

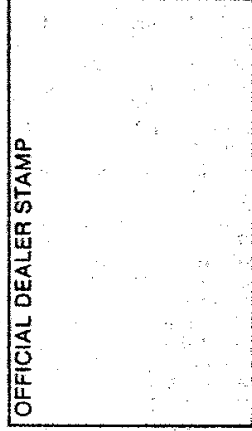
MAIN FEATURES

- Altimeter (0 to 4000m, 0 to 13,120ft)
- Barometer (610mb to 1,250mb)
- Depth meter (0 to 30m, 0 to 98ft)
- Hourly time signal
- 1/100 sec. stop watch
- Countdown alarm
- 12/24 hour formats

GUARANTEE CERTIFICATE

MODEL:.....

DATE OF PURCHASE:.....
OFFICIAL DEALER STAMP



CASIO

PRINTED
IN
JAPAN

03393B

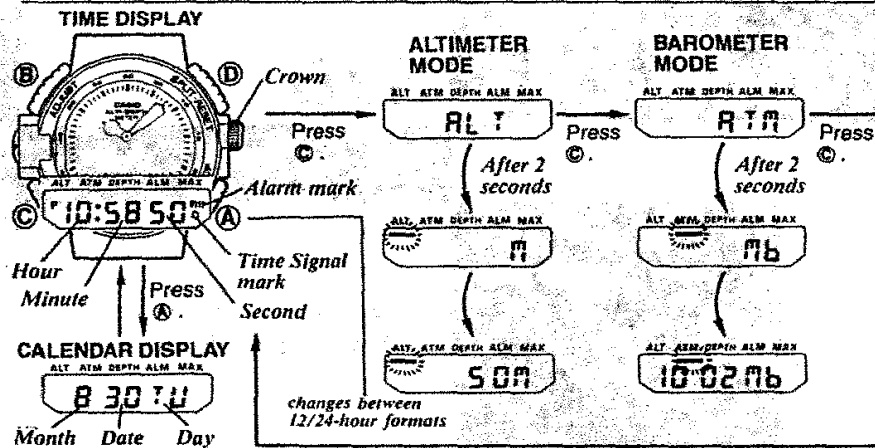
CASIO
Module No. **376**

ES

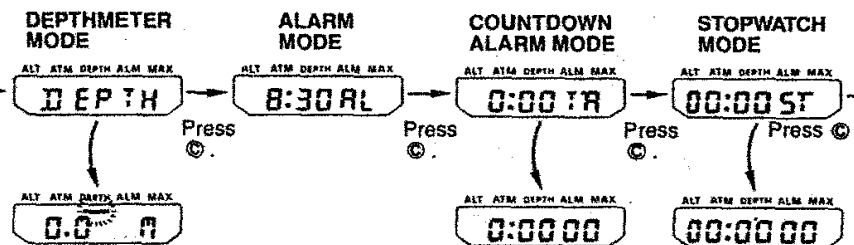
User's Guide
Guia del propietario

CASIO U.K. WARRANTY
CASIO U.S.A. WARRANTY

READING THE DISPLAY

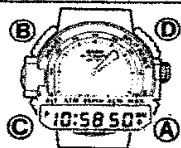


Press **C** for an outline of all functions. Each function is explained on the following pages.



Press **C** to revert to time after operation.

OPERATING ALTIMETER



This unit has a relative altitude measuring function. It detects variations in atmospheric pressure via a built-in pressure sensor, then compares variations* with the reference model of the Standard International Atmospheric pressure before converting them into altitudes.

*The difference between the atmospheric pressure measurements at the reference altitude setting point and at the actual measuring point.

MEASURING ALTITUDE

ALT ATM DEPTH ALM MAX

ALT ?

ALT ATM DEPTH ALM MAX

ALT m

ALT ATM DEPTH ALM MAX

ALT 50m

Automatic measurement

About two seconds after changing to the altimeter mode, automatic measurement starts. About the first five minutes, the altitude is measured every nine seconds. Thereafter, it's displayed every minute. Altitude is displayed in increments of five meters (20 feet) over a range of -4,000 to +4,000 meters (-13,120 to +13,120 feet).

3

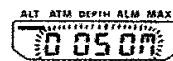
Spot measurement

Press **Ⓢ** in the altimeter mode to start measurement.

For about one hour after measurement in the altimeter mode, the display will automatically change to the time display.

SETTING A REFERENCE ALTITUDE

When adjusting the altimeter using a precision altimeter or standard altitude indicator or when resetting the starting point of measurement at 0 meter to measure the relative altitude, proceed as follows:



- 1) Press and hold **Ⓢ** to start the display flashing.



Press **Ⓢ**.



- 2) Each push of **Ⓢ** increments flashing digit 5 meters (20 feet).
- 3) Press **Ⓢ** to decrement. Hold pressed to move quickly. Press **Ⓢ** to complete setting.

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- To reset a reference altitude to 0 meter, press **A** and **B** simultaneously.
- A reference altitude can be set from 0 to +4,000 meters (0 to +13,120 ft).
- Display automatically returns to the altimeter mode if left unused for a few minutes.

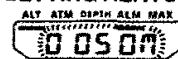
USING ALTITUDE ALARM

The altitude alarm sounds for five seconds at the preset altitude.

For example;

- 1) When you have reached 130 meters from the 0 meter level when the altimeter is set at 130 meters.
- 2) When you have passed the point whose altitude is 200 meters when the altitude alarm is set at 200 meters.

SETTING ALTITUDE ALARM

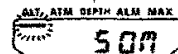


- 1) Press and hold **B** to start display flashing
- 2) If necessary, press **C** to move to the altitude alarm mode.



Press **C** → Reference altitude → Altitude alarm → M/F selection

- 3) Each press of **C** increments flashing digit by 5 meters (20 feet). Press **A** to decrement. Keep pressed to move quickly.
- 4) Press **B** to complete setting.



- To deactivate the altitude alarm, set it to "—" (OFF) when presetting the altitude. Interrupting the altitude alarm while it is sounding clears the altitude setting. To sound the alarm must be set again according to the above setting procedure.
- Press any button to stop beeper.

SELECTING METERS OR FEET

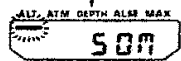
The altimeter measures either in meters or feet.



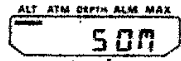
- 1) Press and hold **(B)** start display flashing.
- 2) If necessary, press **(C)** twice to move to the M/F selection mode.



- 3) Press **(A)** or **(D)** to select either meters (M) or feet (F).
- 4) Press **(B)** to complete setting.



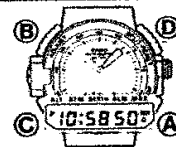
MAXIMUM ALTITUDE MEMORY



Maximum altitude memory stores a maximum altitude that the altimeter has measured. While pressing **(A)** the maximum altitude can be shown. The maximum altitude stored in memory is cleared by resetting a reference altitude, after which a new maximum altitude can be stored. If the altitude exceeds the measuring capacity, the display indicates "FULL."



OPERATING BAROMETER

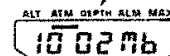
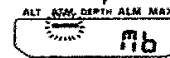
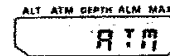


The barometer digitally shows the atmospheric pressure detected by a built-in pressure sensor.

Important
Should the reference atmospheric pressure be incorrectly adjusted, correct measurements are impossible. Never attempt to adjust the barometer, except when using a precision barometer.

MEASURING ATMOSPHERIC PRESSURE

Automatic measurement



About two seconds after the watch is changed to the barometer mode, the barometer automatically starts measurement. For the first five minutes, atmospheric pressure is displayed every nine seconds, and thereafter, every minute. Atmospheric pressure is indicated in increments of one mb over a range from 610 to 1,050 mb.

Spot measurement

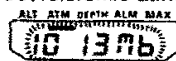
Press **C** in the barometer mode to start measurement.

For the first five minutes, the atmospheric pressure is displayed every nine seconds, and thereafter, every minute.

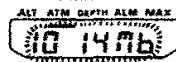
- * If no button is pushed after making measurement in this mode, the display automatically changes to the time display after about 30 minutes.
- * If the atmospheric pressure exceeds the measuring range (610 to 1,050 mb), the display indicates "FULL".

SETTING REFERENCE ATMOSPHERIC PRESSURE

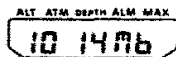
Set reference atmospheric pressure using a precision barometer, proceed as follows:



- 1) Press **C** while holding **A** in the barometer mode to set the reference atmospheric pressure. Now, the display shows 1,013mb.



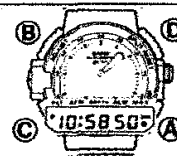
- 2) Each push of **A** increments the atmospheric pressure one mb, and each push of **C** decrements by one mb. Keep pressed to move quickly.



- 3) Press **A** to complete setting.

- * Reference atmospheric pressure ranges from 600 to 1,099 mb.
- * Display automatically returns to the barometer mode if unused for a few minutes.
- * At first, display shows 1,013 mb, when setting the reference altitude pressure.

OPERATING DEPTHMETER

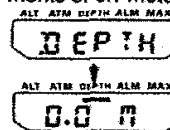


The relative water depth measuring function in this unit converts the variations* in atmospheric pressure detected via a built-in pressure sensor into water depth. Note that the depth meter is designed for saltwater use. When used in fresh water, correction is necessary.

- * The difference between the water pressure measurements made at sea level and at an actual measuring point.

MEASURING WATER DEPTH

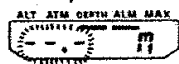
About two seconds after the watch is set to the depthmeter mode, automatic measurement starts. For the first five minutes, the depth is displayed every two seconds, and thereafter, every three seconds. The water depth is displayed in meters or feet in increments of 0.1 meter (1 foot) over a range of 0 to 30 meters (0 to 98 feet).



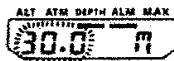
- * Except when the water depth is 0 meter, it is impossible to change the mode by pressing **C** during measurement in the depth meter mode.
- * When the actual water depth exceeds the measuring range (0 to -30 meters or 0 to -98 feet), the display shows "FULL".

USING DEPTH ALARM

The depth alarm sounds for five seconds at the preset depth.



- 1) Press and hold **Ⓜ** to start the display flashing.



- 2) Each push of **Ⓜ** increments the depth one meter (one foot), and each push of **Ⓜ** decrements it by one meter (one foot).
- 3) Keep pressed to move quickly. Press **Ⓜ** to complete setting.



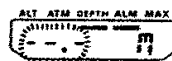
- * To deactivate the depth alarm set it to "—" (OFF) when presetting the depth. Interrupting the depth alarm while it is sounding clears the depth setting. To sound the alarm must be set again according to the above setting procedure.
- * Press any button to stop beeper.

NOTE:

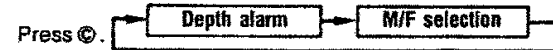
This module is designed to resist water pressure not more than 10 atm., so it should not be used for marine sports such as scuba diving.

SELECTING METERS OR FEET

The depthmeter measures water depth either in meters or feet. Once the unit is selected, both altitude and water depth are displayed in that unit.



- 1) Press and hold **Ⓜ** to start the display flashing.
- 2) If necessary, press **Ⓜ** to move the M/F selection mode.



- 3) Press **Ⓜ** or **Ⓜ** to select meters (M) or feet (F).
- 4) Press **Ⓜ** to complete setting.

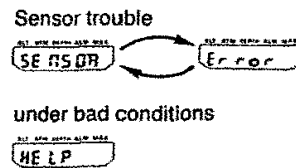
MAXIMUM WATER DEPTH MEMORY

Maximum water depth memory stores a maximum water depth measurement while **Ⓜ** is pressed in the depth-meter mode.

The maximum water depth memory can be reset to 0 meter by pressing **Ⓜ** and **Ⓜ** simultaneously in the depthmeter mode. When a water depth of more than one meter is measured after changing the watch to the depthmeter mode by pressing **Ⓜ**, the memory is automatically cleared.

ERROR PREVENTION FUNCTION

Should correct measurement be impossible due to a faulty sensor, incomplete contact, a dead battery or voltage drop due to low temperature the display stops measurement automatically and cycles as shown:



When this display appears, only \odot is operable, and, the alarm won't sound. If the sensor is considered to be out of order, take your watch to your Casio dealer as quickly as possible. When the HELP display disappears due to a rise in temperature, measurement is again possible; but it's advisable, to have a Casio dealer check the batteries.

OPERATING DAILY ALARM

Beeper sounds for 20 seconds at preset time every day until cleared when daily alarm is set.

Press any button to stop beeper. Signal sounds every hour on the hour if time signal is set.

SETTING DAILY ALARM

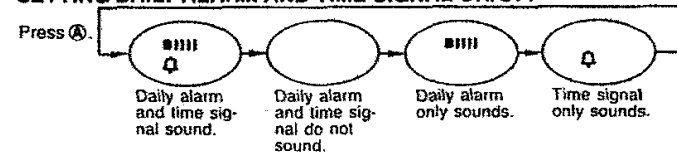
- 1) Press and hold \odot in the alarm mode to set the new time.
- 2) Each push of \odot increments flashing digits one by one. Press \odot to decrement. Keep pressed to move quickly.
- 3) Press \odot to shift flashing digits. Digits to be changed will flash.



Press \odot to complete setting.

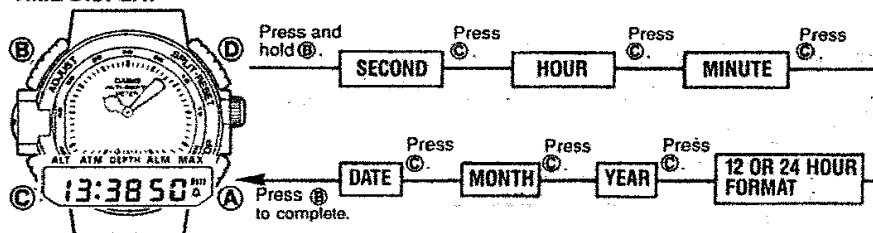
- Display automatically returns to initial daily alarm mode if left unused for a few minutes.

SETTING DAILY ALARM AND TIME SIGNAL ON/OFF



SETTING DIGITAL TIME/CALENDAR

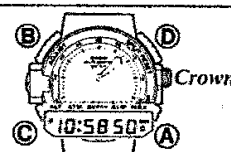
TIME DISPLAY



- 1) Press and hold (B) in the time display mode to set the time.
- 2) Press (A) on a time signal to correct seconds.
- 3) Press (C) to shift flashing digits.
- 4) Each push of (A) increments the digits by one. Press (D) to decrement. Keep pressed to move quickly.
- 5) Press (B) to complete.
 - Press any button to stop beeper.
 - Display automatically returns to the time display if left unused for a few minutes.

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SETTING ANALOG TIME



- 1) When the second hand is at 12 o'clock position, stop the second hand by pulling out the crown.
 - 2) Set the hands by turning the crown.
 - 3) Press the crown in on a time signal.
- * A gain or loss of one second or less may result due to the inherent properties of mechanical parts.

OPERATING COUNTDOWN ALARM



Countdown is settable from 1 second to 24 hours (display shows 0:00'00), and times to an accuracy of one second. Start/stop operation is possible by pressing (A) and is confirmed by a signal. When display reaches zero, beeper sounds for 10 seconds until any button is pressed.

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SETTING COUNTDOWN TIME

- 1) Press **(C)** in countdown alarm mode to set new time.
- 2) Press **(A)** to increment digits and **(B)** to decrement. Keep pressed to move quickly.
- 3) Press **(C)** to shift flashing digits.

Press **(C)**.



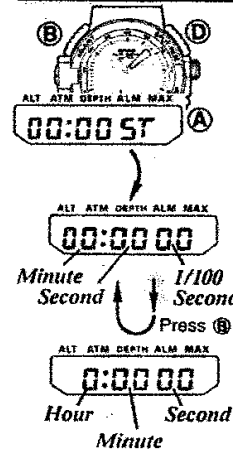
- 4) Press **(B)** to complete setting.

REPEAT FUNCTION

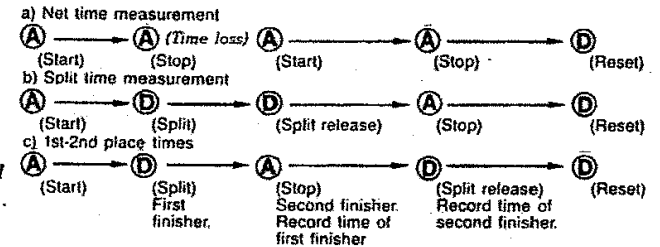
Pre-entered time is retrieved when display reaches zero.

- Display automatically returns to initial countdown alarm mode if left unused for a few minutes.

OPERATING STOPWATCH



A signal confirms start/stop and split/reset operation.
Total elapsed time display is limited to 23 hours 59 minutes 59.99 seconds. For longer time, reset and start again.



[How to replace the battery]

CAUTION: Battery replacement should not be attempted without use of the correct tools.

1. Check the type of back cover 2. Removing the back cover *Place the watch on soft material, like buckskin, and hold it firmly.*

Screw-in type



With the Adjustable Case Opener, turn the back cover counterclockwise.



Snap-on type (A)



Insert Opener A in the recess and move from side to side to make a gap between the cover and the case. Then use the opener to pry off the cover.



Snap-on type (B)



Fit Case Opener B into the notch and pry open the back cover.



BATTERY LIFE: Battery life is calculated from when the battery is loaded at the factory. At first sign of power fade (no light or dim display), have battery replaced at dealer or Casio distributor.

3. Replacing the battery

Using a screwdriver, remove screw(s) from the battery holder. Replace dead battery(s) and attach the battery holder.



CAUTION

- Avoid touching the contact (—) of the battery.
- Never hold the contacts with metallic tweezers.

4. AC (ALL CLEAR)

As shown below, touch the AC contact and the battery (+) side with metallic tweezers. Contact should be about 2 seconds.



IMPORTANT

- a) Contacting AC (ALL CLEAR) is necessary, when a new battery has been put in, because the memories/counters may cause erratic displays.
- b) On some models, pushing the light button will turn on the display.

5. Fitting the back cover

Using the Adjustable Case Opener, tighten the back cover.



Place the watch on a hand press and push the back cover in gently.



Hold the watch horizontally and snap-fit the back cover.



CARE OF YOUR WATCH

- Battery life is calculated from when the battery is loaded at the factory. At first sign of power fade (dim display), have battery replaced at dealer or Casio distributor.
- The watch will withstand the ingress of water at a static pressure as indicated, i.e. 50 meters, 100 meters or 200 meters, or equivalent to immersion in sea water at the stated depths. However, when performing any underwater activity, the dynamic pressure generated through movement is greater than the static pressure. For full details on the limitations of use, please refer to the water resistance chart below:

Rank	Case Designation	Splashes, rain, etc.	Swimming, car-washing, etc.	Snorkeling, diving, etc.	Scuba diving
A*	—	No	No	No	No
B	WATER RESISTANT	Yes	No	No	No
C**	50M WATER RESISTANT	Yes	Yes	No	No
D***	100M WATER RESISTANT	Yes	Yes	Yes	No
E****	200M WATER RESISTANT	Yes	Yes	Yes	Yes

*This watch is not water-resistant, so be careful not to get it wet.

**Caution—50 metres water resistant models—do not operate push buttons below the surface of the water.

***Underwater button operations possible (except for countersunk buttons). Should the watch be exposed to sea water, wash it well with fresh water and wipe dry.

****Usable while scuba diving (except diving with helium-oxygen gas).

- Your water resistant watch has been tested in accordance with the International Organization for Standardization regulations ISO2281 and FTC (USA) "GUIDE FOR THE WATCH INDUSTRY", Guide 5.
- This watch contains precision electronic components. Never attempt to open the case or remove the back cover.
- A waterproof rubber seal is used to guard against water and dust. As rubber deteriorates with time, the seal should be replaced periodically (every 2—3 years).
- Should water or condensation appear in the watch, immediately have the watch checked. Water can corrode electronic parts inside the case.
- Avoid exposing the watch to temperature extremes.
- Although the watch is designed to withstand impact under normal use, it is inadvisable to subject it to severe impact, rough usage or drops onto hard surfaces.

- Avoid fastening the band too tightly. You should be able to insert your finger inside the band.
- Clean the watch and bracelet with a soft cloth, dry or moistened with mild soap. Never use volatile chemicals (such as benzine, thinners, spray cleaners, etc.).
- Gold plated surfaces can be kept in good condition by regular wiping with a soft damp cloth. Discoloration can be removed with detergent. Always store your watch in a dry place.
- Avoid exposing the watch to strong chemicals such as gasoline, cleaning solvent, aerosol spray, adhesive agent, paints, etc. The chemical action caused by such liquids will destroy the seals, case and finish.
- Be careful not to rub off the silk screen process printing on the watch band. (Some models only)

SPECIFICATIONS

Accurate at normal temperature: ± 15 seconds per month.

Display capacity:

- Regular timekeeping mode
 - Analog: Hour, minute, and second hands.
 - Digital: Hour, minute, and second, am/pm, per month, date, day.
 - Time system: 12/24-hour formats.
 - Calendar system: Auto-calendar pre-programmed to the year 2029

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- Altimeter mode
 - Measuring range: 0 m ~ 4,000 m (0 ft ~ 13,120 ft)
 - Measuring unit: 5 m (20ft)
 - Reference altitude setting, maximum altitude memory measurements
 - Altitude alarm.
- Barometer mode
 - Measuring range: 610 mb ~ 1,050 mb
 - Measuring unit: 1 mb
- Depth meter mode
 - Measuring range: 0 m ~ 30 m (0ft ~ 98ft)
 - Measuring unit: 0.1 m (1 ft)
 - Depth alarm function
- Alarm mode
 - Daily alarm, Hourly time signal.
- Stopwatch mode
 - Measuring capacity: 23 hours 59 minutes 59.99 seconds
 - Measuring unit: 1/100 of a second
 - Measuring modes: Normal time, net time, split time, 1st-2nd. place time.
- Countdown alarm mode
 - repeat function.

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Battery: Two lithium batteries (type: SR927W)
 Approx. 2 years operation on type: SR927W
 (under following conditions: buzzer-20 seconds/day, altimeter -50 1 hour measurements/year, barometer-1 minute measurement/day, depth meter-50 1 hour measurements/year)

Sensor accuracy

	At constant temperature	Effect by change in temperature	Remarks
Alti-meter	± (Difference in altitude × 4.5% + 30mm) max.	± 120m max. per 10°C	Based on international standard atmospheric pressure (ISA)
Barometer	± (Difference in atmospheric pressure × 4.5% + 3mm) max.	± 16mb max. per 10°C	
Depth-meter	± (Displayed value × 12.5% + 0.4m) max.	± 0.2m max. per 10°C	Based on sea water (specific gravity 1.025)

* Warranty range of temperature is 10°C to 40°C

* The sensor will be adversely affected by a strong shock or extremely low temperature.

NOTE: THERE IS NO WAY unit components can be damaged or malfunction, due to mis-operation of buttons. If confusing information appears on the display it means entry sequence was incorrect. Please read the manual and try again.

Alti-Depthmeter. Tips and Techniques of Use.

INTRODUCTION...

In the days ahead, your Alti-Depthmeter will provide handy reference information about altitude, the weather and water depth which you can use in scores of outdoor activities. Please note here that it is not designed for measurements other than those described in these *Tips and Techniques of Use*. Read them carefully. They'll help you to get out of your Alti-Depthmeter all the performance that Casio has designed into it.

USING THE ALTIMETER...

What is Altitude? The atmosphere is made up of millions upon millions of tons of air pressing down on the earth's surface. As the height (altitude) above sea level increases, both air pressure (atmospheric pressure) and temperature decrease. If the atmospheric pressure is known, the altitude can be approximated.

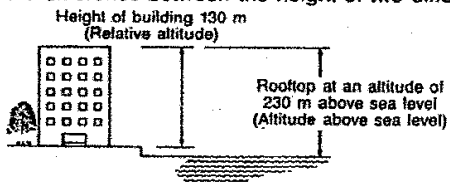
A Technical Point... Atmospheric pressure changes depending on place and time. An altimeter that bases measurements on atmospheric pressure usually uses the International Standard Atmospheric (ISA) relationship between altitude and atmospheric pressure as determined by the International Civilian Aviation Organization (ICAO).

ALTITUDE	ATMOSPHERIC PRESSURE	MEAN PRESSURE DIFFERENCE*	TEMPERATURE	MEAN TEMP. DIFFERENCE
4000 m—	616 mb	About 8 mb	-11°C	About 6.5°C per 1000 m
3000—3500 m	701 mb	About 9 mb	-5°C	
2000—2500 m	795 mb	About 10 mb	2°C	
1000—1500 m	895 mb	About 11 mb	9°C	
0—500 m	1013 mb	About 12 mb	15°C	

From International Standard Atmosphere
* per 100 m

Absolute Altitude and Relative Altitude...

There are two standard methods of expressing altitude: Absolute altitude and relative altitude. Absolute altitude expresses an absolute height above sea level. Relative altitude expresses the difference between the height of two different places.



The Altimeter Function...

The altimeter function uses an altitude difference gauge to measure and express relative altitude. A difference in altitude is detected by an atmospheric pressure sensor, then calculated using the ISA relationship. Sometimes the weather plays havoc with this relationship, as in the case of measuring the altitude difference when the variation between air temperature and atmospheric pressure is large due to rapidly changing weather conditions. In this case the ISA relationship doesn't work and measurements can't be taken.

- If a low pressure zone is approaching and the atmospheric pressure drops during measurement of the altitude difference, the displayed values will be higher than they were the day before.
- If the altitude of your home is measured after it was set to zero at sea level the day before, and a low pressure zone is approaching, the value displayed in your home will be higher than the one previously displayed.

Setting Tips...

- When hiking or rock climbing...set to 0m at the base to measure the height in meters to your destination.



- To measure the height of a building...set to 0m at the ground floor before taking the elevator to the roof.



- To measure the difference in altitude at sea level and at home...set to 0m before leaving home.



Points to Remember...

- An error in measurement may result from the pressurizing and airconditioning systems of some buildings.
- The altitude announced aboard commercial aircraft is based on atmospheric pressure around the aircraft. Accurate measurement inside the aircraft is impossible because the cabin is pressurized.
- Because the measuring function converts atmospheric pressure to altitude, the value displayed will change (even in the same location) everytime the atmospheric pressure changes.
- Accurate values are not obtained if the weather changes just after measurement begins.
- The semiconductor sensor in the casing is sensitive to temperature. Try to use the watch in a way that minimizes changes in temperature, especially extreme changes.

A Tip...

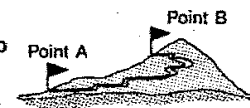
Normally, wearing your watch on your arm next to your skin maintains a fairly stable temperature.

Approximating Absolute Altimeter Values...

Always set at the point where the altitude above sea level is known.

First... At point A, set the altitude to the known value above sea level (400 meters, for example).

Next... Go from point A to point B and measure the altitude.



A Tip...

If you also know the altitude of point B, reset the altitude to above sea level. Always do this when there is a difference in altitude above sea level at the second point is due to changing atmospheric pressure.

Some More Reminders...

Measurement accuracy can be adversely influenced:

- When atmospheric pressure varies because of bad weather conditions.
- When there is considerable variation in air temperature.
- When your watch has received a strong shock.

Also, Remember...

Due to the measurement cycle, this altitude measuring function cannot be used for sports, in which the altitude changes quickly. Use a specialized altimeter for activities such as skydiving, hang gliding, paragliding, gyrocopters, gliders and similar sports.

USING THE BAROMETER (WEATHER GAUGE)

What is Atmospheric Pressure?

Atmospheric pressure is the air pressure pressing down on the earth. At sea level, it's equal to about 15 pounds of pressure per square inch. The atmospheric pressures that you see in the newspaper and on the TV weather report are measurements corrected to values measured at 0m sea level. This is called sea level correction. This correction is necessary because atmospheric pressure decreases as altitude above sea level increases, and a constant height above sea level (a reference height) is necessary because a weather map has a flat plane surface.

- The Alti-Depthmeter's atmospheric pressure function is intended for use as a barometer. It is not designed for high-precision measurements of atmospheric pressure. It has been adjusted at the factory to display approximated atmospheric pressure.

Changes in Atmospheric Pressure...

Atmospheric pressure changes with time as the atmosphere moves. This (the rise or fall of pressure) makes it possible for you to predict whether the weather will improve or deteriorate.

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Using the Barometer...

The atmospheric pressure gauge function "reads" the differences in atmospheric pressure. Remember that this is a barometer function and not a function that measures absolute atmospheric pressure as seen in the weather maps.

Tips and Techniques...

- When hiking or mountain climbing, measuring the atmospheric pressure two or more times from the same spot can help you to determine if the weather is likely to change.



- When playing golf, using the technique just mentioned can help you to determine the likelihood of a sudden shower.



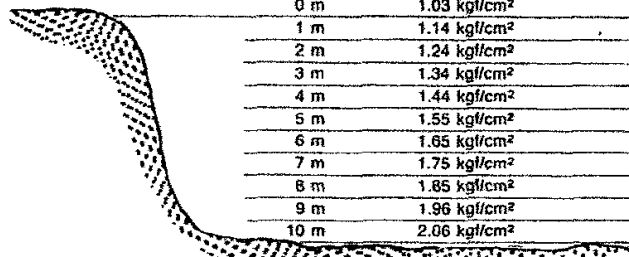
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USING THE DEPTH METER...

What is Depth? Water pressure increases as the depth of water increases, and so depth can be calculated by measuring water pressure.

The depth meter function uses a pressure sensor to measure the water pressure and to calculate the depth of sea water.

In the sea



0 m	1.03 kgf/cm ²
1 m	1.14 kgf/cm ²
2 m	1.24 kgf/cm ²
3 m	1.34 kgf/cm ²
4 m	1.44 kgf/cm ²
5 m	1.55 kgf/cm ²
6 m	1.65 kgf/cm ²
7 m	1.75 kgf/cm ²
8 m	1.85 kgf/cm ²
9 m	1.96 kgf/cm ²
10 m	2.06 kgf/cm ²

Where the specific gravity of water on the sea surface
is 1 atm=1.03323kgf/cm² (Specific gravity: 1.025)

A Final Note . . .

The Alti-Depthmeter features a 100-meter water-resistant casing that makes it ideal for swimming, snorkeling and other fun on the water. It is not recommended for scuba diving.