Module No. 2172

GETTING ACQUAINTED

Congratulations upon your selection of this CASIO watch. To get the most out of your purchase, be sure to carefully read this manual and keep it on hand for later reference when necessary.

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.

Snorkeling/Scuba Diving Precautions

- **Make sure that you have received proper diving training before using this watch underwater.**
- **Always use the "buddy system" when diving. Never dive alone.**
- **Note that this watch is NOT a diving computer, and is not capable of making decompression calculations.**
- **The depth meter function built into this watch should only be used as a "back-up" to your standard depth gauge.**
- **Note that this watch cannot be used in helium atmospheres.**
- **Though the function of this watch is not affected by magnetism, long use near a source of magnetism can case the watch itself to become magnetized. A magnetized watch can interfere with the precision of readings produced by an underwater compass. To avoid such problems, keep the watch away from your compass when taking readings.**

Before Diving

- **Before beginning each dive, check to make sure that the BATT (and/or RECOVER) message (which indicates that battery power is weak) and/or ERR message (which indicates sensor malfunction) are not on the display. If either message is on the display, contact an authorized CASIO Dealer/Distributor or authorized CASIO Service Point to have the battery replaced or to have the watch repaired.**
- **Make sure that the current time setting of the watch is correct.**
- **Check the glass, case, and band for cracks or chips.**
- **Make sure that the band is fastened securely around your wrist.**

While Diving

- **Check to make sure that the timer and depth gauge are operating properly.**
- **Warning indicators flashing on the display indicate the possibility of a data error. For details, see "Warning Indicators".**
- **Take care when diving near rocks or coral to avoid scratching or damaging the watch.**

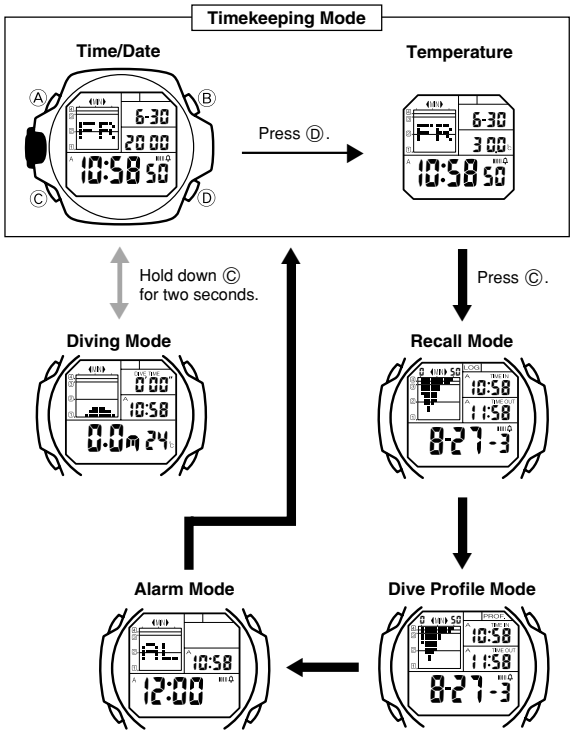
After Diving

- **To avoid corrosion, rinse your watch thoroughly with fresh water to remove salt water, dirt, etc. When possible, soak the watch in fresh water overnight to make sure that all salt is removed.**
- **When using a metal band, occasionally clean the gaps in the band using a soft toothbrush and soapy water. Failure to keep a metal band clean can result in corrosion of the watch, soiling of clothing, or irritation of sensitive skin.**

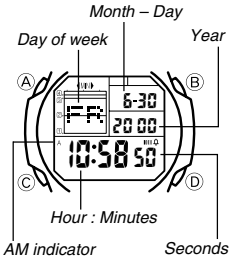
CASIO COMPUTER CO., LTD. assumes no responsibility for any loss, or any claims by third parties that may arise through the use of this watch.

GENERAL GUIDE

For information on how to read the display, refer to the separate instructions on each function.



TIMEKEEPING



Use the Timekeeping Mode to set the current time and date, and to view the current time. You also can adjust the display contrast while in the Timekeeping Mode.

To reset the seconds count to zero

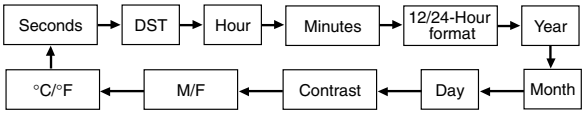
1. In the Timekeeping Mode, hold down Ⓐ until the seconds digits start to flash, which indicates the setting screen.
2. Press Ⓓ to reset the seconds count to 00.
- Pressing Ⓓ while the seconds count is in the range of 30 to 59 resets the seconds to 00 and adds 1 to the minutes. In the range of 00 to 29, the minutes count is unchanged.

3. Press Ⓐ twice to exit the setting screen.

To set the time and date

1. In the Timekeeping Mode, hold down Ⓐ until the seconds digits start to flash, which indicates the setting screen.
- While the seconds digits are flashing, press Ⓓ to set the seconds count to 00.

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



- See "Daylight Saving Time (DST)" for details on the DST setting and "Adjusting Display Contrast" for information about contrast.

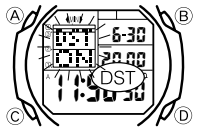
3. Use Ⓒ to move the flashing to the hour, minutes, year, month, and day, and make the settings you want for each.
- While the hour, minutes, year, month, or day setting is flashing, use Ⓓ (+) and Ⓑ (–) to change it.
- When the 12/24-hour setting is selected, press Ⓓ to toggle between 12-hour (12H) and 24-hour (24H) timekeeping.

4. Press Ⓐ twice 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 2000 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.

Daylight Saving Time (DST)

Daylight Saving Time (DST) automatically advances the time setting by one hour from Standard Time. Whether you should use Daylight Saving Time depends on the geographic area where you are currently located.

To toggle between DST and Standard Time

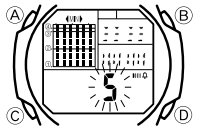


1. In the Timekeeping Mode, hold down Ⓐ until the seconds digits start to flash, which indicates the setting screen.
2. Press Ⓒ to move the flashing to the DST setting.
3. Press Ⓓ to toggle between Daylight Saving Time (ON) and standard time (OFF).
4. Press Ⓐ twice to exit the setting screen.
- The **DST** indicator appears on the display to indicate that daylight saving time is turned on.

Adjusting Display Contrast

Use the following procedure to adjust the relative darkness of the display figures.

To adjust display contrast



1. In the Timekeeping Mode, hold down Ⓐ until the seconds digits start to flash, which indicates the setting screen.
2. Press Ⓒ eight times to move the flashing to the contrast setting.
3. Use Ⓓ (+) and Ⓑ (–) to change the contrast setting.
- You can set a value from 0 (lightest) to 10 (darkest).
4. Press Ⓐ twice to exit the setting screen.

THERMOMETER

A built-in temperature sensor measures air temperature and water temperature and the measurement result is shown on the display. You can calibrate the temperature sensor if you suspect the temperature reading is incorrect.

Interpreting the Temperature Screen

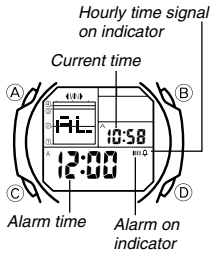
Use Ⓒ to enter the Timekeeping Mode and then press Ⓓ to display the Temperature screen.
- While a surface interval measurement is in progress, pressing Ⓓ initially displays the Surface Interval screen. Press Ⓓ again to advance to the Temperature screen.
- After about six seconds, the watch returns to the Timekeeping screen from the Temperature screen. You can return to the Timekeeping screen manually by pressing Ⓓ.

- The displayed temperature value changes to - - - .-°C (or °F) if a measured temperature falls outside the range of –10.0°C to 60.0°C (14.0°F to 140.0°F). The normal temperature value reappears as soon as the measured temperature is within the allowable range.

About Temperature Measurements

- Whenever you display the Temperature screen or enter the Diving Mode, the watch performs a temperature measurement and displays the result on the screen. The watch continues to take temperature measurements every 30 seconds in the Diving Mode.
- Air 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.
- Wearing the watch on your wrist has almost no effect on water temperature measurements. In the case of sudden extreme changes in water temperature, however, it takes about five minutes for the temperature of the watch to match the water temperature.
- See "DIVING FUNCTIONS" for information about the temperature display in the Diving Mode.
- You can select either Celsius (°C) or Fahrenheit (°F) as the unit of temperature measurement. See "To change the unit of temperature measurement".

ALARM



You can set a Daily Alarm that sounds at the same time each day, while the alarm is turned on. You can also turn on an Hourly Time Signal that causes the watch to beep twice every hour on the hour.

To set the alarm time

1. Use Ⓒ to enter the Alarm Mode.
2. Hold down Ⓐ until the hour digits of the alarm time start to flash, which indicates the setting screen.
- Displaying the alarm time setting screen automatically turns on the Daily Alarm.
3. Press Ⓒ to move the flashing between the settings shown below.

Hour ⟷ Minutes

4. While the hour or minutes setting is flashing, use Ⓓ (+) and Ⓑ (–) to change it.
- When setting the alarm time using the 12-hour format, take care to set the time correctly as am (**A** indicator) or pm (**P** indicator).
5. Press Ⓐ 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.
- The alarm does not sound while the watch is in the Diving Mode.

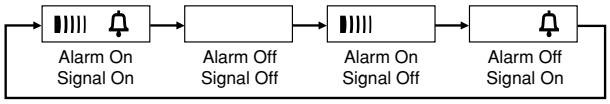
To test the alarm

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

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

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

[Alarm ON Indicator / Hourly Time Signal ON Indicator]



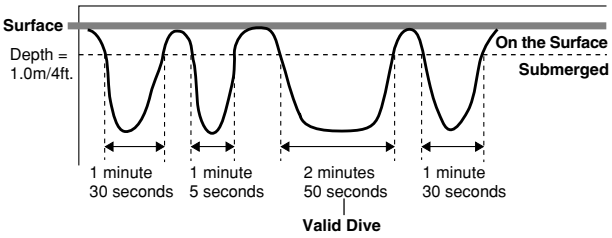
DIVING FUNCTIONS

The pressure and temperature sensors of this watch provide a wealth of useful diving data. Besides automatically measuring depths in the Diving Mode, the watch also stores depth and temperature data into a Log Memory for later recall.
- You can change the unit of measurement for displayed depth values between meters (m) and feet (F). See "To change the unit of depth measurement".

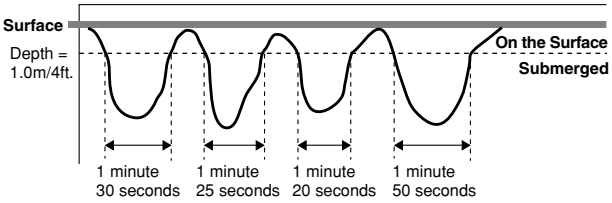
Important!
- The trigger depth for automatically starting and stopping depth and dive time measurements in the Dive Mode is 1 meter (4 feet). Because of this, the explanations in this manual use the term "**submerged**" to mean at a depth deeper than 1 meter and the term "**surface**" to mean at a depth shallower than 1 meter.
- Note that this watch also discriminates between "valid dives" and "invalid dives" as described below.

Dive Type	Definition	Description
Valid Dive	• Submerged for at least two or three consecutive minutes	• Starts measurement of the surface interval when finished. • Records log data for the dive.
Invalid Dive	• Submerged for less than two or three consecutive minutes • Insufficient depth	• No surface interval measurement when finished. • No log data recorded

Valid Dive

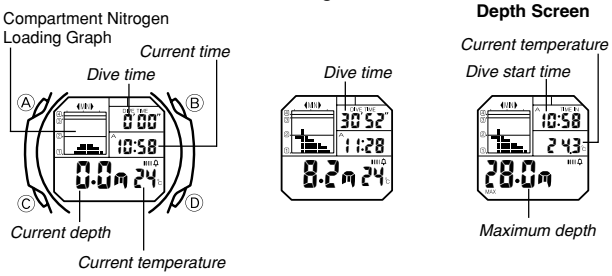


Invalid Dive



Understanding the Diving Mode Screen

Surface Screen **Submerged Screen** **Maximum Depth Screen**

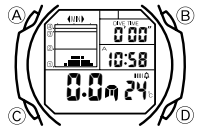


- The Surface screen appears while you are on the surface, while the Submerged screen appears while you are submerged.
- The dive time value shows the elapsed time you spend submerged.
- Pressing Ⓒ while the Surface screen or Submerged screen is on the display changes to the Maximum Depth screen for about three seconds.
- The dive start time shows when your dive first reached submerged depth after you entered the Diving Mode.
- The maximum depth value shows the maximum depth you reached during your dive, as measured by the watch.
- See “COMPARTMENT NITROGEN LOADING GRAPH”.

Using the Diving Mode

Make sure you are out of the water whenever performing button operations before or after diving.

To enter the Diving Mode before diving



In any other mode, hold down Ⓒ for about two seconds to enter the Diving Mode.

- While the watch is in the Diving Mode, it will automatically start measurements whenever you are submerged and stop measurements whenever you are on the surface.

To exit the Diving Mode after diving

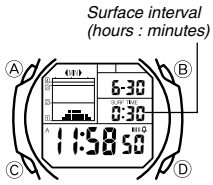
After finishing your diving, hold down Ⓒ for about two seconds to exit the Diving Mode and enter the Timekeeping Mode.

- Note that you cannot exit the Diving Mode while you are submerged.

Note

- If you switch to the Timekeeping Mode after surfacing, be sure to switch back to the Diving Mode before starting your next dive. If you stay in the Diving Mode after surfacing, your next dive will be considered a continuation of the previous dive, with data being added on accordingly.
- Exiting the Diving Mode after a valid dive causes information about the dive to be recorded in the watch’s Log Memory.
- If you leave the watch with the Diving Mode Surface Screen on the display without performing a button operation for about one hour after surfacing, it automatically exits the Diving Mode and enters the Timekeeping Mode. Always check to make sure the watch is actually in the Diving Mode before actually starting a dive.
- Dive times can be measured up to 11 hours 59 minutes and 59 seconds. When the dive time reaches 12 hours, the watch automatically stores log data up to that point and exits the Diving Mode and enters the Timekeeping Mode. The watch also starts measuring the surface interval at this time.

Surface Interval



Whenever you surface after a valid dive, the watch’s surface timer starts to count the amount of time you spend on the surface. The surface interval is counted up to 48 hours or until you begin your next dive.

To display the Surface Interval screen

In the Timekeeping Mode (after exiting the Diving Mode following a valid dive), press Ⓓ to display the Surface Interval screen.

- To return to the Timekeeping screen, press Ⓓ twice.

Using the Watch while Skin Diving

You can use this watch while skin diving without affecting dive data or surface interval timing. Log data is not stored in memory and surface interval timing continues as long as you do not start a valid dive.

Log Memory

After finishing a dive, log data for the dive is stored into the watch’s Log Memory when you exit the Diving Mode and enter the Timekeeping Mode. The watch has enough memory to store up to 20 log data records. The following are the items stored for each log data record.

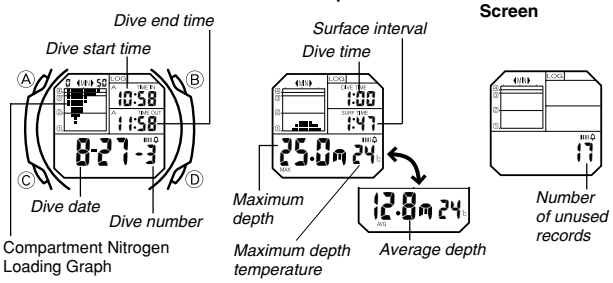
Item	Description
Dive Date	Month and day of the dive
Dive Number	Dive number for the day
Dive Start Time	Hour and minutes, seconds rounded down
Dive End Time	Hour and minutes, seconds rounded up
Dive Time	Hours and minutes, seconds rounded up
Maximum Depth	Maximum measured depth reached
Average Depth	Total of depth measurements divided by the number of depth readings
Maximum Depth Temperature	Water temperature at the maximum depth of the dive
Surface Interval	Time elapsed from the end of the last valid dive to the start of the next valid dive, seconds rounded down
Compartment Nitrogen Loading Graph	Compartment Nitrogen Loading Graph at the end of the dive

- When the Surface Interval time reaches 48 hours, the displayed time changes automatically of – – : – –.
- Up to 20 log data records can be stored in memory. Once memory is full, memory is updated by storing the newest record and deleting the oldest record.
- In addition to the log data listed above, the watch also stores depth data in memory. See “DIVE PROFILE” for more information.

To recall log data

1. Use Ⓒ to enter the Recall Mode.
- The initial screen that appears is the data screen for the last (newest) record stored in memory.
2. Use Ⓓ (new → old) and Ⓑ (old → new) to scroll through the log data.
- Each press of Ⓐ toggles between the date screen and maximum depth screen.
- Pressing Ⓑ and Ⓓ at the same time displays the date screen for the last recorded log data.

Date Screen **Maximum Depth Screen** **Unused Record Screen**



Note

- The watch comes with sample data for a single dive in its Log Memory for demonstration purposes.
- The Maximum Depth screen alternates every five seconds between display of the maximum depth and average depth.
- The Unused Record screen shows the number of records in memory that do not contain any data. It is located after the oldest record currently stored in memory.

To delete log data

Holding down Ⓐ for about two seconds in the Recall Mode or Dive Profile Mode deletes all the log data and dive profile data for the currently displayed record.

- Deleting log data while a surface interval timing operation is in progress stops the surface interval timing operation.

Using Log Data with Dive Tables

■ Make sure you have a clear understanding of dive tables and their use. Before using this watch, make sure you have undergone a thorough diving training program.
■ Make sure you have a clear understanding of the special characteristics of all the log data provided by this watch (dive time, maximum depth, dive start time, dive end time, average depth, maximum depth temperature).
■ Always remember that depth readings provided by this watch are not guaranteed for 100% accuracy.
■ Any log data accompanied by a warning indicator should not be used. For details, see “Warning Indicators”.
■ Always obey the basic rules of safe diving.
  - It is recommended to dive within the limits of the non-decompression limit. Be sure to take “safety stops” every 3 to 6 meters (10 to 20 feet).
  - It is dangerous to dive near the non-decompression limit. Dive 1 to 2 ranks inside of your own personal limitations.
  - No dive table is 100% accurate. You should always take into account individual physical differences, your physical condition, water temperature, etc.
  - Note that high altitude and fresh water diving requires the use of special dive tables and calculations. Be sure to receive appropriate training before attempting high altitude or fresh water diving.

Calculation of Average Air Consumption Using Average Depth

Average depth is calculated by adding all depth readings greater than 1 meter (4 feet) and dividing the total by the number of readings taken. Since readings at depths less than 1 meter (4 feet) are ignored, you will not be able to use average depth log data to calculate average air consumption if tank air is consumed while on the surface.
You should also note here that time you spend on the surface is not included as part of the dive time.

DIVE PROFILE

When you exit the Diving Mode after a valid dive, the watch stores the following Dive Profile data in memory, in addition to the log data.
As its name suggests, Dive Profile data provides a record of the maximum depth reached during each minute of a valid dive.

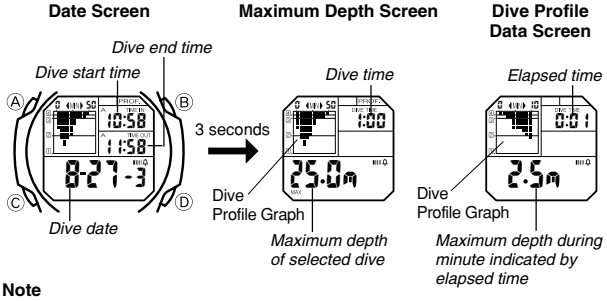
Item	Description
Elapsed Time	• This time indicates the minute from the start of the dive for whose depth reading is on the display. • Elapsed time is recorded as hours and minutes.
Depth Readings	• Maximum depth reached during the minute indicated by the elapsed time reading.

- The depth readings of the Dive Profile are used to generate a Dive Profile Graph.
- Dive Profile data memory allows up to 100 minutes duration for a single dive, and can store data for up to 20 dives.
- No more profile data is stored in memory after the **RECOVER** or **BATT** indicator (which indicates that battery power is weak) appears on the display during a dive.

To recall Dive Profile data

1. Use Ⓒ to enter the Dive Profile Mode.
- At this time, the Date screen for the log data that was displayed the last time you exited the Recall Mode appears on the display for about three seconds. After that, the display switches to the Maximum Depth screen for that log data.
- Pressing Ⓐ while the Maximum Depth screen is on the display changes to the Date screen for about three seconds.

2. Use Ⓓ (new → old) and Ⓑ (old → new) to display the Date screen of the Dive Profile data you want to view.
3. While the Maximum Depth screen is on the display, use Ⓓ (+) and Ⓑ (–) to change to the Dive Profile Data screen and scroll through the Dive Profile data (depth readings) minute-by-minute.



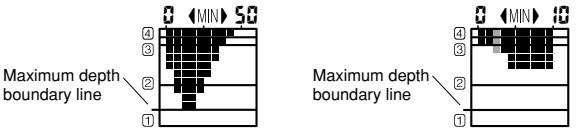
Note

- When there are profiles for fewer than 20 dives in Dive Profile memory, the Remaining Record screen, which shows the current number of unused records, appears after the oldest record.
- Pressing Ⓑ and Ⓓ at the same time while the Date screen is on the display jumps to the Date screen for the newest log data. The Date screen remains on the display for about three seconds. After that, the display switches to the Maximum Depth screen for that log data.
- Pressing Ⓑ and Ⓓ at the same time while the Dive Provide Data screen is on the display returns to the Maximum Depth screen.

Interpreting the Dive Profile Graph

The Dive Profile Graph assigns a value of 10 to the maximum depth value of the currently selected log data, and then plots all other depths relative to the maximum. The appearance of the Dive Profile Graph depends on whether you are viewing it on the Maximum Depth screen or the Dive Profile Data screen.

- On the Date screen and Maximum Depth screen, the Dive Profile Graph shows data from the beginning of the dive up to the 50th minute of the dive, in five-minute intervals. The maximum depth reached during each five-minute interval is used for graphing.
- On the Dive Profile Data screen, the Dive Profile Graph shows data from the beginning of the dive up to the 100th minute of the dive, in one-minute intervals. The bar in the graph that represents the currently displayed elapsed time minute flashes.



- Dive Profile data past the 50th minute of the dive is not shown on the Dive Profile Graph of the Date screen and Maximum Depth screen.
- If the maximum depth of a dive exceeds 80 meters (263 feet), graph data will go past the maximum depth boundary line.
- Dive Profile data (including the Dive Profile graph) is deleted whenever you use the procedure under “To delete log data” to delete the corresponding log data.

COMPARTMENT NITROGEN LOADING GRAPH

Important!

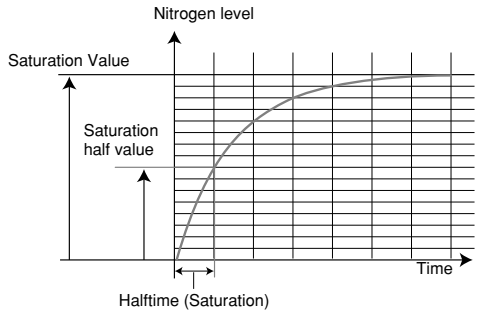
- Be sure to read this section carefully before using the Compartment Nitrogen Loading Graph.

During a dive, the diver breathes air (or some mixture of gasses) that is pressurized in accordance with the dive depth. Breathing air or other gas while the body is under pressure causes gas to be dissolved into the body’s blood and tissues. The deeper the dive (and the greater the pressure) and the longer the dive, the greater the uptake of gas into the body’s tissue. In dives that use air or nitrox (a mixture of nitrogen and oxygen), tissue nitrogen uptake can cause a painful condition called “decompression sickness syndrome” (DCS). To protect against DCS the prudent diver must formulate and follow a diving plan that takes tissue nitrogen uptake and elimination into consideration. This watch displays a graph of reference data that shows the tissue nitrogen uptake based on compression theory.

Halftime Model

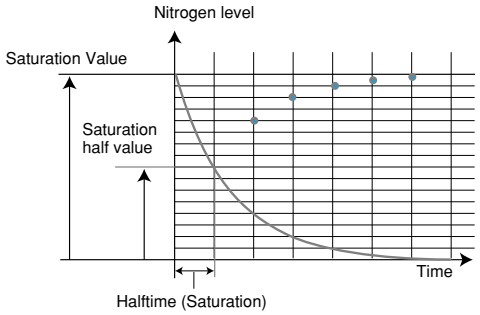
The term “halftime” refers to half the time it takes for gas (such as nitrogen) dissolved tissue to equilibrate to a new pressure, or to reach full saturation at a new pressure. Theoretical tissue half times are used in designing dive tables and algorithms for dive computers.
Nitrogen dissolves into tissue very quickly at first, with the rate gradually slowing as the uptake amount increases, until is become extremely slow at the point of full saturation. The actual full saturation point depends on the ambient water pressure. Full saturation half time is half the time it takes to reach full saturation.
Figure 1 shows the saturation of tissue with nitrogen in graphic form. Figure 2 shows the inverse as nitrogen is eliminated a low pressure.

Figure 1: Tissue Nitrogen Uptake Graph



Half the time it takes to achieve maximum saturation.

Figure 2: Tissue Nitrogen Elimination Graph



Half the time it takes to achieve elimination of nitrogen.

Note
The solubility of blood and other bodily fluids is directly proportional to ambient pressure. When diving, the nitrogen uptake of the body's tissues is also directly proportional to ambient pressure.
Normally, tissue nitrogen uptake is expressed in terms of the pressure of nitrogen, or nitrogen component pressure. The atmospheric pressures of nitrogen and oxygen are proportional at a ratio of 8-to-2 as shown below.

Depth	Nitrogen Component Pressure	Oxygen Component Pressure
Sea level (1 atm)	0.8 atm	0.2 atm
10 meters (2 atm)	1.6 atm	0.4 atm

atm = atmospheres

This nitrogen component pressure corresponds to the nitrogen component pressure in the air we breathe, and nitrogen is dissolved into body tissue in accordance with the graph in Figure 1, until it ultimately reaches the saturation level for the nitrogen component pressure value of the air being breathed.
How nitrogen is dissolved into and eliminated from human tissue is very different depending on the type of the tissue in question. Highly vascular tissue (tissue that contains many blood vessels) tends to absorb nitrogen at a faster rate while submersing and to eliminate it more quickly when the diver surfaces, and so it is called "fast tissue." Fast tissue also has a relatively high tolerance for excess nitrogen.
As can be expected from the above, tissue that is less vascular is "slow tissue," because it is slower to absorb nitrogen under high pressure and to eliminate it at lower pressure, and it has a relatively low tolerance for excess nitrogen.
All of this means that fast tissue has a short halftime and slow tissue has a long halftime.
Of course, the human body is composed of various types of tissues, ranging from the fastest to the slowest, with variations in between. That is why the body is divided into a number of theoretical "compartments" that are assigned halftimes for nitrogen uptake and elimination values for the purposes of calculating decompression.
This watch uses nine compartments with halftimes of 5, 10, 20, 40, 60, 80, 120, 240, and 320 minutes.
Figures 3 and 4 below illustrate nitrogen uptake and elimination for each of these nine times.

Figure 3: Nitrogen Uptake

Tissue Nitrogen Pressure

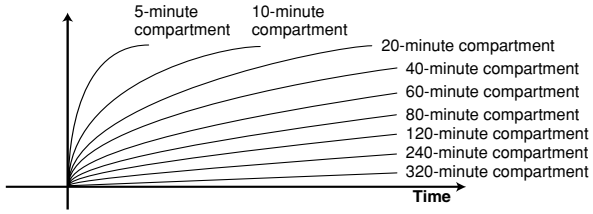
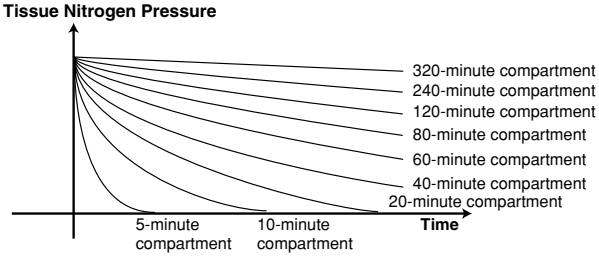


Figure 4: Nitrogen Elimination

Tissue Nitrogen Pressure



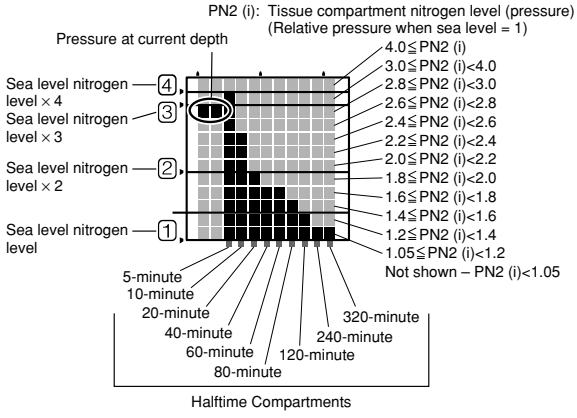
- This watch incorporates the latest thinking on decompression theory that uses a safety factor to adjusts nitrogen elimination halftimes so they are relatively longer than uptake halftimes.

Important!
- It should be noted there that tissue compartments are theoretical divisions for calculating estimated nitrogen uptake and elimination. They do not refer to any specific organs within the human body.

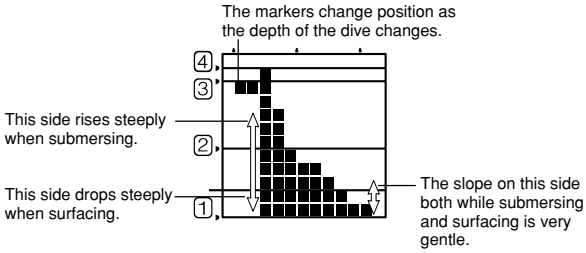
Caution!
- The Compartment Nitrogen Graph of this watch does not show non-decompression pressure limits.
- Compartment Nitrogen Graph data is based on numeric calculations performed using depth, dive time, and halftime. Always keep in mind that it shows theoretical representations of the levels of nitrogen contained in the body of the diver.

Compartment Nitrogen Loading Graph

This section explains the information that appears on the Compartment Nitrogen Loading Graph and how to interpret it.
Horizontal Axis: Compartments
Vertical Axis: Nitrogen level (relative pressure when sea level = 1)
In the Diving Mode, the two dot segments on the left indicate pressure at the current depth.

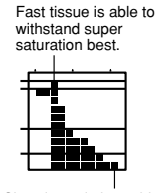


As can be expected according to the nitrogen uptake characteristics illustrated in Figure 1, the left side of the graph climbs steeply when submersing, with the upward slope flattening out as you move to the right. Conversely, the left side of the graph when surfacing drops steeply and flattens out as you move to the right, as indicated by the nitrogen elimination characteristics illustrated in Figure 2.



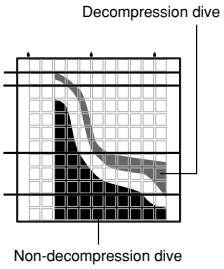
Super Saturation and Non-decompression Diving

Nitrogen dissolved in blood and tissue remains in the body of the diver after the dive is complete, as indicated by the dark segments on the graph. When the pressure of the dissolved nitrogen is higher than the pressure of the gas at one atmosphere (ambient pressure), it creates an unstable situation known as “super saturation.”
The human body is able to withstand a certain degree of super saturation. Fast tissue (short halftime) is able to withstand super saturation best, while slow tissue less able to withstand super saturation.
Any dive in which the super saturation limit of the human body is not exceeded is called a “non-decompression” dive.



Important Precautions about Non-decompression Diving and the Compartment Nitrogen Loading Graph

Super saturation nitrogen levels for each halftime tissue compartment, as well as the boundary between non-decompression diving and decompression diving are all greatly influenced by individual physical condition, environmental conditions, etc. Consequently, this watch does not define the boundary between non-decompression diving and decompression diving.
Standard diving computers and dive tables normally set the boundary from a point around three to four times sea level, to a point around 1.5 to 1.8 times sea level for slow tissue. Applying this to the Compartment Nitrogen Loading Graph of this watch produces a graph like the one nearby.



The boundary shown here is one example intended for reference purposes only.

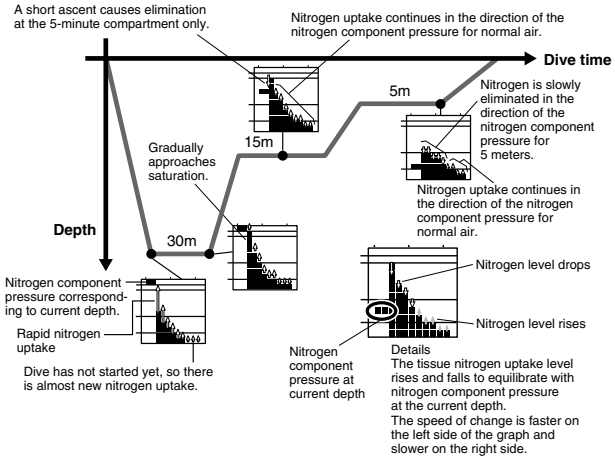
It is important to note that the above graph does not guarantee that you can dive safely within the area marked non-decompression diving without decompression. The boundary between non-decompression diving and decompression diving are all greatly influenced by individual physical condition, environmental conditions, etc. In addition, the data produced on the graph of this watch does not take factors such as rate of ascent into consideration. Ascending too quickly from a dive creates a dangerous situation regardless of nitrogen levels.

Nitrox Diving

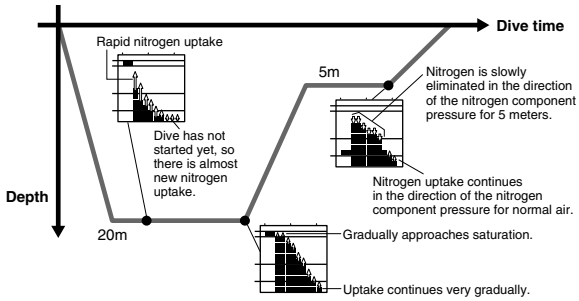
- In the case of nitrox diving, the boundary between non-decompression diving and decompression diving must be shifted upwards because the nitrox gas mixture has a higher oxygen percentage than found in ordinary air.
- The Compartment Nitrogen Loading Graph assumes that you are breathing normal air both underwater and on the surface. With nitrox diving, you are breathing nitrox underwater and normal air on the surface, to the accuracy of simulations tends to deteriorate as the number of repeat dives increases. With nitrox diving, the actual nitrogen uptake level is less than that indicated by the simulation.
- Never attempt to perform nitrox diving without going through the required special safety training first.

Display Examples

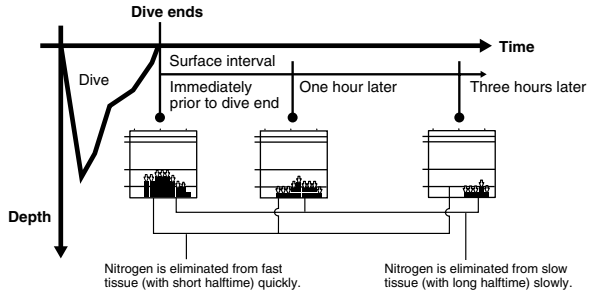
Example 1: Relatively Deep Dive



Example 2: Relatively Long Dive



Example 3: Surface Interval Time



Safety Stops and the Nitrogen Graph

Note
The boundary shown here is an example intended for reference purposes only.

Approaching too close to the boundary does not allow a margin of safety.

Nitrogen uptake volume close to boundary value (surfacing without safety stops)

Allows a margin of safety.

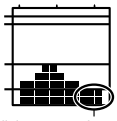
Nitrogen uptake volume that allows a margin of safety (surfacing with safety stops)

Diving to relatively deep depths causes a large volume of nitrogen to be dissolved quickly into fast tissue, which means that the non-decompression limit is reached relatively quickly. Surfacing too quickly even when diving at non-decompression depths, for example, does not provide a margin of error (above graph on the left). Normally, a safety stop of about five minutes should be taken even for non-decompression diving at relatively shallow depths of around five meters. A safety stop of only five minutes provides a margin of safety that allows even slow tissue to eliminate nitrogen.
All of this means that surfacing too quickly without allowing nitrogen to be dissipated properly is dangerous, and staged decompression is required when performing decompression diving.

Repeat Diving and the Nitrogen Graph

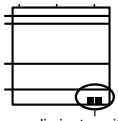
- The boundary shown here is an example intended for reference purposes only.

Example: At the end of repeat diving



Repeat diving over a long period causes nitrogen to build up in slow tissue.

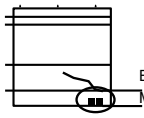
Example: After 12-hour interval time



Slow tissue eliminates nitrogen slowly, even during a long surface interval.

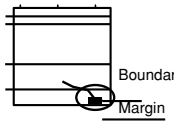
Repeat diving causes nitrogen to build up in slow tissue. Even if each dive is relatively shallow, repeat diving over a number of days can cause safety problems due to build up of nitrogen in the body.
Slow tissue in particular has a very narrow margin for nitrogen saturation. Because of this riding in an aircraft after repeat diving can cause a drop in pressure and create a dangerous situation.
Example: After a 12-hour surface interval

(On land)



Very narrow margin for nitrogen saturation

(In an aircraft: 0.8 atmospheres)



- Low pressure in an aircraft can cause a relative drop in the boundary, which results in values exceeding the limit.

IMPORTANT POINTS TO REMEMBER

Note the following important points that define the conditions under which the watch can be used when diving.

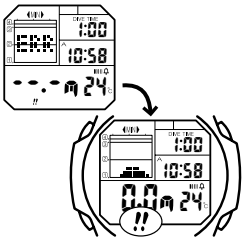
- **Do not use the watch in temperatures outside the specified operating temperature range (0°C to 40°C/32°F to 104°F).**
  Never use this watch for applications such as "cold water diving" where the water temperature is extremely low, as resulting readings will be incorrect.
- **You cannot exit the Diving Mode while submerged (while 1.0m (4F) or more is shown as the current depth).**
- **Avoid using this watch for dives deeper than 80 meters (263 feet).**
  This watch is designed to measure depths between 0.0 and 80 meters (263 feet). When a depth of 80 meters (263 feet) is exceeded, the message DEEP appears on the display. Note also that for recreational diving, it is recommended to dive no deeper than approximately 30 meters (99 feet).
- **Calculation is impossible whenever the dive time exceeds 12 hours.**
  The maximum dive time that can be measured by this watch is 12 hours. When the dive time reaches 12 hours, the watch automatically stores log data up to that point and exits the Diving Mode and enters the Timekeeping Mode. When recreational diving, you should keep your dives to less than one hour, no matter what the depth.
- **This watch cannot be used in helium atmospheres.**
  Use of this watch in helium atmospheres may result in malfunction or even damage to your watch.
- **This watch does not replace pressure gauges.**
  This divers watch is designed only as a backup to your standard diving (skin diving and scuba diving) equipment.
- **This watch is not a diving computer.**
  This watch is not a diving computer for performing decompression calculations. The data produced by this watch is intended as general back up for more formal data obtained from other means.

MEASUREMENT ERRORS AND WARNING INDICATORS

Depth Reading Errors

Operational errors or abnormal environmental conditions can cause incorrect depth readings, such as –1.0 meter (–4 feet), etc.
These readings may occur when the following conditions exist.

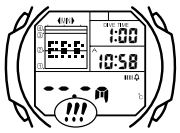
- When the watch is exposed to sudden temperature changes (such as when it is suddenly submerged after being exposed to direct sunlight for an extended period) or air pressure
- When the depth reading is mistakenly set to 0.0 m (0 F) while submerged



In such cases, a depth measurement error occurs and the message ERR appears on the display for three seconds, followed by a flashing double warning indicator (!!). Most of the time, depth errors occur on the surface, so the reading is automatically reset to 0.0 m after the error display.
Note that appearance of the double warning indicator indicates a major error in the displayed data, so the data should be disregarded.

Since depth reading errors are not caused by malfunction of the watch, depth measurements and log memory storage continue to be performed after you reset the depth to 0.0 m (0 F). Note, however, that the "!!" indicator remains on the display after you reset the depth. Whenever a depth reading error occurs, exit the Diving Mode to the Timekeeping Mode and then re-enter the Diving Mode before diving again.

Sensor Errors



Subjecting the watch to very strong impact can cause the sensor to malfunction in the Diving Mode. When this happens, an ERR message appears on the display along with the "!!!" indicator, which indicates incorrect data.

- Appearance of an ERR message starts a dive time measurement. Holding down Ⓒ for about two seconds to exit the Diving Mode and enter the Timekeeping Mode stops the dive time measurement.

- The "!!!" indicator and the BAT ERR message appear in the Diving Mode when battery power is too low to power sensor operation.
- If a depth reading error occurs while the temperature where you are using the watch is outside its specified operating temperature range (0°C to 40°C/32°F to 104°F) causes a sensor error, so only dive time is performed.
- **Do not use your watch for diving after a sensor error occurs. Consult your authorized CASIO dealer or distributor as soon as possible to arrange for servicing by an authorized CASIO Service Point listed on the Warranty Card.**

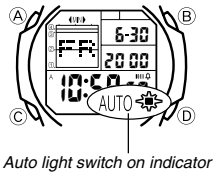
Warning Indicators

A warning indicator appears on the display when some abnormality is detected during Diving Mode measurements. The same warning indicator also appears when the data is recalled from Log Memory. Note that warning indicators indicate major data errors, and such data should not be used for dive planning, etc.
The following table describes the meaning of each warning indicator.

Warning Indicator	Meaning	Possible Cause
!	Default Zero Depth Pressure (1.033 kg/cm²)	• Diving Mode entered while submersed. • Measured water temperature lower than –0.1°C/32°F or greater than 40°C/104°F
!!	Depth Error	• Extreme sudden temperature or pressure change • Incorrect 0.0 m reset
!!!	Sensor Error	• Sensor malfunction
!! !	Low Battery	• Battery power is low (measurement functions disabled)
!!!!	Low Battery	• Battery power is very low (measurement functions, storage of dive end time and dive in memory disabled)

- All applicable indicators appear when more than one error condition occurs at the same time.
- If the Default Zero Depth Pressure and Depth Error conditions occur at the same time, the warning indicators show "! !!" and the ERR message appears on the display.
- Frequent appearance of warning indicators can mean that your watch requires repair. Contact your authorized CASIO Dealer or Distributor to arrange for repair by an Authorized CASIO Service Point.

BACKLIGHT



Auto light switch on indicator

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

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

Turning on the Backlight Manually

In the Timekeeping, Alarm, or Diving Mode, press Ⓑ to illuminate the display.

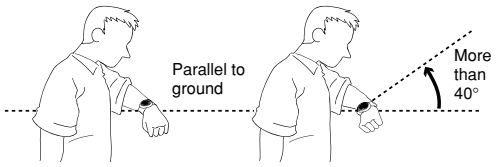
- The above operation turns on the backlight regardless of the current auto light switch setting.

About the Auto Light Switch

Turning on the auto light switch causes the backlight to turn on whenever you position your wrist as described below in any mode.

- Be sure to wear the watch on the outside of your left wrist while using the auto light switch.

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



Warning!

- **Frequent use of the backlight while submerged can run down battery power to the point that dive data measurement is disabled and proper dive data storage becomes impossible. Take care that you do not over use the backlight and that you turn off the auto light switch whenever you are not using it.**
- **Always make sure you are in a safe place whenever you are reading the display of the watch using the auto light switch. Be especially careful when running, riding a bicycle or motor cycle, driving a car, 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 surprise or distract others around you.**

To turn the auto light switch on and off

In the Timekeeping or Diving Mode, hold down Ⓓ for one second to turn the auto light switch on (AUTO displayed) and off (AUTO not displayed).

- The auto light switch on indicator (AUTO) 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 is automatically turned off approximately six hours after you turn it on.

WEAK BATTERY POWER

This watch is equipped with flash memory (EEPROM) that is designed to retain its contents even when the battery goes dead. However, any of the following conditions can cause corruption or even loss of memory contents.

- Taking the watch apart
- Malfunction or repair of the watch
- Subjecting the watch strong electrostatic charge or impact
- Exposing the watch to temperature extremes (especially extreme cold)
- Improper battery replacement

Low Battery Warning

When battery power drops below a certain level, a **BATT** indicator appears on the display and the following functions become disabled.

- Alarm and Hourly Time Signal
- Backlight
- Sensor operation
- Log data recall
- Diving Mode

In addition, timekeeping may become inaccurate and the watch's display may fail entirely.

Even when battery power is not low, keeping the backlight on too long or recalling log data for an extended period can cause the **RECOVER** indicator to flash on the display. This message appears to let you know that the operation you are performing is overloading the battery. If you continue with the high-load operation, the **RECOVER** indicator will remain on the display (without flashing) and the following functions will become temporarily disabled.

- Alarm and Hourly Time Signal
- Backlight
- Sensor operation
- Log data recall
- Diving Mode

The **RECOVER** indicator will disappear from the display and the above operations will be re-enabled after the battery recovers to normal levels.

Important!

- **In order to avoid possible problems due to a weak battery, we suggest that you have it replaced (regardless of the low battery message status) whenever you plan to engage in intensive diving.**
- Extensive use of the backlight (more than 50 operations per hour) in the Diving Mode will cause the **RECOVER** indicator to flash. Continued extensive backlight use (more than 20 operations) will cause the **RECOVER** indicator to remain on the display without flashing. Memory data is lost, and dive measurements and backlight operation are disabled at this time. Because of this, you should stop using the backlight and terminate your dive as soon as possible after the **RECOVER** indicator starts to flash while you are diving.
- Extensive backlight use also runs down the battery. About 50 operations in one hour in the Diving Mode reduce battery life by about one week.
- Operating the backlight at low temperatures (around 0°C/32°F) can cause the low battery message to appear, but the message will disappear when normal temperature is attained. Avoid using the backlight as much as possible at temperatures outside the guaranteed operating temperature range (0°C/32°F to 40°C/104°F).
- Be sure to have the battery replaced at least once every two years. Frequent use of the backlight can cause backlight operation to become disabled. Have the battery replaced as soon as possible when this happens.
- If you dive extensively (more than 100 dives per year), you should have your watch serviced every 100 dives.
- The original battery installed in the watch at the factory loses some capacity during the time it spends in shipment and on the shelf. Because of this, the original battery may no provide the normal service life indicated by the specifications.

Battery replacement should be performed by an authorized CASIO Service Point only. When replacing battery, the Authorized CASIO Service Point will also perform a full overhaul, replacing the sealing material that is vital to the water resistance of your watch. Be sure to request such servicing through an Authorized CASIO Dealer/Distributor.

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.

Auto Return Features

- If you leave a setting screen (one with flashing digits or other settings) on the display for two or three minutes without performing any operation, the watch automatically saves anything you have input up to that point and exits the setting screen.
- If you leave the watch in the Alarm, Recall or Dive Profile Mode for about one hour without performing any operation, it automatically changes to the Timekeeping Mode. The watch also reverts to the Timekeeping Mode if you leave it with the Diving Mode Surface Screen on the display without performing a button operation for about one hour after surfacing.

Data and Setting Scrolling

The Ⓑ and Ⓓ buttons 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.

12-hour/24-hour Timekeeping Formats

The 12-hour/24-hour timekeeping format you select in the Timekeeping Mode is also applied in all modes.

- 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.

How the Diving Function Works

About depth and water pressure

Water pressure increases with depth. In the case of seawater (specific gravity = 1.025), water pressure increases by 1 ATM (1.03kg/cm^2) with each 10 meters (33 feet) of depth.
This watch makes uses a pressure sensor to measure water pressure and then converts the pressure measurements to depth readings.

Operation of the pressure sensor and 0.0 m(0 F) reset

The watch automatically initializes the depth reading to 0.0 m(0 F) and starts to take readings whenever you enter the Diving Mode. When you begin a dive, the sensor automatically takes depth readings and starts the dive timer, which measures the elapsed dive time. Normally, you should enter the Diving Mode just before you start your dive.

Current depth reading (Diving Mode)

The current depth reading displays your dive depth in real time, with the displayed reading being updated every three seconds. When using the current depth reading to monitor your ascent, we recommend that you ascend at a rate of approximately 10 meters (33 feet) per minute (0.5m/2 feet every three seconds).

Maximum depth reading (Diving, Recall, and Dive Profile Modes)

In the Diving Mode, the maximum depth reading shows the maximum depth reached since the start of the dive. In the Recall and Dive Profile Modes it shows the maximum depth of each log data record.

Average depth reading (Recall Mode)

This reading shows the average depth during each dive. It is calculated by dividing the total of all the depth readings by the number of readings.

- Since readings at depths less than 1 meter (4 feet) are ignored, you will not be able to use average depth log data to calculate average air consumption if tank air is consumed while on the surface.
- If there are any depth reading errors during a dive, the average depth reading also shows an error, which is indicated by --.-m(-- F).

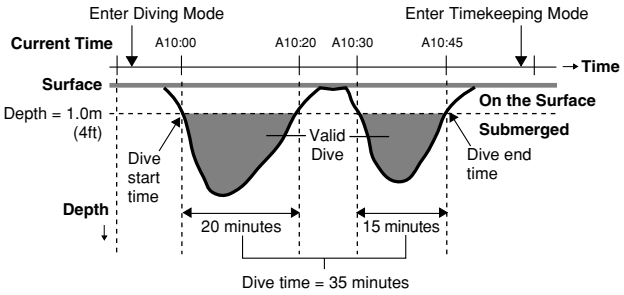
Valid Dives and Invalid Dives

A single "dive" often consists of several short dives or "legs," between which the diver frequently returns to the surface for certain "intervals" between legs. For a leg to be counted as part of the dive, it must be at least 1 meter (4 feet) in depth, and last for a duration of more than about two or three consecutive minutes. Such a leg is called a "valid dive," while a leg that does not satisfy these conditions is called an "invalid dive."

Dive Type	Definition	Description
Valid Dive	• Submerged to a depth of at least 1 meter (4 feet) for a duration of at least two or three consecutive minutes	• Starts measurement of the surface interval. • Records log data for the dive.
Invalid Dive	• Submerged depth less than 1 meter (4 feet) and/or for a duration of less than two or three consecutive minutes	• No surface interval measurement • No log data recorded

- Note that Invalid Dives made during the surface interval do not affect the surface interval.
- You can use this watch while skin diving without affecting dive data or surface interval timing.
- Performing a Valid Dive while Log Memory is full causes the oldest Log Memory record to be deleted.

Dive Time Calculation



Dive start
When the watch is in the Diving Mode, the diving timer starts automatically whenever a depth of 1 meter (4 feet) is reached.
Dive end
When the watch is in the Diving Mode, the diving timer stops automatically when you surface to a depth of less than 1 meter (4 feet).
Dive time
The dive time the total time elapsed at depths of 1 meter (4 feet) or more.
Surface Interval
The timer begins counting the surface interval immediately after you ascend to a depth less than 1 meter (4 feet). The surface interval is not counted following an Invalid Dive, and Invalid Dives made during a surface interval do not affect the surface interval.

Note

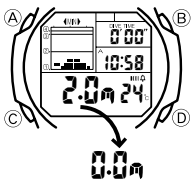
- If you switch to the Timekeeping Mode after surfacing, be sure to switch back to the Diving Mode before starting your next dive. If you stay in the Diving Mode after surfacing, your next dive will be considered a continuation of the previous dive, with data being added on accordingly.
- Note that the dive time does not necessarily equal the difference between the dive start time and the dive end time. This is because dive timer stops when you surface to a depth above 1 meter (4 feet) (for rests, etc.) The dive time shows only the time spent submerged at depths greater than 1 meter (4 feet).

0.0 m(0 F) Reset

Automatic 0.0 m(0 F) reset

The watch automatically resets the current depth reading to 0.0 m(0 F) whenever you enter the Diving Mode, even if you are submerged at a different pressure. Because of this, you should avoid entering the Diving Mode while submerged.

Manual 0.0 m(0 F) reset



Holding down Ⓐ for at least two seconds in the Diving Mode resets the current depth to 0.0 m(0 F). You should manually reset the current depth whenever the depth reading shows a value greater than 1 meter (4 feet) even while you are on the surface. This can happen when the sensor is subjected to sudden and extreme temperature changes.

Zero Depth Pressure

- Normally, the watch sets the current pressure reading being produced by its sensor as zero depth pressure whenever you enter the Dive Mode or perform a manual reset (as long as the current pressure reading is less than 1.24kg/cm^2). Any increase in pressure above zero depth pressure is interpreted as an increase in depth, relative to the zero depth pressure.
- If the current pressure reading being produced by the sensor is greater than 1.24kg/cm^2 when an automatic or manual 0.0 m(0 F) reset operation is performed, the watch disregards the sensor reading and sets a default value of 1.033kg/cm^2 as zero depth pressure.
- A warning indicator (!) is shown on the display to let you know when the default zero depth pressure is being used to produce depth readings. This is because depth readings produced using the default zero depth pressure are not as accurate as depth readings based on actual current pressure as measured by the sensor.
- Use of the default zero depth pressure occurs in cases when you enter the Dive Mode (which performs an automatic reset) or perform a manual 0.0 m(0 F) reset operation while submerged.

Warning!
- The settings made by a proper automatic or manual 0.0 m(0 F) reset are based on the actual temperature and other conditions under which you are diving at that time, and so they are more accurate.
- The default zero depth pressure values is based on standard diving conditions that do not take into account actual diving conditions, and so they are less accurate than readings produced using data obtained by a proper 0.0 m(0 F) reset.

Pressure Measurement Precautions

Temperature extremes

Correct pressure measurement may become impossible when the watch is exposed temperature extremes, under conditions like the following.
- When the watch is exposed to direct sunlight for long periods
- When the watch is left in a car parked in to direct sunlight for a long time

If the watch is exposed to high temperature, place it into the water for 2 to 3 minutes before using it.
Subjecting the watch to sudden temperature changes can case depth measurement errors (such as display of a depth of 1.0 m(4 F) or greater at sea level).

Sudden Depth Changes

Depth readings are taken every three seconds, so the depth reading may differ from actual depth in cases where sudden changes in depth are occurring. When using the current depth reading to monitor your ascent, we recommend that you ascend at a rate of approximately 10 meters (33 feet) per minute (0.5m/2 feet every three seconds).

High-altitude Diving/Fresh-water Diving

The depth reading is automatically reset to 0.0 m(0 F) whenever you enter the Diving Mode, so you can use this watch for diving at altitudes. Note, however, that malfunctions occur when diving at altitudes greater than approximately 4,000 meters (13,000 feet). Also remember that this watch bases its calculations on seawater, with a specific gravity of 1.025, so readings are incorrect for fresh-water diving. When fresh-water diving, you must assume that you are approximately 2.5% deeper than the depth shown by this watch.
Example: When the displayed depth is 20 meters, the actual depth is 20 × 1.025 = 20.5 meters.
In all cases, be sure to receive appropriate training before attempting high altitude or fresh water diving.

Log Memory Precautions

- Log Memory data accompanied by a warning indicator is incorrect and should not be utilized for dive planning, etc.
- Incorrect battery replacement procedures and servicing of the watch causes all Log Memory data to be deleted. Be sure to make separate written copies of all Log Memory data before having your watch serviced.

Helpful Information

About warning indicators

Appearance of a warning indicator (!) indicates that the applicable data is incorrect for some reason. When you recall this data in the Recall Mode, the warning indicator appears along with the problem data.
Abnormal data can be caused by any of the following.
- Operational error (such as entering the Diving Mode while submerged, resulting in incorrect 0.0 m(0 F) reset, etc.).
- Abnormal temperatures, caused by suddenly submerged the watch after exposing it to direct sunlight for a long time.
- Low battery warning while diving.
- Sensor error (indicated by ERR message).

What to do if a low battery warning appears during a dive

The low battery warning message (**BATT**) protects against a sudden unexpected loss of battery power. After the low battery warning appears, however, depth and temperature readings are disabled and only dive time timing continues. Low battery power can also result in loss of some Log Memory data.

Registering the correct dive start time

When initially entering the water, especially when jumping in from a relatively high position, the pressure produced by impact with the surface of the water can cause the pressure sensor to generate incorrect data. To make sure that the data for your dive is correct, exit and then re-enter the Diving Mode to perform 0.0 m(0 F) reset while on the surface.

Preset Log Memory data

The watch comes with sample data for a single dive in Log Memory for demonstration purposes. To clear this data, hold down Ⓐ for about two seconds while in the Recall Mode or Dive Profile Mode.

Maximum measurable depth

This watch is designed to measure depths between 0.0 and 80.0 meters (0 and 263 feet). Exceeding a depth of 80.0 meters (263 feet) stores the following data into memory.
Maximum Depth: dEEP
Average Depth: --.- m(-- F)
The above readings also appear when the applicable Log Memory is recalled.
For recreational diving, you should normally dive no deeper than approximately 30 meters (99 feet).

Temperature Measurement Range

If a temperature measurement falls outside the range of –10.0°C (14.0°F) to 60.0°C (140.0°F), the display shows --.-.

Rest times

Note that a dive does not end until you exit the Diving Mode and enter the Timekeeping Mode while on the surface (depth = 0.0 m(0 F)). This means that diving, surfacing, and diving again is regarded as the same dive.
To end a dive and start a new one, return to the surface, exit the Diving Mode and enter the Timekeeping Mode, and then re-enter the Diving Mode. Your next dive will be treated as a new dive.

Operating buttons underwater

The buttons on your watch can be operated underwater without harming the watch. However, we recommend that you refrain from doing so for safety's sake.

If you forget to enter the Diving Mode before starting a dive

Entering the Diving Mode while submerged sets a preset default value for the zero depth pressure. Note that resulting data is accompanied by a warning indicator (!) in the Log Memory, indicating that the data may not be accurate.

What happens to log data and surface interval if you change the time and date

Log data and surface interval are not affected when you change the time and date setting after completing a dive.

To extend battery life

Your watch uses most battery power when its pressure sensor is in operation. Because of this, it is best to enter the Timekeeping Mode immediately after completing a dive in order to preserve battery power. The number of dives you make is directly related to the life of the battery, as shown below. Also, note that battery life is affected by how much you use the backlight.

Number of dives per year	Approximate battery life
50	2 years
100	21 months
200	18 months
300	14 month

Based on 50 minutes per dive.

Note
Be sure to have the battery replaced at least once every two years, regardless of how much you dive. When replacing the battery, your authorized CASIO Service Point will also perform a full overhaul, replacing the sealing material that is vital to the water resistance of your watch.

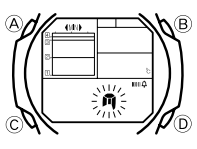
When taking your watch on an airplane

Although there are no problems with taking your watch on an airplane, you should note that if you enter the Diving Mode while in the airplane, it will be impossible to revert to the Timekeeping Mode by holding down Ⓒ. In this case, first hold down Ⓐ for at least two seconds to reset the depth reading to 0.0 m(0 F), and then hold down Ⓒ for at least two seconds to re-enter the Timekeeping Mode.

Chambers and other High-pressure Environments

Though this watch is designed for use in underwater and atmospheric environments up to 20 atmospheres, decompression after exposure to a helium environment runs the risk of damage to the watch. Because of this, you should never expose the watch to chamber test or other very high-pressure conditions. If you enter the Diving Mode while under high pressure, you will not be able to exit to the Timekeeping Mode by holding down Ⓒ.

To change the unit of depth measurement



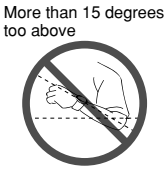
1. Use Ⓒ to enter the Timekeeping Mode.
2. Hold down Ⓐ until the seconds digits start to flash, which indicates the setting screen.
3. Press Ⓒ 9 times to move the flashing to the depth unit setting (m or F).
4. Press Ⓓ toggle between the two settings.
5. Press Ⓐ twice to exit the setting screen.

Backlight Precautions

- The electro-luminescent panel that provides illumination loses power after very long use.
- The illumination provided by the backlight may be hard to see when viewed under direct sunlight.
- The watch will emit an audible sound whenever the display is illuminated. It does not indicate malfunction of the watch.
- The backlight automatically turns off whenever an alarm sounds.
- The backlight illuminates the display for about three seconds in the Diving Mode, and for about two seconds in other modes.
- The backlight may not turn on immediately after a sensor measurement in the Diving Mode.

Auto light switch precautions

- Avoid wearing the watch on the inside of your wrist or on your diving equipment. 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.



- The backlight may not light 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.
- The backlight turns off in about two seconds (three seconds in the Diving Mode), 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 the backlight does not light, try moving the watch back to the starting position (parallel with the ground) and then tilt it back toward 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, the backlight may not light until about one second after you turn the face of the watch towards you. This does not necessarily indicate malfunction of the backlight.

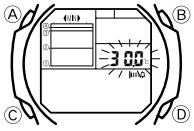
Calibrating the Temperature Sensor

The temperature sensor of this watch is calibrated at the factory before shipment and further adjustment is normally not required. If you notice serious errors in the temperature readings produced by the watch, you can calibrate the sensor.

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.
- Performing temperature calibration while in water of stable temperature produces more accurate calibration.

To calibrate the temperature

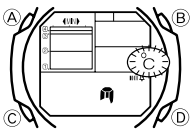


1. Use Ⓒ to enter the Timekeeping Mode.
2. Hold down Ⓐ until the seconds digits start to flash, which indicates the setting screen.
3. Press Ⓐ again to move the flashing to the temperature setting.
4. Each press of Ⓓ increases the displayed temperature by 0.1°C (or 0.2°F) while pressing Ⓑ decreases it.

- You can calibrate the temperature displayed in step 3 within a range of ±10.0°C (18.0°F).
- Pressing Ⓑ and Ⓓ at the same time returns to the factory calibration.

5. Press Ⓐ to exit the setting screen.

To change the unit of temperature measurement



1. Use Ⓒ to enter the Timekeeping Mode.
2. Hold down Ⓐ until the seconds digits start to flash, which indicates the setting screen.
3. Press Ⓒ 10 times to move the flashing to the temperature unit setting (°**C** or °**F**).
4. Press Ⓓ toggle between the two settings.
5. Press Ⓐ twice to exit the setting screen.

Troubleshooting Guide

Problem: Inaccurate depth readings

❑ **Make sure you enter the Diving Mode just before starting your dive.**
If you change to another mode while submerged, reset the depth again when you surface. (See "0.0 m(0 F) Reset")

❑ **Was the watch exposed to temperature extremes?**
Be especially careful about exposing the watch to direct sunlight during the summertime. (See "Pressure Measurement Precautions")

❑ **Did you drop the watch or subject it to strong impact?**
Subjecting the watch to abnormally strong impact can cause it to malfunction or fail to operate entirely. When this happens, contact an authorized CASIO Dealer/Distributor to arrange for repair by an authorized CASIO Service Point.

❑ **Are you diving in fresh water?**
This watch bases its calculations on seawater, so fresh water diving produces incorrect depth readings. (See "High-altitude Diving/Fresh-water Diving")

Problem: Inaccurate temperature measurements

❑ The temperature value displayed by the watch represents the temperature of the watch itself. (See "About Temperature Measurements")

Problem: Log data is not stored in Log Memory

❑ **Have your dives been unusually short?**
Make sure your dives are Valid Dives. (See "Valid Dives and Invalid Dives")

❑ **Did the RECOVER or BATT message or a sensor error occur while you were diving?**
Low battery (See "Low Battery Warning") and sensor error (See "Sensor Errors") conditions can cause data to be lost or can disable the recall function.
When you exit the Diving Mode to the Timekeeping Mode (which stores dive data in memory) while **RECOVER** or **BATT** is on the display, the dive end time and dive time are shown as **–:––**. Also, the Compartment Nitrogen Loading Graph and Dive Profile Graph are not displayed in this case.

Problem: Display shows a depth greater than 0.1 m(4 F) even though you are on the surface.

❑ Correctly perform the 0.0 m(0 F) reset procedure. (See "0.0 m(0 F) Reset")

❑ Temperature extremes, especially cold, can cause depth measurement error. (See "Depth Reading Errors")

Problem: Dive time shown in the Log Memory data in the Recall Mode does not match the difference between the dive start time and end time.

❑ The dive start and end trigger depth is 1 meter (4 feet), so time you spend above that depth is not counted as part of the dive. (See "Dive Time Calculation")

Problem: The alarm and Hourly Time Signal do not sound.

❑ The alarm and Hourly Time Signal are disabled in the Diving Mode and when battery power is low.

Problem: Backlight does not operate.

❑ **Have you over-used the backlight?**
Frequent use of the backlight can cause it to become temporarily disabled. (See "Low Battery Warning")

❑ **Did you drop the watch or subject it to strong impact?**
If so, contact an authorized CASIO Dealer/Distributor as soon as possible to arrange for repair by an authorized CASIO Service Point.

❑ **Does this happen while you are diving?**
The backlight temporarily goes off in the Diving Mode if a depth measurement starts taken during the three seconds that the light is lit.

Problem: Cannot display Log Memory data or Dive Profile data

❑ Display of Log Memory and Dive Profile data is disabled while the **RECOVER** or **BATT** indicator is on the display. (See "Low Battery Warning")