auto-repeat and progress beeper settings.

To use the countdown timer

Press Ⓓ while in the Countdown Timer Mode to start the countdown timer.
- The countdown timer operation continues even if you exit the Countdown Timer Mode.
- Press Ⓓ while a countdown operation is in progress to pause it. Press Ⓓ again to resume the countdown.
- To stop a countdown operation completely, first pause it (by pressing Ⓓ), and then press Ⓑ. This returns the countdown time to its starting value.

Alarms



You can set up to five independent multi-function alarms with hour, minutes, month, and day. When an alarm is turned on, the alarm tone sounds when the alarm time is reached. One of the alarms is a snooze alarm, while the other four are one-time alarms.
You can also turn on an Hourly Time Signal that causes the watch to beep twice every hour on the hour.
- There are five alarm screens numbered AL1, AL2, AL3, and AL4 for the one-time alarm, a snooze alarm screen indicated by SNZ. The Hourly Time Signal screen is indicated by SIG.
- All of the operations in this section are performed in the Alarm Mode, which you enter by pressing Ⓒ.

Alarm Types

The alarm type is determined by the settings you make, as described below.

• Daily alarm
Set the hour and minutes for the alarm time. This type of setting causes the alarm to sound everyday at the time you set.

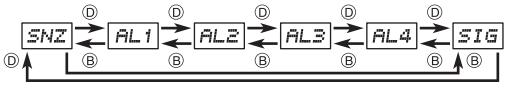
• Date alarm
Set the month, day, hour and minutes for the alarm time. This type of setting causes the alarm to sound at the specific time, on the specific date you set.

• 1-Month alarm
Set the month, hour and minutes for the alarm time. This type of setting causes the alarm to sound everyday at the time you set, only during the month you set.

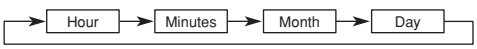
• Monthly alarm
Set the day, hour and minutes for the alarm time. This type of setting causes the alarm to sound every month at the time you set, on the day you set.

To set an alarm time

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



   - To set a one-time alarm, display an alarm screen AL1, AL2, AL3, or AL4. To set the snooze alarm, display the SNZ screen.
   - The snooze alarm repeats every five minutes.
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. Press Ⓒ to move the flashing in the sequence shown below to select other settings.



4. While a setting is flashing, use Ⓓ and Ⓑ to change it as described below.

Screen	To do this:	Do this:
12:00	Change the hour and minutes	Use Ⓓ (+) and Ⓑ (–). • With the 12-hour format, set the time correctly as a.m. or p.m. (**P** indicator). • To set an alarm that does not include a month and/or day, set - for each setting.
- - - -	Change the month and day	

5. Press Ⓐ to exit the setting screen.

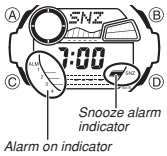
Alarm Operation

The alarm tone sounds at the preset time for 20 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, until you turn the alarm off.
- Alarm and Hourly Time Signal operations are performed in accordance with the Timekeeping Mode time.
- To stop the alarm tone after it starts to sound, press any button.
- 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 SNZ setting screen

To test the alarm

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

To turn an alarm on and off

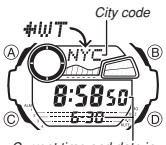


1. In the Alarm Mode, use Ⓓ to select an alarm.
2. Press Ⓐ to toggle it on and off.
   - Turning on an alarm (AL1, AL2, AL3, AL4) displays the alarm on indicator, while turning on the snooze alarm (SNZ) displays the snooze alarm indicator.
   - In all modes, the alarm on indicator is shown for alarm that is currently turned on.
   - The alarm on indicator flashes while the alarm is sounding.
   - The snooze alarm indicator flashes while the snooze alarm is sounding and 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 and off.
   - The Hourly Time Signal on indicator is shown on the display in all modes while this function is turned on.

World Time



World Time shows the current time in 48 cities (29 time zones) around the world.
- All of the operations in this section are performed in the World Time Mode, which you enter by pressing Ⓒ.

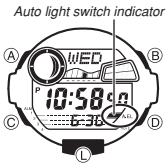
To view the time for another city code

In the World Time Mode, press Ⓓ to scroll eastwardly through city codes.
In the World Time Mode, press Ⓑ to scroll westwardly through city codes.
- For full information about city codes, see the "City Code Table".
- If the current time for a city is wrong, check your Timekeeping Mode time and time zone settings and make necessary changes.

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

1. In the World Time Mode, use Ⓓ (east) and Ⓑ (west) to display the city code (time zone) whose Standard Time/ Daylight Saving Time setting you want to change.
2. Hold down Ⓐ for about one second to toggle Daylight Saving Time (**DST** displayed) and Standard Time (**DST** not displayed).
   - The **DST** indicator is on the display 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.

Illumination



This 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 turns on illumination automatically when you angle the watch for reading 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 more important information.

To illuminate the display

In any mode, press Ⓛ to turn on illumination.
- The above operation turns on illumination regardless of the current auto light switch setting.
- You can use the procedure below to select either 3 seconds or 5 seconds as the illumination duration. When you press Ⓛ, the illumination will remain on for about 3 seconds or 5 seconds, depending on the current illumination duration setting.

To specify the illumination duration

1. In the Timekeeping Mode, hold down Ⓐ until the seconds start to flash, which indicates the setting screen.
2. While the seconds are flashing, press Ⓑ to toggle the setting between 3 seconds (✧) and 5 seconds (✲).
3. Press Ⓐ twice to exit the setting screen.

About the Auto Light Switch

While the auto light switch is enabled, illumination turns on whenever you position your wrist as described below in any mode.

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 the Timekeeping Mode, hold down Ⓑ for about three seconds to toggle the auto light switch on (auto light switch indicator displayed) or off (auto light switch indicator not displayed).
- The auto light switch indicator is on the display in all modes while the auto light switch is turned on.
- In order to protect against running down the battery, the auto light switch turns off automatically approximately six hours after you turn it 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.

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 27.7-29.5	1.9 - 5.5	5.6 - 9.2	9.3 - 12.9	13.0-16.6	16.7-20.2	20.3-23.9	24.0-27.6
Moon Phase	New Moon		First Quarter (Waxing)		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.

Moon Phases and Moon Age

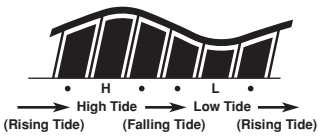
The Moon goes through a regular 29.53-day cycle. During each cycle, the Moon appears to wax and wane as the relative positioning of the Earth, Moon, and Sun changes. The greater the angular distance between the Moon and the Sun,* the more we see illuminated.

** The angle to the Moon in relation to the direction at which the Sun is visible from the Earth.*

This watch performs a rough calculation of the current Moon age starting from day 0 of the moon age cycle. Since this watch performs calculations using integer values only (no fractions), the margin for error of the displayed Moon age is ±1 day.

Tide Graph

The Tide Graph has six graphic segments, each of which indicates a different tide level. The current tide level is indicated by the displayed graphic segment.



Tidal Movements

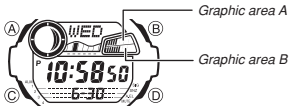
Tides are the periodic rise and fall of the water of oceans, seas, bays, and other bodies of water caused mainly by the gravitational interactions between the Earth, Moon and Sun. Tides rise and fall about every six hours. The tide graph of this watch indicates tidal movement based on the Moon's transit over a meridian and the lunitidal interval. The lunitidal interval differs according to your current location, so you must specify a lunitidal interval in order to obtain the correct tide graph readings.
- The tide graph displayed by this watch is based on the current Moon age. Remember that the margin for error of the Moon age displayed by this watch is ±1 day. The greater the error in a particular Moon age, the greater the error in the resulting tide graph.

Lunitidal Interval

Theoretically, high tide is at the Moon's transit over the meridian and low tide is about six hours later. Actual high tide occurs somewhat later, due to factors such as viscosity, friction, and underwater topography. Both the time differential between the Moon's transit over the meridian until high tide and the time differential between the Moon's transit over the meridian until low tide are known as the "lunitidal interval". When setting the lunitidal interval for this watch, use the time differential between the Moon's transit over the meridian until high tide.

Graphic Areas

There are two graphic areas named A and B.



- In all modes, graphic area A shows the Stopwatch Mode (ST1) minutes (one segment each for 5 minutes, 10 minutes, etc.).
- In all modes, graphic area B shows the Stopwatch Mode (ST2) minutes (one segment each for 5 minutes, 10 minutes, etc.).

Flash Alert

When Flash Alert is turned on, the illumination flashes for the alarms, the Hourly Time Signal, the countdown alarm, and stopwatch (ST1) auto start.

To turn Flash Alert on and off

In the Timekeeping Mode, hold down Ⓓ for about three seconds to toggle Flash Alert on (Flash Alert indicator displayed) or off (Flash Alert indicator not displayed).
- Illumination flashes twice when you turn Flash Alert on and once when turn Flash Alert off.
- While Flash Alert is turned on, the Flash Alert indicator remains on the display in all modes.
- Note that pressing Ⓓ to toggle Flash Alert on or off will also switch timekeeping between 12-hour and 24-hour format.

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 alarms, the Hourly Time Signal, the countdown alarm, and stopwatch auto start 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 Ⓒ to toggle the button operation tone on (mute indicator not displayed) and off (mute indicator displayed).
- Holding 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.

Auto Return Features

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

Scrolling

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

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 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.

World Time

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

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

- Avoid wearing the watch on the inside of your wrist. Doing so causes the auto light switch to operate when it is not needed, which shortens battery life. If you want to wear the watch on the inside of your wrist, turn off the auto light switch feature.

- 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.

Specifications

Accuracy at normal temperature: ±15 seconds a month

Timekeeping: Hour, minutes, seconds, p.m. (P), month, day, day of the week
Time format: 12-hour and 24-hour
Calendar system: Full Auto-calendar pre-programmed from the year 2000 to 2099
Other: Home Time zone (selectable in 0.5-hour increments in the range of –12.0 to +14.0); Daylight Saving Time (summer time)/Standard Time

Tide/Moon Data: Moon phase indicator for specific date; Tide level for specific date and time

Stopwatch (ST1)
Measuring unit: 1/100 second
Measuring capacity: 999:59' 59.99"
Measuring modes: Elapsed time, split time, two finishes
Other: Auto-Start

Stopwatch (ST2)
Measuring unit: 1/100 second
Measuring capacity: 999:59' 59.99"
Measuring modes: Elapsed time, split time, two finishes

Countdown Timer
Measuring unit: 1 second
Input range: 1 minute to 24 hours (1-minute increments and 1-hour increments)
Other: Auto-repeat timing; Progress beeper

Alarms: 5 multi-function* alarms (four one-time alarms; one snooze alarm); Hourly Time Signal
**Alarm type: Daily alarm, date alarm, 1-month alarm, monthly alarm*

World Time: 48 cities (29 time zones)
Other: Daylight Saving Time/Standard Time

Illumination: EL (electro-luminescent panel); Selectable illumination duration; Auto Light Switch

Other: Button operation tone on/off, Flash alert

Battery: One lithium battery (Type: CR2025)
Approximately 2 years on type CR2025; 20 seconds of alarm operation (with flash alert) per day, one countdown timer operation (with progress beeper and flash alert) per week, one stopwatch operation (with auto start and flash alert) per week, 5 seconds of illumination per day

City Code Table

City Code	City	UTC offset/ GMT Differential
PPG	Pago Pago	–11
HNL	Honolulu	–10
ANC	Anchorage	–9
LAX	Los Angeles	–8
DEN	Denver	–7
MEX	Mexico City	–6
CHI	Chicago	
NYC	New York	–5
CCS*	Caracas	–4
YYT	St. Johns	–3.5
RIO	Rio De Janeiro	–3
BUE	Buenos Aires	
RAI	Praia	–1
LON	London	0
DKR	Dakar	
MAD	Madrid	+1
PAR	Paris	
MCM	Monte Carlo	
ROM	Rome	
BER	Berlin	
STO	Stockholm	
ATH	Athens	+2
JNB	Johannesburg	
ANK	Ankara	

City Code	City	UTC offset/ GMT Differential
NIC	Nicosia	+2
HEL	Helsinki	
CAI	Cairo	
JRS	Jerusalem	
MOW	Moscow	+3
JED	Jeddah	
THR	Tehran	+3.5
DXB	Dubai	+4
KBL	Kabul	+4.5
KHI	Karachi	+5
DEL	Delhi	+5.5
DAC	Dhaka	+6
RGN	Yangon	+6.5
BKK	Bangkok	+7
SIN	Singapore	+8
HKG	Hong Kong	
BJS	Beijing	
PER	Perth	
SEL	Seoul	+9
TYO	Tokyo	
ADL	Adelaide	+9.5
SYD	Sydney	+10
NOU	Noumea	+11
WLG	Wellington	+12

- Based on data as of December 2008.
- The rules governing global times (UTC offset and GMT differential) and summer time are determined by each individual country.

** In December 2007, Venezuela changed its offset from –4 to –4.5. Note, however, that this watch displays an offset of –4 (the old offset) for the CCS (Caracas, Venezuela) city code.*

Site/Lunitidal Interval Data List

Site	UTC offset		Longitude	Lunitidal Interval
	Standard Time	DST/ Summer Time		
Anchorage	–9	–8	149°W	5:40
Bahamas	–5	–4	77°W	7:30
Baja, California	–7	–6	110°W	8:40
Bangkok	+7	+8	101°E	4:40
Boston	–5	–4	71°W	11:20
Buenos Aires	–3	–2	58°W	6:00
Casablanca	0	+1	8°W	1:30
Christmas Island	+14	+15	158°W	4:00
Dakar	0	+1	17°W	7:40
Gold Coast	+10	+11	154°E	8:30
Great Barrier Reef, Cairns	+10	+11	146°E	9:40
Guam	+10	+11	145°E	7:40
Hamburg	+1	+2	10°E	4:50
Hong Kong	+8	+9	114°E	9:10
Honolulu	–10	–9	158°W	3:40
Jakarta	+7	+8	107°E	0:00
Jeddah	+3	+4	39°E	6:30
Karachi	+5	+6	67°E	10:10
Kona, Hawaii	–10	–9	156°W	4:00
Lima	–5	–4	77°W	5:20
Lisbon	0	+1	9°W	2:00
London	0	+1	0°E	1:10
Los Angeles	–8	–7	118°W	9:20
Maldives	+5	+6	74°E	0:10
Manila	+8	+9	121°E	10:30
Mauritius	+4	+5	57°E	0:50
Melbourne	+10	+11	145°E	2:10
Miami	–5	–4	80°W	7:30
Noumea	+11	+12	166°E	8:30
Pago Pago	–11	–10	171°W	6:40
Palau	+9	+10	135°E	7:30
Panama City	–5	–4	80°W	3:00
Papeete	–10	–9	150°W	0:10
Rio De Janeiro	–3	–2	43°W	3:10
Seattle	–8	–7	122°W	4:20
Shanghai	+8	+9	121°E	1:20
Singapore	+8	+9	104°E	10:20
Sydney	+10	+11	151°E	8:40
Tokyo	+9	+10	140°E	5:20
Vancouver	–8	–7	123°W	5:10
Wellington	+12	+13	175°E	4:50

**Based on data as of 2003.*

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