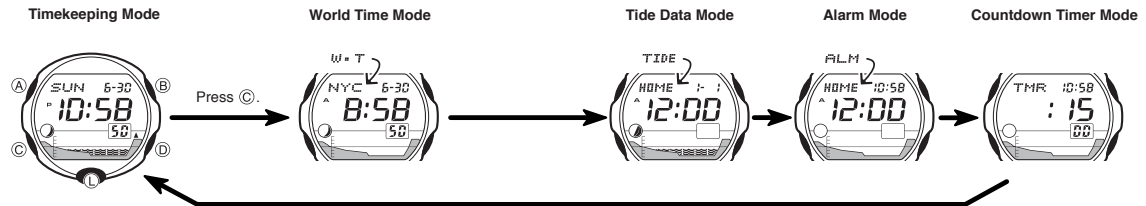


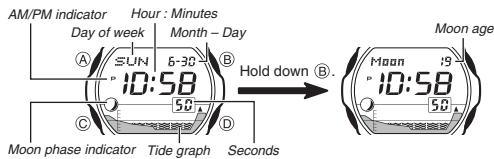
General Guide

- Press **C** to change from mode to mode.
- In any mode, press **L** to illuminate the display.



Timekeeping

Use the Timekeeping Mode to set and view the current time and date. You can also select the color of the "Multi Illuminator" backlight, which uses LEDs to illuminate the display in different colors.



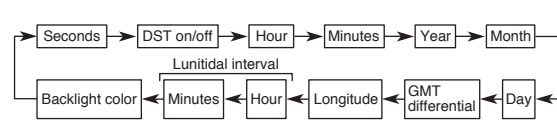
- In the Timekeeping Mode, hold down **B** to indicate the current Moon age in accordance with the current date as kept in the Timekeeping Mode.
- The tide graph shows tidal movements for the current time in accordance with the current time as kept in the Timekeeping Mode.
- The Moon phase indicator shows the current Moon phase in accordance with the current date as kept in the Timekeeping Mode.

Important!

- Moon phase, tide graph data, Moon age data and World Time Mode times 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.
- Always use standard time when setting the Timekeeping Mode time and date, even if the area where your Home Site is located is currently in Daylight Saving Time (summer time). After setting the time, turn DST on or off as required. See "Daylight Saving Time (DST)" for more information.

To set the time and date

1. In the Timekeeping Mode, hold down **A** until the seconds start to flash, which indicates the setting screen.
2. Press **C** to move the flashing in the sequence shown below to select other settings.



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

To change this setting	Perform this button operation
Seconds	Press D to reset to 00 .
Hour, Minutes, Year, Month, Day, GMT differential, Longitude, Lunitidal interval (hours, minutes)	Use D to increase the setting.
DST on/off	Press D to toggle between DST on (DST ON displayed) and off (DST OFF displayed).

- Pressing **D** 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.
- See "Daylight Saving Time (DST)" on page for information about turning Daylight Saving Time on and off.
- See "Home Site Data" on page for information about setting the GMT differential, longitude, and lunitidal interval (hours, minutes).

4. Press **A** to exit the setting screen.
- The day of the week is automatically displayed in accordance with the date (year, month, and day) settings.
- The year can be set in the range of 1995 to 2039.
- The watch's built-in full automatic calendar automatically 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.

To toggle between 12-hour and 24-hour timekeeping

- In the Timekeeping mode, press **D** 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 the **A** (AM) 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 also applied in all other modes.

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 **A** until the seconds start to flash, which indicates the setting screen.
 2. Press **C** to move the flashing to the DST On/Off setting.
 3. Press **D** to toggle between Daylight Saving Time (**DST ON** displayed) and standard time (**DST OFF** displayed).
 4. Press **A** to exit the setting screen.
- The **DST** indicator appears on the display to indicate that Daylight Saving Time is turned on.

Home Site Data

Moon phase, Moon age data, tide graph data, and World Time Mode times will not be displayed properly unless Home Site data (GMT differential, longitude, and lunitidal interval) is configured correctly.

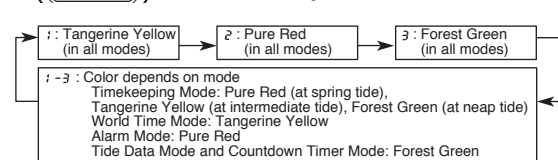
- The GMT differential is the time difference of the time zone where the site is located from Greenwich Mean Time.
- The lunitidal interval is the time elapsing between the Moon's transit over the meridian and the next high tide. See "Lunitidal Interval" for more information.
- This watch displays lunitidal intervals in terms of hours and minutes.
- The "Site Data List" and "Lunitidal Interval List" at the back of this manual provide GMT differential, longitude, and lunitidal interval information around the world.

To configure Home Site data

1. In the Timekeeping Mode, hold down **A** until the seconds start to flash, which indicates the setting screen.
2. Press **C** seven times to display the GMT differential setting screen, and then use **D** to increase the setting.
3. Press **C** to display the longitude setting screen, and then use **D** to increase the setting.
 - You can specify longitude in the range of 179°W to 180°E in 1-degree units.
4. Press **C** to display the lunitidal interval setting screen with the hour setting flashing, and then use **D** to increase the setting.
5. Press **C** to move the flashing to the lunitidal interval minute setting, and then use **D** to increase the setting.
6. Press **A** to exit the setting screen.

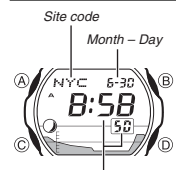
To change the backlight color

1. In the Timekeeping Mode, hold down **A** until the seconds start to flash, which indicates the setting screen.
2. Press **C** 11 times until the backlight color setting screen appears, and then use **D** to cycle through the color settings described below.



- Note that with the **1-3** setting, the color of the backlight in the Timekeeping Mode is determined by the current tide reading in the Timekeeping Mode.
3. Press **A** to exit the setting screen.

World Time



Current time at selected site

- The World Time shows the current time at 44 sites (27 time zones) around the world.
- Of the 44 sites, 10 are famous surfing points. You can use the data of the 10 surfing sites as it is, or you can edit it to suit your needs.
 - You can also configure original data for one user surfing point.
 - The Moon phase indicator shows the current Moon phase for the currently selected time zone, in accordance with the current date as kept in the World Time Mode.
 - The World Time Mode has its own Daylight Saving Time (summer time) setting.
 - 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 site

- In the World Time Mode, press **D** to scroll site codes to the east or **B** to scroll to the west.
- A site that is also a surfing point is indicated by **.....** above the site code.
 - The user site is indicated by **.....** above the site code **ORG** (original).
 - For full information on site codes, see the "Site Code Table" at the back of this manual.
 - See the "Preset Location Chart (10 Surfing Sites)" at the back of this manual for details on the locations whose data is preset in watch memory when you purchase it.

To switch between Standard Time and Daylight Saving Time

1. In the World Time Mode, hold down **A** until the **DST OFF** or **DST ON** flashes on the display, which indicates the setting screen.
 2. Press **D** to toggle between Daylight Saving Time (**DST ON** displayed) and standard time (**DST OFF** displayed).
 3. Press **A** to exit the setting screen.
- The **DST** indicator is on the display whenever you display a site code for which Daylight Saving Time is turned on.
 - Note that the DST/Standard Time setting affects only the currently displayed site code. Other site codes are not affected.

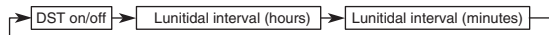
Editing Surfing Point Data



- This watch comes pre-programmed with data for 10 famous surfing points around the world. You can use the following procedure to change the lunitidal interval of the surfing points.
- The lunitidal interval is the time elapsing between the Moon's transit over the meridian and the next high tide. See "Lunitidal Interval" for more information.
 - This watch displays lunitidal intervals in terms of hours and minutes.

To edit surfing point data

1. In the World Time Mode, press **D** to scroll site codes to the east or **B** to scroll to the west.
- A site that is also a surfing point is indicated by **.....** above the site code.
2. Hold down **A** until the **DST OFF** or **DST ON** flashes on the display, which indicates the setting screen.
3. Press **C** to move the flashing in the sequence shown below.



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

To change this setting	Perform this button operation
Lunitidal interval (Hours)	Use D to increase the setting.
Lunitidal interval (Minutes)	
DST on/off	Press D to toggle between DST on (DST ON displayed) and off (DST OFF displayed).

5. Press **A** to exit the setting screen.

Configuring a User Surfing Point

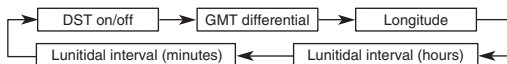


- You can configure your own, original surfing point by inputting its GMT differential, longitude, and lunitidal interval. The point code for this data is **ORG** (original), which cannot be changed.
- The lunitidal interval is the time elapsing between the Moon's transit over the meridian and the next high tide. See "Lunitidal Interval" on page for more information.
 - This watch displays lunitidal intervals in terms of hours and minutes.

To configure a user surfing point

1. While in the World Time Mode, press **B** or **D** to scroll site codes until **ORG**

3. Press **C** to move the flashing in the sequence shown below.

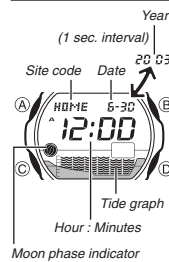


4. When the setting you want to change is flashing, use **D** to change it as described below.

To change this setting	Perform this button operation
Lunitidal interval (Hours)	Use D to increase the setting.
Lunitidal interval (Minutes)	
GMT differential	
Longitude	
DST on/off	Press D to toggle between DST on (DST ON displayed) and off (DST OFF displayed).

- You can specify longitude in the range of 179°W to 180°E in 1-degree units.
5. Press **A** to exit the setting screen.
- The "Site Data List" and "Lunitidal Interval List" at the back of this manual provide GMT differential, longitude, and lunitidal interval information around the world.

Tide Data



Moon phase indicator

- In the Tide Data Mode, you can view the tide and Moon phase for particular date and time.
- For more information about Tide Data, see "Tide graph" on page.
 - All of the operations in this section are performed in the Tide Data Mode, which you enter by pressing **C**.

To view tide data for a particular time

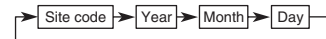
- In the Tide Data Mode, use **D** (+) and **B** (-) to change the time whose tide you want to view by one hour.
- Pressing **D** while the tide for 11:00 p.m. is displayed advances to midnight (12:00 a.m.), but the date does not change.

Specifying the Site and Date You Want to View

- In the Tide Data Mode, you can specify a site, year, month, and day to view the corresponding tide and Moon phase.
- You can specify your Home Site, one of the 10 preset surfing points, or your user surfing point.

To specify the site and date

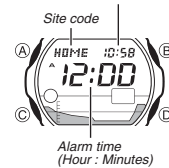
1. In the Tide Data Mode, hold down **A** until the site code starts to flash, which indicates the setting screen.
2. Press **C** to move the flashing in the sequence shown below.



3. Use **D** to increase the setting.
- While the digits of the site code are selected (flashing), press **D** to scroll site codes.
4. Press **A** to exit the setting screen.
- The year can be set in the range of 1995 to 2039.
- See the "Preset Location Chart (10 Surfing Sites)" at the back of this manual for details on the locations whose data is preset in watch memory when you purchase it.
- The site code and date on the display when you exit the Tide Data Mode appear first the next time you enter the Tide Data Mode.

Alarm

Current time at selected site

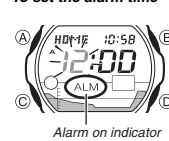


- You can set a Daily Alarm. When the alarm is turned on, the alarm sounds when the alarm time is reached.
- When the Hourly Time Signal is turned on, the watch beeps every hour on the hour.
- The Hourly Time Signal also sounds in accordance with the Home Site which you select in the Timekeeping Mode.
 - Alarm settings (and Hourly Time Signal settings) are available in the Alarm Mode, which you enter by pressing **C**.

Setting the alarm time

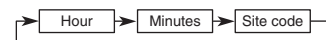
- You can set the alarm to sound in accordance with the current Home Site or a site in the World Time Mode.
- When setting an alarm for a World Time site, first enter the World Time Mode and select the site for which you want to set the alarm.

To set the alarm time



Alarm on indicator

1. In the Alarm Mode, hold down **A** until the hour setting of the alarm time starts to flash, which indicates the setting screen.
- At this time, the alarm is turned on automatically.
2. Press **C** to move the flashing in the sequence shown below.



3. Use **D** to increase the setting.
- While the site code is flashing, press **D** to toggle between the Home Site which you selected in the Timekeeping Mode and the World Time site which you selected in the World Time Mode.
- When setting the alarm time using the 12-hour format, take care to set the time correctly as morning (**A** displayed) or afternoon (**P** displayed).
4. Press **A** to exit the setting screen.

Daily Alarm Operation

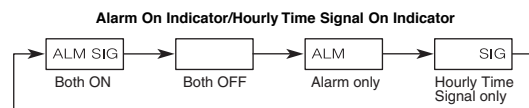
- The alarm sounds at the preset time each day for about 20 seconds, or until you stop it by pressing any button.
- Changing the Home Site or the World Time site after setting an alarm causes the site selected in the Alarm Mode to change as well.

To test the alarm

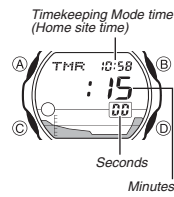
- In the Alarm Mode, hold down **D** to sound the alarm.

To turn the Daily Alarm and Hourly Time Signal on and off

- In the Alarm Mode, press **B** to cycle through the on and off settings as shown below.



Countdown Timer



You can set the countdown timer within a range of 1 to 60 minutes. An alarm sounds when the countdown reaches zero.

- The initial default countdown start time when you purchase the watch or after you have its battery replaced is 15 minutes.
- All of the operations in this section are performed in the Countdown Timer Mode, which you enter by pressing C.

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, 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.
- The watch beeps as the countdown time passes the 5-minute mark.
- 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 set the countdown start time

- In the Countdown Timer Mode, hold down A until the minute setting of the countdown start time starts to flash, which indicates the setting screen.
- Press D to increase the setting.
- Press A to exit the setting screen.

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.

Graph								
Moon age	0, 1, 29	2-5	6-9	10-13	14-16	17-20	21-24	25-28
Moon Phase	New Moon		First Quarter (Waxing)		Full Moon		Last Quarter (Waning)	

- The light part of the Moon phase indicator shows the part of the Moon that is visible in the sky during each particular phase.
- 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 Phase and Moon Age

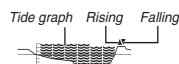
The Moon goes through a regular 29.53-day cycle during which it appears to wax and wane due to how the Sun illuminates the Moon and the relative positioning of the Earth, Moon, and Sun. The greater the angular distance between the Moon and the Sun,* the more we see illuminated.

* 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. The actual Moon age average cycle is 29.53 days, but this can vary anywhere from -1 day to +1 day for specific months. Since this watch performs calculations using integer values only (no fractions), the margin for error of the displayed Moon age is ± 2 days.

Tide graph

The wave on the watch's tide graph indicates the current tide. ▲ indicates that the tide is currently rising, while ▼ indicates a falling tide. Neither ▲ nor ▼ is on the display at high tide and low tide.



	Spring Tide	Intermediate Tide	Neap Tide
High			
Middle			
Low			

- Spring Tide:** Tides occurring at new and full Moons, when the range between high and low tides is greatest.
- Neap Tide:** Tides occurring at first and last Moon quarters, when the range between high tide and low tide is smallest.
- Intermediate Tide:** Indicates tide at the midpoint between spring tide and neap tide.

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 the meridian and the lunital interval. The lunital interval differs according to your current location, so you must specify a lunital interval in order to obtain the correct tide graph readings.

Lunital 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 "lunital interval." When setting the lunital interval for this watch, use the time differential between the Moon's transit over the meridian until high tide.

Auto return features

If you leave a screen with flashing digits for two or three minutes without performing any operation, the watch automatically saves any settings you have made up to that point and exits the setting screen.

Data and Setting Scrolling

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

Backlight Precautions

The backlight uses an LED (light emitting diode) and a light guide panel that cause the entire display to glow for easy reading in the dark. In any mode, press D to illuminate the display for about three seconds.

- The illumination provided by the backlight may be hard to see when viewed under direct sunlight.
- The backlight automatically turns off whenever an alarm sounds.
- Frequent use of the backlight shortens the battery life.