

CASIO[®]
Module No.

950

ES

User's Guide
Guía del propietario

CASIO U.K. WARRANTY

CASIO U.S.A. WARRANTY

Applications

The built in sensors of this watch measure altitude, atmospheric pressure, and temperature. Measured values are then shown on the display. Such features make this watch useful when hiking, mountain climbing, or when engaging in other such outdoor activities.

The measurement functions built into this watch are not intended for use to take measurements that require professional or industrial precision. Values produced by this watch should be considered as reasonably accurate representations only.

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1

READ THIS IMPORTANT INFORMATION FIRST

Battery

- The battery loaded at the factory discharges during shipment and storage. At the first sign of low power (no light or dim display), have the battery replaced by your dealer or a CASIO distributor.

Water Resistance

- This watch will withstand the ingress of water at the static pressure indicated on its case (50, 100, or 200 meters), and immersion in salt water at the depth indicated. Note, however, that dynamic pressure generated by movement underwater is greater than static pressure. Note the following.

*Rank	Case Designation	Splashes, rain, etc.	Swimming, car-washing, etc.	Snorkeling, diving, etc.	Scuba diving
I	—	No	No	No	No
II	WATER RESISTANT	Yes	No	No	No
III	50M WATER RESISTANT	Yes	Yes	No	No
IV	100M WATER RESISTANT	Yes	Yes	Yes	No
V	200M WATER RESISTANT 300M WATER RESISTANT	Yes	Yes	Yes	Yes

*Notes

- I *Not water-resistant. Avoid all moisture.*
- III *Do not operate buttons underwater.*
- IV *Button operation underwater allowed, but do not operate recessed buttons. If watch is exposed to salt water, wash thoroughly and wipe dry.*
- V *Usable while scuba diving (except at depths that require helium-oxygen gas).*

- Your water-resistant watch has been tested in accordance with the International Organization for Standardization regulations ISO2434 and FTC (USA) "GUIDE FOR THE WATCH INDUSTRY," Guide 5.
- Some water-resistant watches feature leather bands. Do not wear such a model during swimming or any other activity during which the band is immersed in water.

Care of your watch

- Never try to open the case or remove its back cover.
- You should have the rubber seal that keeps out water and dust replaced every 2 to 3 years.
- Should moisture appear inside the watch, have it checked immediately by your dealer or CASIO distributor.
- Avoid exposing the watch to temperature extremes.
- Though the watch is designed to withstand normal use, you should avoid rough use or dropping the watch.
- Do not fasten the band too tightly. You should be able to insert your finger between the band and your wrist.
- To clean the watch and band, use a dry soft cloth or a soft cloth moistened in a solution of water and a mild neutral detergent. Never use volatile agents (such as benzine, thinner, spray cleaners, etc.)
- Store your watch in a dry place when you are not using it.
- Avoid exposing the watch to gasoline, cleaning solvents, aerosol sprays, adhesive agents, paint, etc. Chemical reactions with such agents will destroy seals, case and finish.
- Some models feature silk screen printing on their bands. Be careful when cleaning such bands so that you do not rub on the printed designs too hard.
- For watches equipped with resin bands....
You may notice a whitish powdery substance on the band. This substance will not harm your skin or clothing, and can be removed by simply wiping it with a cloth.

For watches equipped with fluorescent bands and cases....

- Long-term exposure to direct sunlight can cause fluorescent coloring to fade.
- Long term-contact with moisture can cause fluorescent coloring to fade. Be sure to wipe all moisture from the surface of the watch as soon as possible.
- Long-term contact with any other surface while wet can cause discoloration of fluorescent colors. Be sure to keep moisture from fluorescent surfaces and avoid contact with other surfaces.
- Strongly rubbing a printed fluorescent surface with another surface can cause the color of the printing to transfer to the other surface.

Sensors

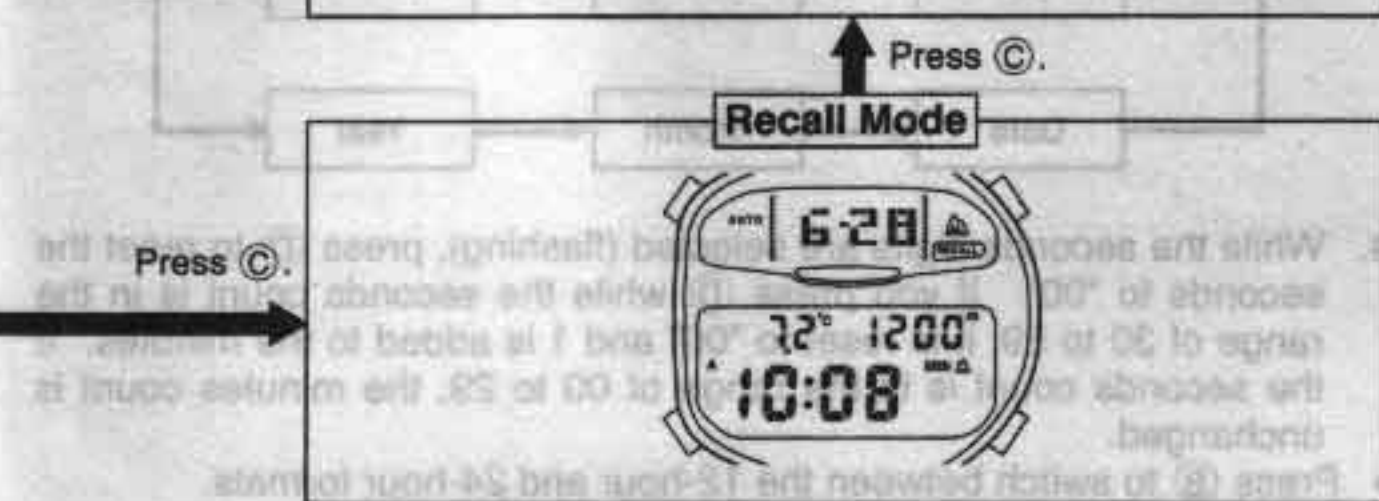
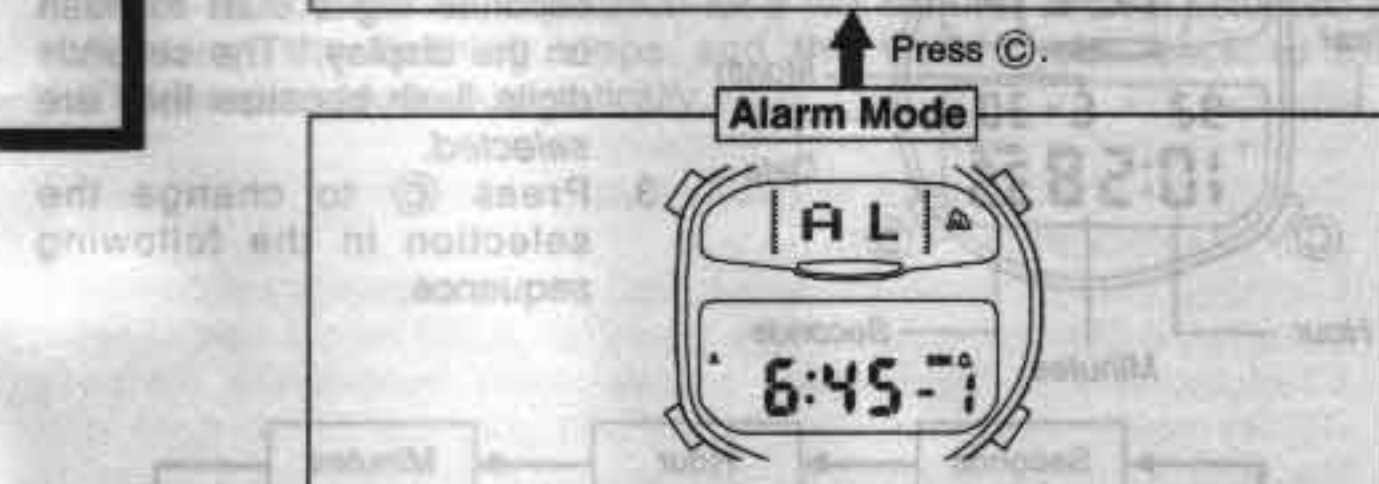
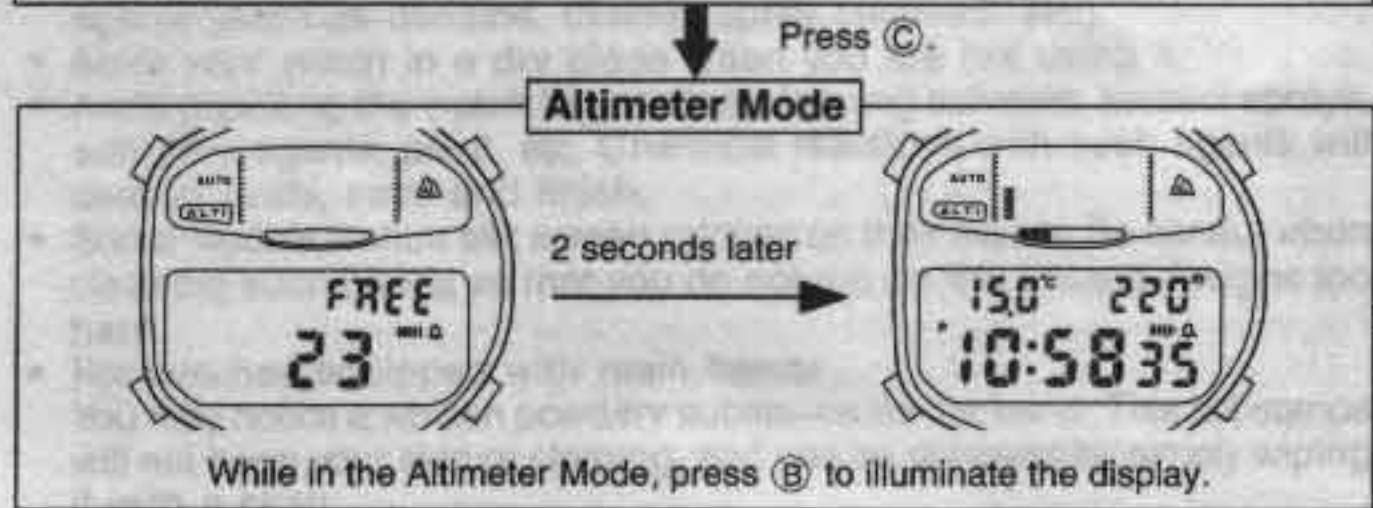
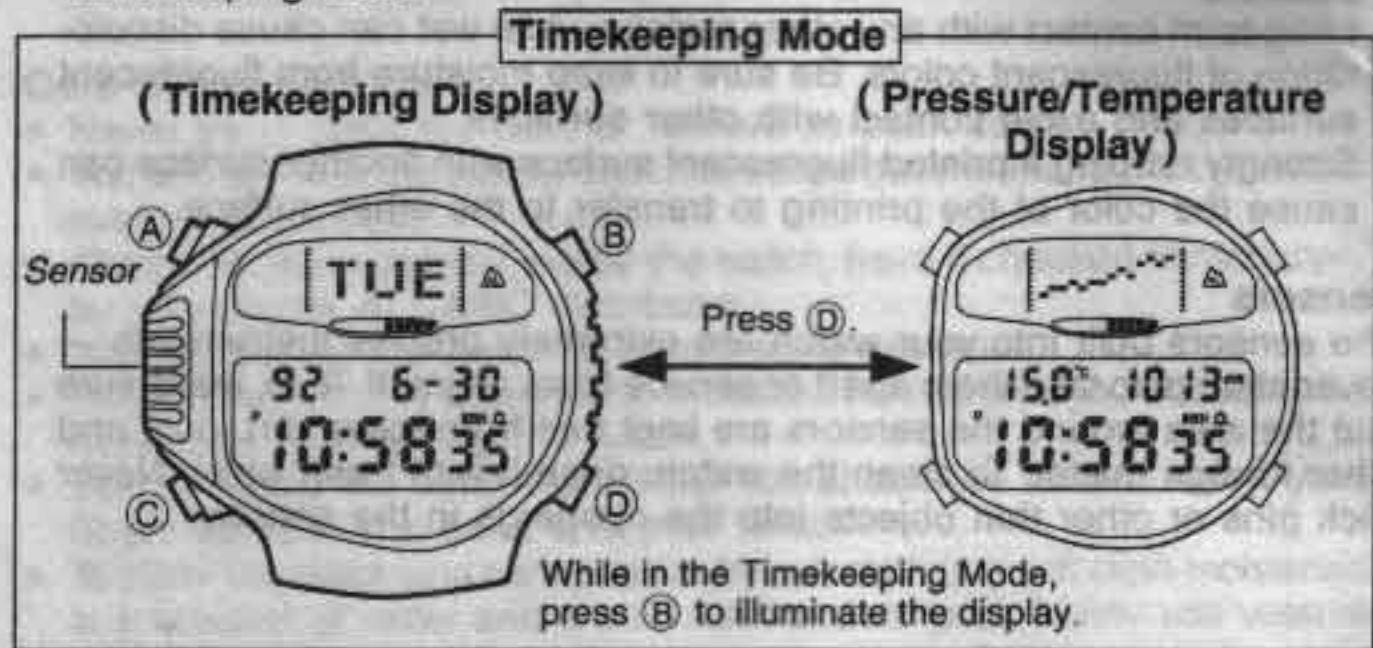
The sensors built into your watch are extremely precise instruments — never attempt to take them apart or service them yourself. Also, make sure that the area around the sensors are kept free from sand, dirt, dust and other foreign matter. To clean the watch, rinse it with fresh water. Never stick pins or other thin objects into the openings in the sensor.



2

GENERAL GUIDE

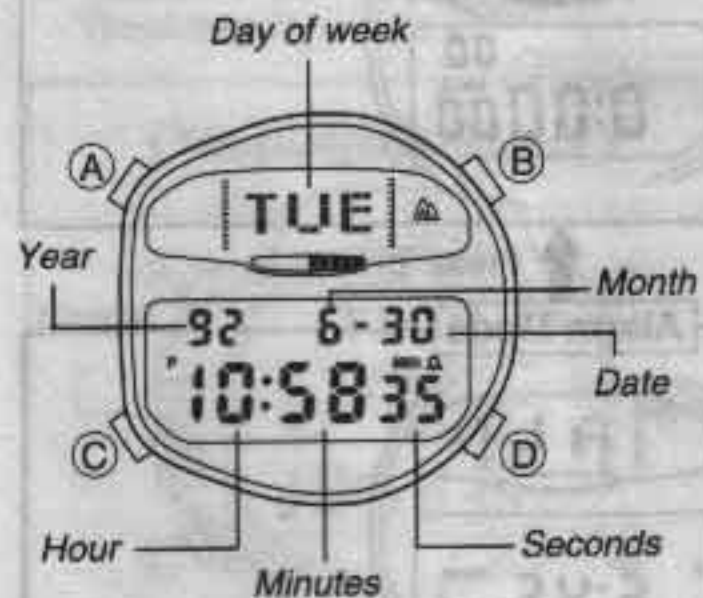
- Press (C) to change from mode to mode.
- Hold down (C) for one or two seconds in any mode to switch back to the Timekeeping Mode.



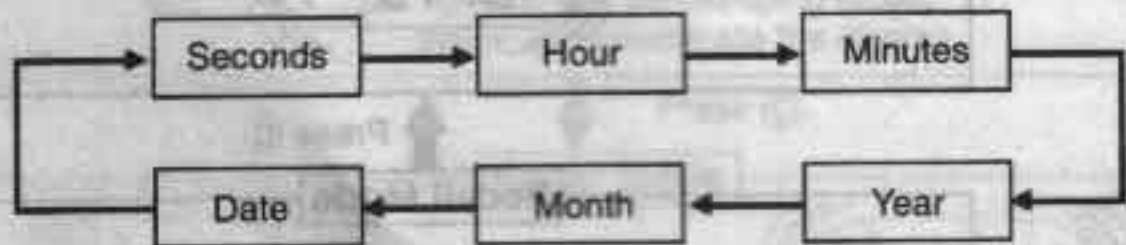
3

TIMEKEEPING FUNCTION

To set the time and date



1. In the Timekeeping Mode, press (D) until the Timekeeping Display appears.
2. Hold down (A) until the seconds digits start to flash on the display. The seconds digits flash because they are selected.
3. Press (C) to change the selection in the following sequence.



4. While the seconds digits are selected (flashing), press (D) to reset the seconds to "00". If you press (D) while the seconds count is in the range of 30 to 59, it is reset to "00" and 1 is added to the minutes. If the seconds count is in the range of 00 to 29, the minutes count is unchanged.
- Press (B) to switch between the 12-hour and 24-hour formats.

5. While any other digits (besides seconds), are selected (flashing), press (D) to increase the number or (B) to decrease it. Holding down either button changes the current selection at high speed.
6. After you set the time and date, press (A) to return to the Timekeeping Mode (Timekeeping Display).

- The day of the week is automatically set in accordance with the date.
- The date can be set within the range of January 1, 1990 to December 31, 2029.
- If you do not operate any button for a few minutes while a selection is flashing, the flashing stops and the watch goes back to the Timekeeping Mode automatically.

CHANGING THE MEASUREMENT UNITS

You can change the measured values displayed by the watch between the following units.

Altitude: meters (m) ↔ feet (ft)

Temperatures: Celsius (°C) ↔ Fahrenheit (°F)

Atmospheric Pressure: millibars (mb) ↔ inches/Hg (inHg)

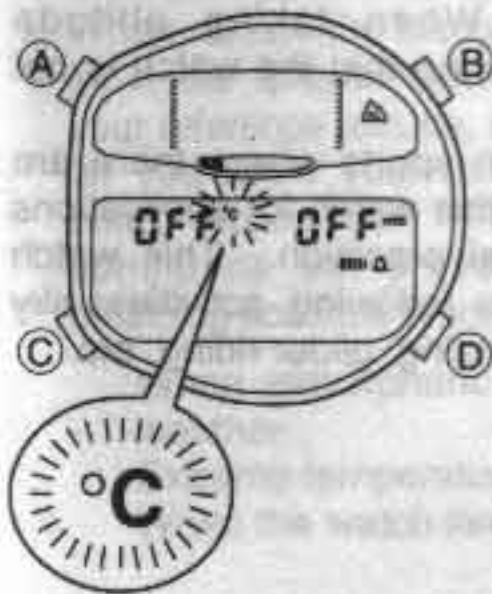
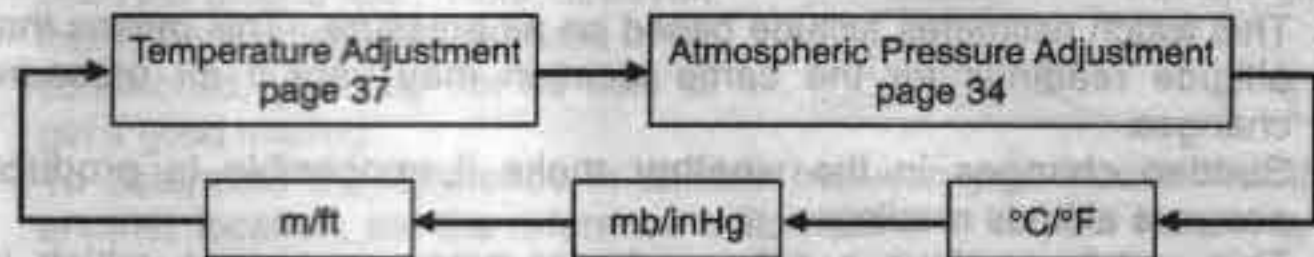
Important !

- Certain measurement functions are automatically terminated when you change the measurement units. Be sure that you perform this operation before starting actual measurements.
- Changing the altitude unit of measurement automatically switches the altitude alarm (page 22) off.
- Changing the atmospheric pressure unit of measurement automatically restarts the atmospheric pressure graph (page 32) from a new value.
- Changing any of the units of measurement immediately starts to display newly measured data in the unit you specify. It does not, however, affect the unit of measurement for any data already stored in memory.

To change the measurement units



1. In the Timekeeping Mode, press **(D)** until the atmospheric pressure/temperature display.
2. Hold down **(A)** until "OFF" (or the temperature value) appears flashing in the display. The data on the display is flashing because it is *selected*.
3. Press **(C)** to change the selection in the following sequence.



4. Use **(C)** to select the unit (°C/°F, mb/inHg or m/ft) you want.
5. Press **(B)** or **(D)** to select the currently selected unit.
6. After making your selection, press **(A)** to return to the Timekeeping Mode (Pressure/Temperature Display).

A built-in altimeter uses a pressure sensor to detect the current air pressure, which is then used to estimate the current altitude in accordance with ISA (International Standard Atmosphere) values for altitude and air pressure. If you preset a reference altitude (see page 21), the watch will also calculate the current relative altitude based on your preset value. Altimeter functions also include data storage memory and an altitude alarm.

Important !

- This watch estimates altitude based on air pressure. This means that altitude readings for the same location may vary if air pressure changes.
- Sudden changes in the weather make it impossible to produce accurate altitude readings.
- This watch employs a semiconductor pressure sensor, which is affected by temperature changes. When taking altitude measurements, be sure to do so while ensuring that the watch is not exposed to temperature changes.
- Do not use this watch while participating in sports where there are sudden altitude changes. Also, do not use this watch for applications that demand professional or industrial level precision. This watch should not be used while engaging in the following activities: sky diving, hang gliding, paragliding, gyrocopter riding, glider riding, etc.

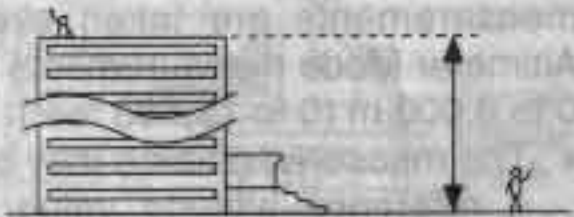
5-1 Applications

When no reference altitude is preset:

- The watch produces approximate altitude readings.

When a reference altitude is preset:

- Before beginning the climb, set the reference altitude to 0 m at the foot of the mountain. This makes it possible to determine the difference in altitude between the reference point and your destination.
- To determine the height of a tall building, set the reference altitude to 0 m on the ground floor. Note, however, that if the building is pressurized or air conditioned, you may not be able to get a good reading.
- To determine the difference in altitude between your house and the another location, set the reference altitude to 0 m at your house, and then check the reading when you arrive at the other location.
- When mountain climbing, you can input the altitude from a marker as your reference altitude, which will then let you know your altitude as your climb proceeds. The following conditions will prevent you from obtaining accurate readings:



When atmospheric pressure changes because of changes in the weather

Extreme temperature changes

When the watch itself is subjected to strong impact

5-2 About altitude measurements

There are two types of altitude measurements: those for displayed data (Altimeter Mode measurement) and those for memory data (memory measurements; See 5-4 Memory measurements).

Altimeter mode measurement

This type of measurement is performed only when the watch is in the Altimeter Mode. As soon as you enter the Altimeter Mode, measurements are taken every five seconds for the first five minutes. After that, measurements are taken every two minutes. The display unit for Altimeter Mode measurements is 5 m (20 feet), and the display ranges is 0 to 6,000 m (0 to 19,680 feet).

- The measured altitude may be a negative value in cases where there is a reference altitude value set or because of certain atmospheric conditions.

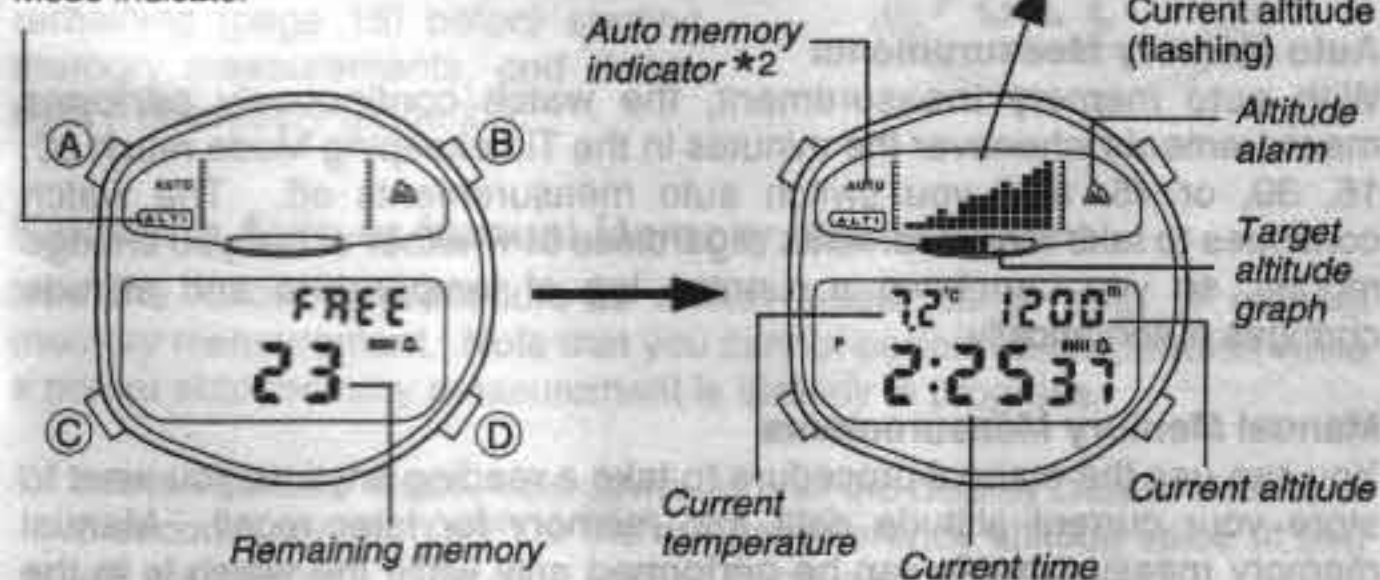
5-3 Understanding the altimeter display

Use © to enter the Altimeter Mode. Note that once you enter the Altimeter Mode, if you do not press any button for 10 or 11 hours, the watch automatically returns to the Timekeeping Mode.

(Altitude Graph)
(Unit: 10 m/40 ft)



Mode indicator *1



- *1 "ALTI" flashes while a measurement is being taken every five seconds. It does not flash during the measurements taken every two minutes.
- *2 "AUTO" flashes on the display while a memory measurement is in progress. The indicator stops flashing while no measurement is being performed.

5-4 Memory measurements

Memory measurements are taken independently of Altimeter Mode measurements and stored directly into memory (along with temperature measurements) for later recall. There are two types of memory measurements: "auto memory measurements" and "manual memory measurements".

Auto Memory Measurements

With auto memory measurement, the watch continuously performs measurements whenever the minutes in the Timekeeping Mode reach 00, 15, 30, or 45, until you switch auto measurements off. The watch continues to take measurements regardless of whether or not you change modes, so you can keep a running log of temperature and altitude changes automatically.

Manual Memory Measurements

You can use the manual procedure to take a reading anytime you want to store your current altitude data into memory for later recall. Manual memory measurements can be performed only while the watch is in the Altimeter Mode.

About the memory.....

Each memory item (auto or manual) stored by the watch consists of the current altitude, plus the month, date, time, and temperature. Data is stored in the same sequence that it is input.

Memory can hold a total of 50 sets of data, which is enough to store 12 hours and 15 minutes of auto memory data (if you do not take any manual readings during that time). See page 25 of this manual for details on how to recall memory data.

Important !

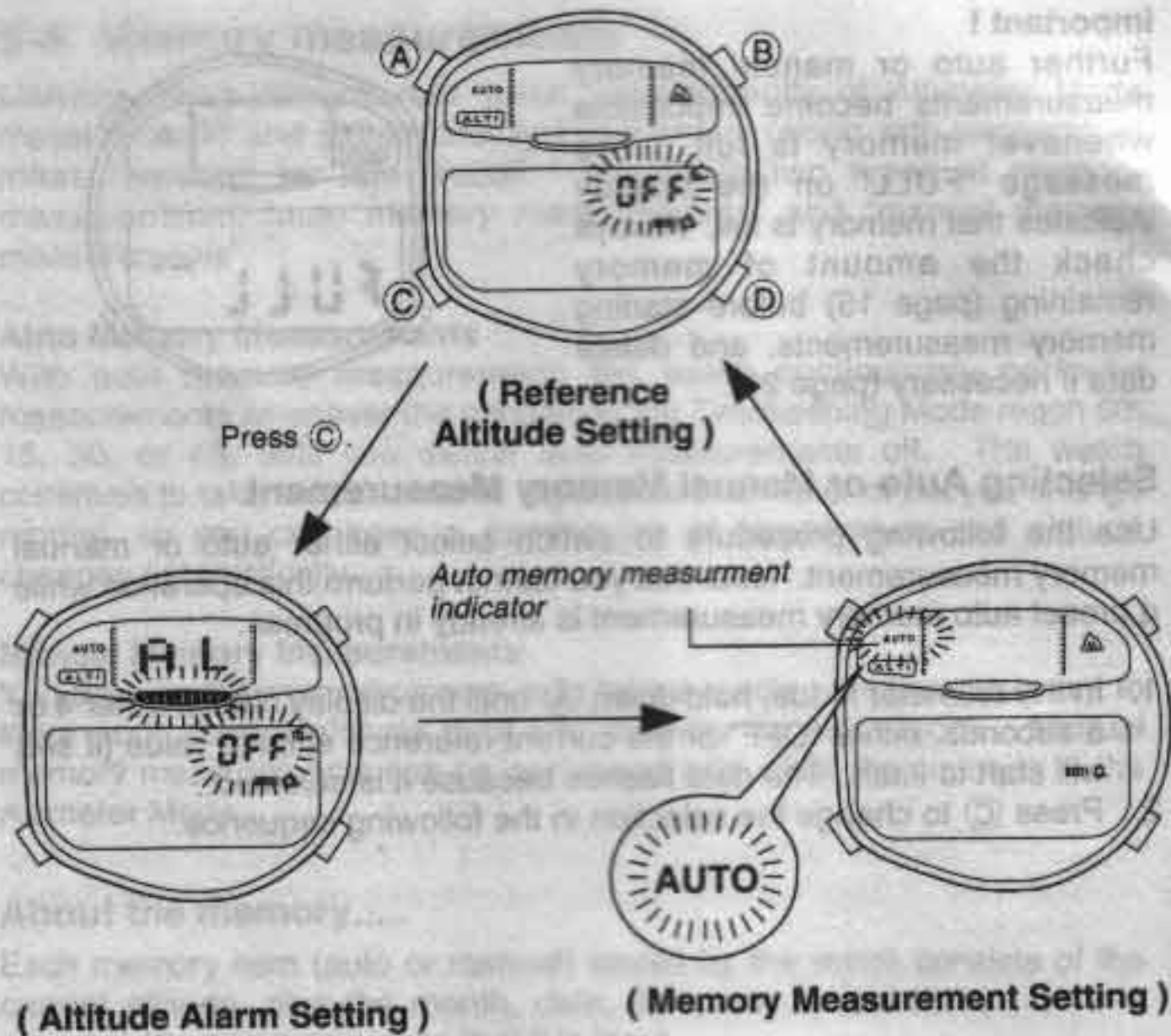
Further auto or manual memory measurements become impossible whenever memory is full. The message "FULL" on the display indicates that memory is full. Always check the amount of memory remaining (page 15) before starting memory measurements, and delete data if necessary (page 29).



Selecting Auto or Manual Memory Measurement

Use the following procedure to switch select either auto or manual memory measurement. Note that you cannot perform this operation while a preset auto memory measurement is already in progress.

1. In the Altimeter Mode, hold down (A) until the display clears. After 4 or 5 seconds, either "OFF" or the current reference altitude value (if set) will start to flash. The data flashes because it is *selected*.
2. Press (C) to change the selection in the following sequence.



3. Press (C) to select the memory measurement setting display (with either "AUTO" or "MANUAL" flashing).

4. Press (D) or (B) to switch between auto memory measurement ("AUTO" flashing) or manual memory measurement ("MANUAL" flashing).
5. After selecting the type of measurement you want, press (A) to return to the Altimeter Mode.

Using Auto Memory Measurement

Auto memory measurement indicator



1. Confirm that the "AUTO" indicator is shown on the display. If it is not, use the procedures under "Selecting Auto or Manual Memory Measurement" to select auto memory measurement.
2. Hold down (D) until the watch emits a short beep, indicating the start of the measurement.

- The data measured when you first start auto memory measurement is also stored into memory.
- The "AUTO" indicator flashes on the display when you start auto memory measurements. The "AUTO" indicator continues to flash (indicating that measurements continue) even if you change modes.
- Auto memory measurement cuts off automatically whenever there are 49 sets of data stored in memory. The 50th set of data is that measured when the operation cuts off.

- To stop measurements at any point, hold down (D) again until the watch emits a short beep.
 - A final measurement is taken when you switch auto memory measurement off, and that data is also stored into memory. Such data is indicated by "FIN" during the recall operation (page 27).

Using Manual Memory Measurement

Manual memory measurement indicator

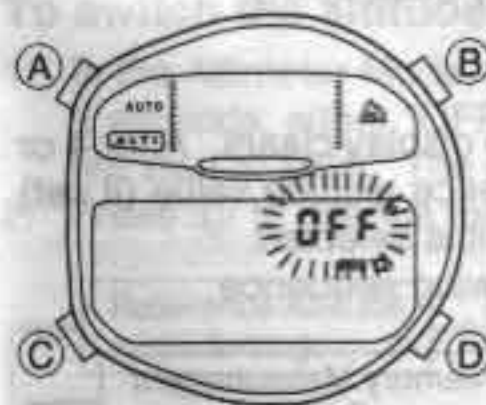


- Confirm that the "MANUAL" indicator is shown on the display. If it is not, use the procedures under "Selecting Auto or Manual Memory Measurement" to select manual memory measurement.
- Hold down (D) until the watch emits a short beep, indicating that a measurement is taken.
- Repeat step 2 whenever you want to take a reading.

- Button operation becomes impossible during the 4 or 5 seconds that it takes to complete a measurement. Normal operation will return once the operation is finished.

5-5 Setting a Reference Altitude

After you set a reference altitude, the watch automatically calculates the difference between the current altitude and your preset value. The altitude measurements produced by this watch are subject to error caused by changes in atmospheric pressure. Because of this, we recommend that you set the reference altitude during your climb whenever one is available.



- In the Altimeter Mode, hold down (A) until the display clears. After 4 or 5 seconds, either "OFF" or the current reference altitude value (if set) will start to flash. The data flashes because it is selected.
 - The "OFF" indicator appears when the factory setting is being used for the calibration.
- Press (D) to increase the current reference altitude value by 5 m or (B) to decrease it. Holding down either button changes the value at high speed.
 - If you have selected feet as your unit of measurement, the above operations change the reading in increments of 20 feet.
 - You can set the reference altitude within the range of -6,000 m to 6,000 m (-19,680 feet to 19,680 feet).
 - Pressing (B) and (D) at the same time returns to the "OFF" message.
- After setting the reference altitude you want, press (A) to return to the Altimeter Mode.

5-6 About the Altitude Alarm

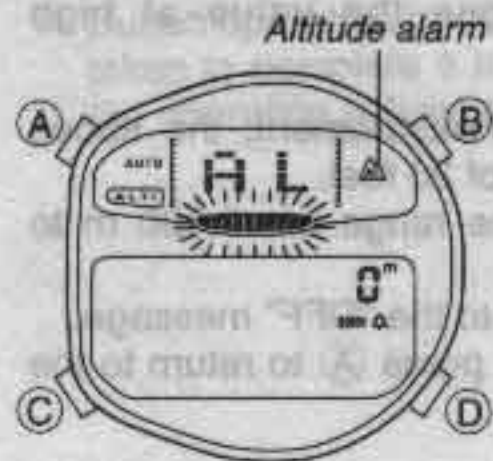
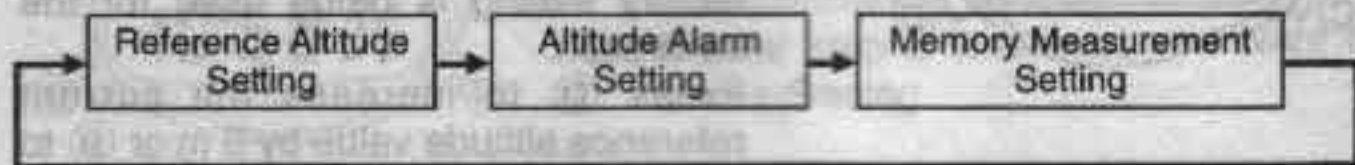
The altitude alarm sounds for about five seconds whenever the current altitude matches a preset value. You can press any button to stop the alarm after it starts to sound.

Example

If you set the altitude alarm at 130 meters, it will sound when you pass the 130-meter mark on your way up and on your way back down.

To set the altitude alarm

1. In the Altimeter Mode, hold down (A) until the display clears. After 4 or 5 seconds, either "OFF" or the current reference altitude value (if set) will start to flash. The data flashes because it is *selected*.
2. Press (C) to change the selection in the following sequence.

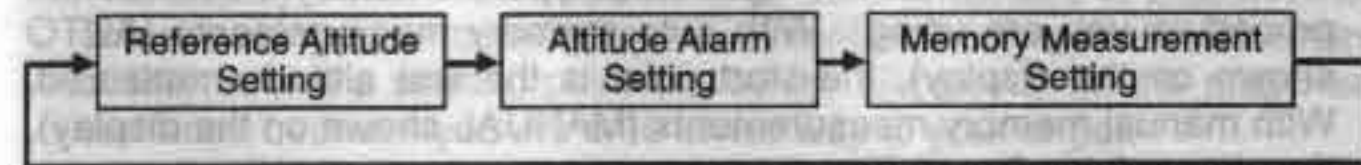


3. Press (C) to select the altitude alarm setting display (indicated by the "AL" indicator).
4. Press (D) to increase the current altitude value by 5 m or (B) to decrease it. Holding down either button changes the value at high speed.

- If you have selected feet as your unit of measurement, the above operations change the setting in increments of 20 feet.
 - You can set the reference altitude within the range of -6,000 m to 6,000 m (-19,680 feet to 19,680 feet).
 - Setting an altitude value automatically switches the altitude alarm on.
5. After setting the altitude alarm value, press (A) to return to the Altimeter Mode.

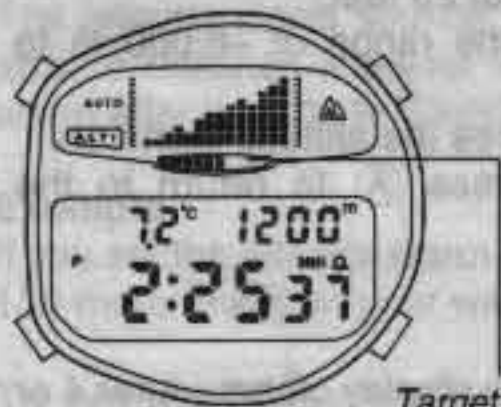
To switch the altitude alarm Off

1. In the Altimeter Mode, hold down (A) until the display clears. After 4 or 5 seconds, either "OFF" or the current reference altitude value (if set) will start to flash. The data flashes because it is *selected*.
2. Press (C) to change the selection in the following sequence.



3. Press (C) to select the altitude alarm setting display (indicated by the "AL" indicator).
4. Press (D) and (B) at the same time to change the setting to "OFF" and switch the altitude alarm off.
5. After switching the altitude alarm off, press (A) to return to the Altimeter Mode.

5-7 About the Target Altitude Graph



Target altitude graph

The Target Altitude Graph divides the difference between your start point* altitude and the value you set for the altitude alarm into 10 equal parts. It then shows a graph that shows your current location, to give you some idea of how much farther you must go to reach your altitude setting.

- * The start point differs according to what type of memory measurement procedure you are using. With auto memory measurements (AUTO shown on the display), the start point is the first altitude measured. With manual memory measurements (MANUAL shown on the display), the start point is 0 m (0 ft).
- The target altitude graph is not shown on the display if the altitude alarm is off.

Example:

- The display below would appear at a current altitude of 160 m when you are using manual memory measurement with a target altitude setting of 200 m. Eight points on the graph are darkened because you are 8/10 of the way to your target.



This indicator "▶" appears once you pass the target altitude.

- The display below would appear at a current altitude of 160 m when you are using auto memory measurement with a target altitude setting of 200 m and a starting point of 100 m. Six points on the graph are darkened because you are 6/10 of the way to your target.

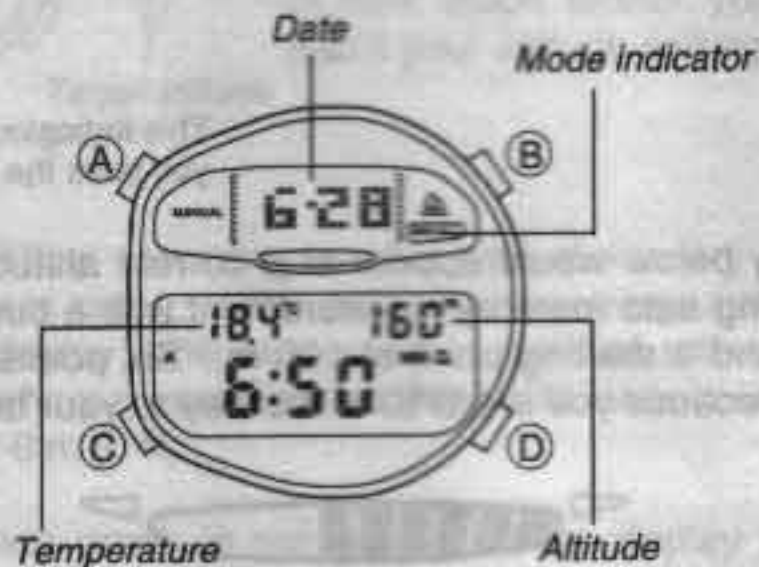


5-8 About memory data

Use the following procedures to recall measurement data stored in memory.

To scroll through data items

1. Use (C) to enter the Recall Mode.
2. Press (D) to scroll forward through the stored data items or (B) to scroll backward.
 - Holding down either button scrolls through the data items at high speed.
 - The data item that is displayed when you exit the Recall Mode is still displayed the next time you enter the Recall Mode.

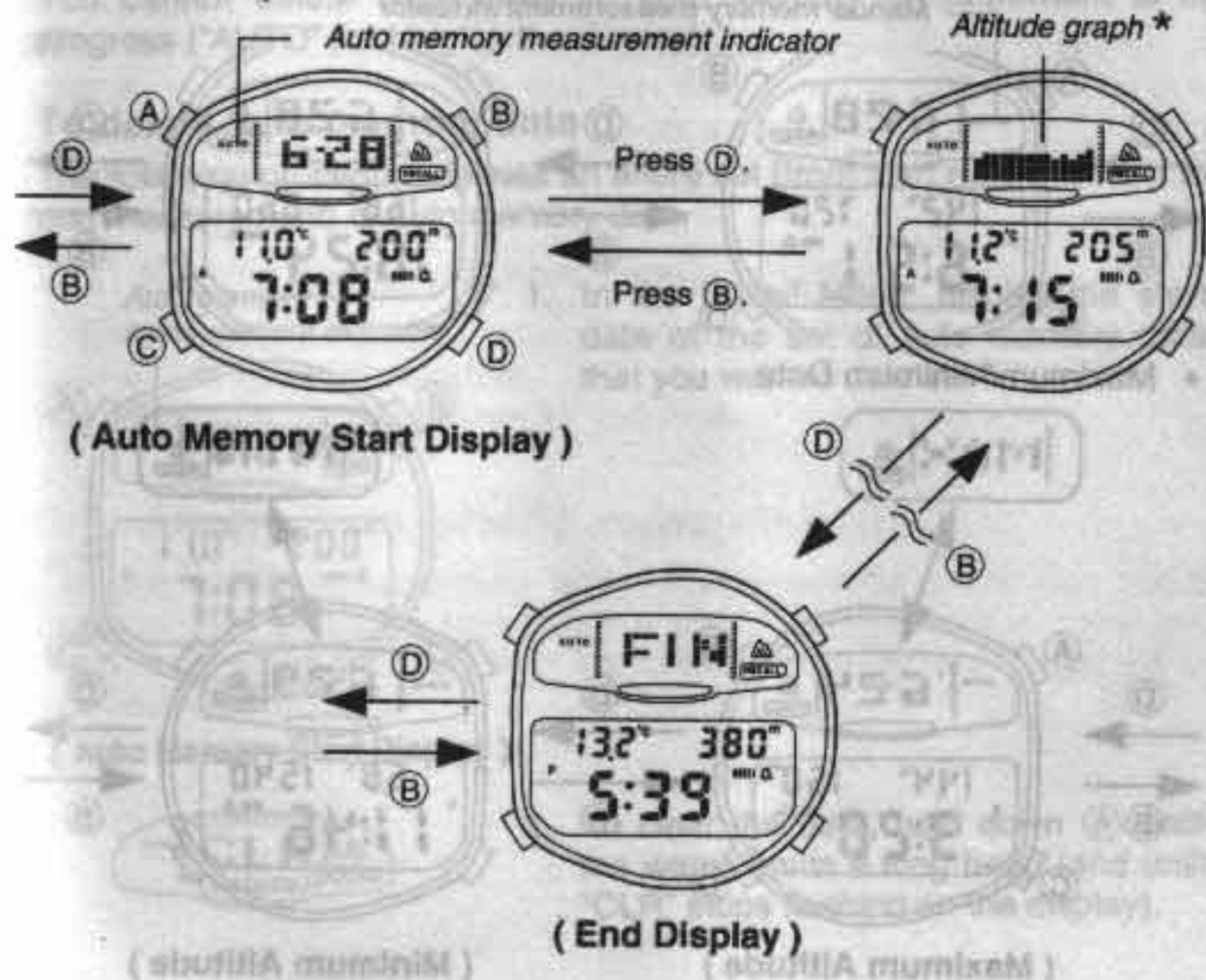


- Measured data is stored in memory even if an error occurs during the measurement. For details on errors, see **8 ERROR WARNING FUNCTION**.

About the memory data display

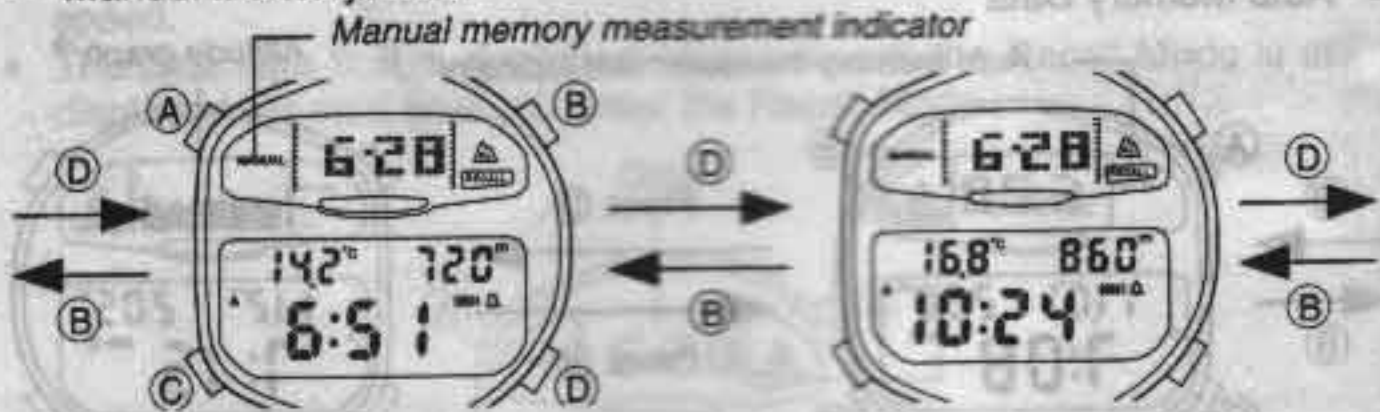
Data stored in memory appears in one of the formats shown below, depending on the measurement method (auto or manual), or whether it is the maximum or minimum reading.

- Auto Memory Data

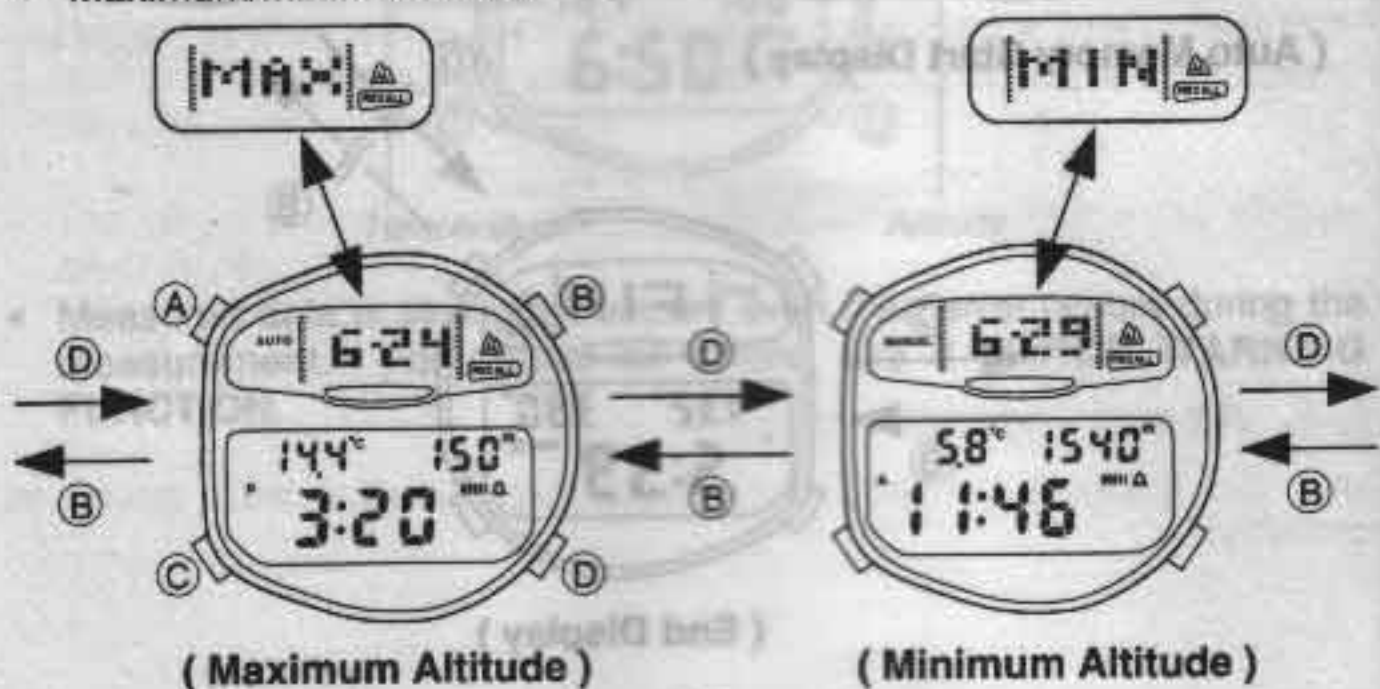


- * An altitude graph appears on place of the month and date for the display of data between the start and end data. The altitude graph divides by 10 the difference between the maximum and minimum altitudes achieved during the auto memory measurement, and shows relative changes.

- Manual Memory Data



- Maximum/Minimum Data



Deleting Data

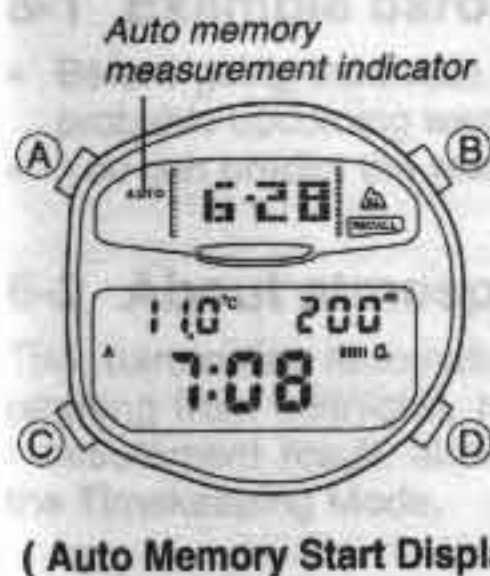
Delete data in the Recall Mode. The actual procedure you should use to delete data depends on the type of data it is.

Important

You cannot delete data while an auto memory measurement is in progress ("AUTO" flashing on the display).

To delete auto memory data

The following procedure deletes an entire set (from start measurement to end measurement) of auto memory data.



1. In the Recall Mode, display the start data of the set of auto memory data that you want to delete.

2. To clear the data, hold down (A) until the watch emits a long beep (and until "CLR" stops flashing on the display).

To delete manual memory, maximum, and minimum data

1. In the Recall Mode, display the data that you want to delete.
2. To clear the data, hold down (A) until the watch emits a long beep (and until "CLR" stops flashing on the display).

Important
You cannot delete data while an alarm or stopwatch is in progress (ALARM flashing on the display).

To delete auto memory data
The following procedure deletes all auto memory data and restores (AUTO) flashing on the display.

1. In the Recall Mode, display the data of the set of auto memory data that you want to delete (maximum, minimum, and manual).



6

BAROMETER FUNCTIONS

This watch uses a pressure sensor to measure atmospheric pressure. It can be adjusted to correct for measurement error.

Important !

The barometer that is built into this watch measures changes in atmospheric pressure, which you can then apply to your own weather predictions. It is not intended for use as a precision instrument in official weather prediction or reporting applications.

6-1 Example barometer applications

- Before going mountain climbing, you can take readings to find out the probable upcoming weather.
- You can predict the weather for golf or other outdoor activities.

6-2 About atmospheric measurements

The barometer automatically takes measurements every two hours (starting from midnight), regardless of what mode you are in. The last measurement result, along with the current temperature is displayed in the Timekeeping Mode.

6-3 Understanding the barometer display

1. Use **(C)** to enter the Timekeeping Mode.
2. Press **(D)** to display the Atmospheric Pressure/Temperature Display.

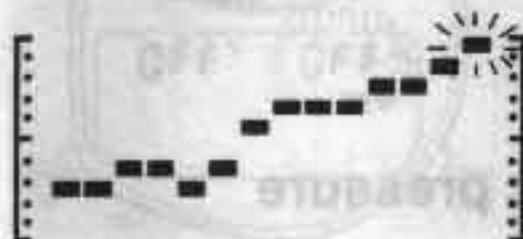


(Atmospheric Pressure/Temperature Display)

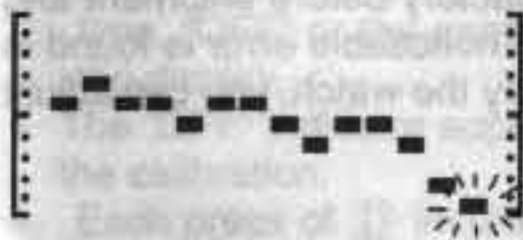
- *1 The atmospheric pressure graph shows the atmospheric readings for the past 26 hours. The flashing point on the right of the display is the point for the last measurement.
- *2 The display shows "---- mb" (or inHg) if a measured value falls outside the range of 460 mb to 1100 mb (13.55 inHg to 32.45 inHg). The normal display will return as soon as the pressure returns within the allowable range.

Using the atmospheric pressure graph

Changes in atmospheric pressure are caused by changes in the weather and temperature. The following shows how to interpret the data that appears on the atmospheric pressure graph.

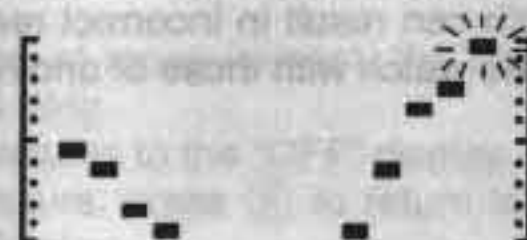


A rising graph generally means better weather.



A falling graph generally means deteriorating weather.

Note that if there are sudden changes in weather or temperature, the graph line of past measurements may run off the top or bottom of the display. The entire graph will become visible once atmospheric conditions stabilize.



The following conditions cause the atmospheric pressure measurement to be skipped, with the corresponding point on the atmospheric pressure graph being left blank.

- Atmospheric reading that is out of range (460 mb to 1100 mb/13.55 inHg to 32.45 inHg)
- Sensor malfunction
- Dead battery

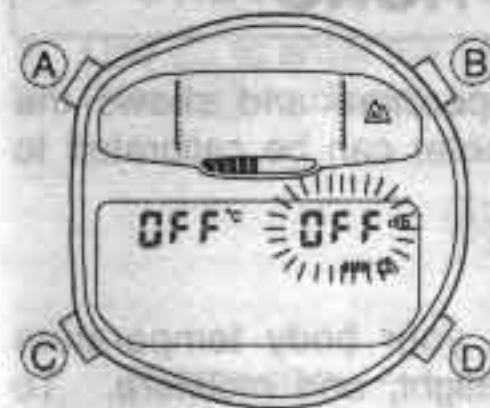
6-4 Calibrating the atmospheric pressure measurement

The sensor of this watch is calibrated at the factory before shipment and further adjustment is normally not required. If noticeable error is found in the atmospheric pressure readings produced by the watch, you can adjust it to correct the error.

Important

Incorrectly calibrating the atmospheric pressure measurement of this watch can result in incorrect readings. Compare the readings produced by the watch with those of another reliable, accurate barometer.

To calibrate the atmospheric pressure



1. Display the atmospheric pressure and temperature in the Timekeeping Mode.
2. Hold down (A) until the display clears. "OFF" or the atmospheric pressure value should be flashing on the display.

3. Press (C) to show the atmospheric pressure calibration display. At this time, "OFF" or the atmospheric pressure value should be flashing on the display.
 - The "OFF" indicator appears when the factory setting is being used for the calibration.
4. Each press of (D) increases the displayed atmospheric pressure by 1 mb, while pressing (B) decreases it. Holding down either button changes the value at high speed.
 - If you have selected inHg as your unit of measurement, the above operations change the reading by 0.05 inHg.
 - Pressing (B) and (D) at the same time returns to the "OFF" display.
5. After calibrating the atmospheric pressure, press (A) to return to the Temperature/Atmospheric Pressure Display.
 - If you do not operate any button for a few minutes while the atmospheric pressure digits are flashing, the flashing stops and the watch goes back to the Temperature/Atmospheric Pressure Display.

A built-in temperature sensor measures temperature and shows the measured value on the display. The thermometer can be calibrated to correct for errors.

Important

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

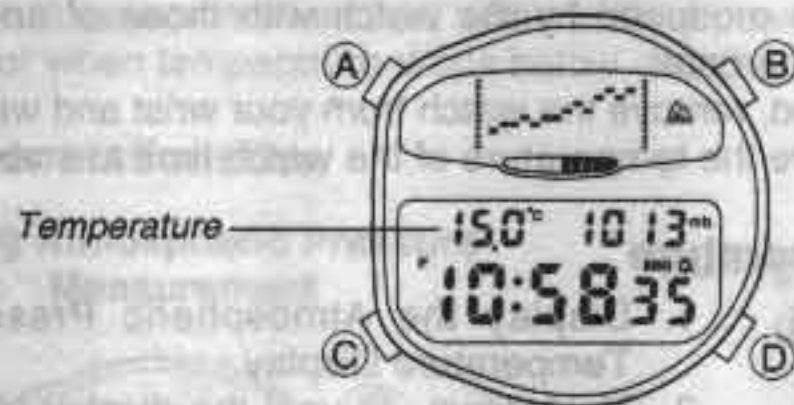
7-1 About temperature measurements

Temperature measurements are taken automatically every five minutes, regardless of what mode the watch is in. Measured temperature values can be viewed in the Timekeeping or Altimeter Modes. Temperature measurements are taken every five seconds for the first five minutes after you display the Timekeeping Mode's atmospheric pressure/temperature display, or after you enter the Altimeter Mode. After that, temperature measurements are taken every five minutes.

- Temperature measurement data can be recalled along with altitude measurement data. For details, see page 26.

7-2 Understanding the temperature display

1. Use **(C)** to enter the Timekeeping Mode.
2. Press **(D)** to display the Atmospheric Pressure/Temperature Display.



(Atmospheric Pressure/Temperature Display)

- The display shows "---- °C" (or °F) if a measured value falls outside the range of -20°C to 60°C (-4°F to 140°F). The normal display will return as soon as the temperature returns within the allowable range.
- For details on viewing the temperature in the Altimeter Mode, see "5-3 Understanding the altimeter display" on page 14.

7-3 Calibrating the temperature measurement

The temperature sensor of this watch is calibrated at the factory before shipment and further adjustment is normally not required. If noticeable error is found in the temperature readings produced by the watch, you can adjust it to correct the error.

Important

Incorrectly calibrating the temperature measurement of this watch can result in incorrect readings. Carefully read the following before doing anything.

- Compare the readings produced by the watch with those of another reliable, accurate thermometer.
- If adjustment is required, remove the watch from your wrist and wait for 20 or 30 minutes to give the temperature of the watch time to stabilize.

To calibrate the temperature



1. Display the Atmospheric Pressure/Temperature Display.
2. Hold down (A) until the display clears. "OFF" or the temperature value should be flashing on the display.
 - The "OFF" indicator appears when the factory setting is being used for the calibration.

3. Each press of (D) increases the displayed temperature pressure by 1°C while pressing (B) decreases it. Holding down either button changes the value at high speed.
 - If you have selected Fahrenheit as your unit of measurement, the above operations change the reading by 0.2°F.
 - Pressing (B) and (D) at the same time returns to the "OFF" display.
4. After calibrating the temperature, press (A) to return to the Temperature/Atmospheric Pressure Display.
 - If you do not operate any button for a few minutes while the temperature digits are flashing, the flashing stops and the watch goes back to the Temperature/Atmospheric Pressure Display.

8

ERROR WARNING FUNCTION

This watch is designed to automatically stop taking measurements when there is a sensor malfunction, when battery power drops below a certain level, or when temperature drops below -10°C (14°F).

Sensor malfunction

During Atmospheric Pressure Measurement



During Altitude Measurement



ERROR

Low battery or Low temperature

During Atmospheric Pressure Measurement



During Altitude Measurement



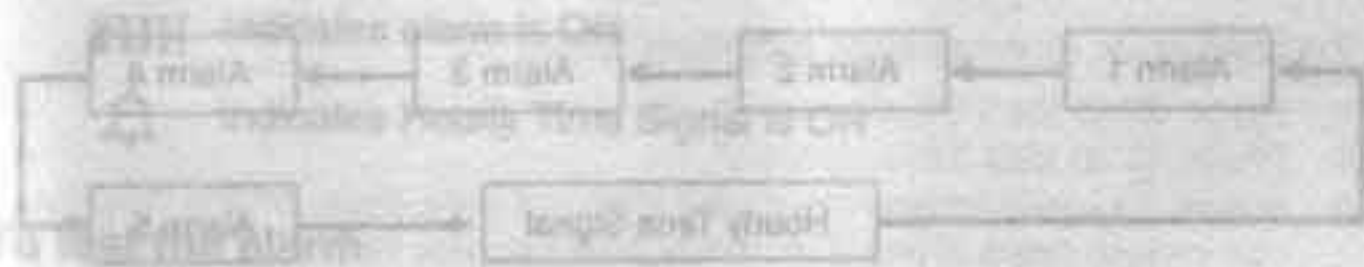
Important

- When a sensor malfunction initially occurs, the "ERROR" message flashes and a buzzer sounds for three seconds.
- If the sensor is malfunctioning when it comes time for an atmospheric pressure measurement to be taken, the atmospheric pressure value appears as "----" on the display and the corresponding point on the atmospheric pressure graph is left blank.
- There may be cases where the "ERROR" or "BATTERY" message is cleared once you change modes. In this case, you can continue using the watch normally unless the error warning message reappears.

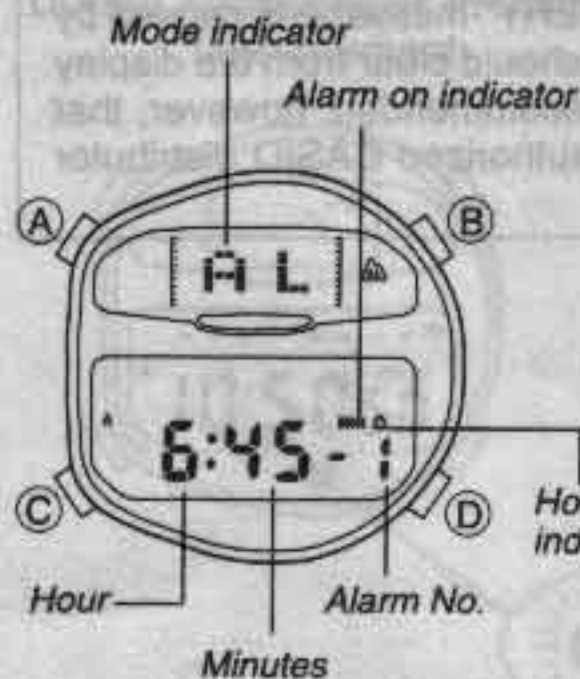
Whenever there is a sensor malfunction, be sure to take the watch to an authorized CASIO distributor or Service Center as soon as possible. If the appearance of the "BATTERY" message is caused by extremely low temperature, the message should clear from the display when normal temperature returns. It is recommended, however, that you still have the watch checked by an authorized CASIO distributor or Service Center.

To switch an alarm or the Hourly Time Signal on/off

1. In the Alarm Mode, press [A] to select an alarm or the Hourly Time Signal.
2. When the alarm or Hourly Time signal is on, press [A] to turn it off.



9 ALARM FUNCTIONS

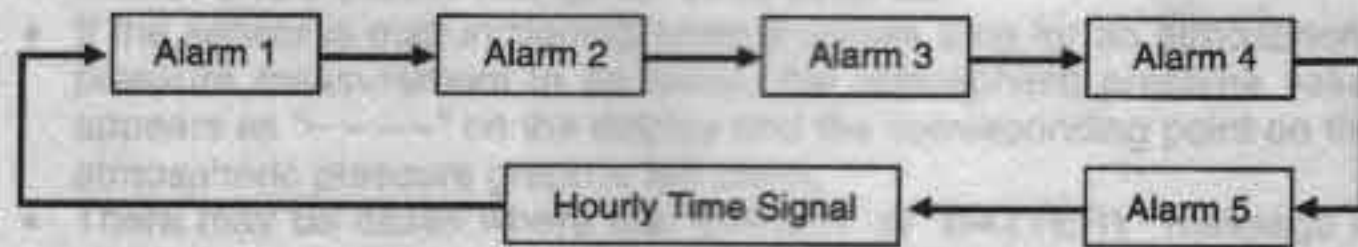


Five independent daily alarms can be set. Each alarm lets you set the hours and minutes. When the Daily Alarm is on, the alarm sounds for 20 seconds at the preset time each day. Press any button to stop the alarm after it starts to sound.

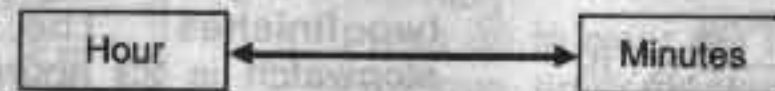
When the Hourly Time Signal is on, the watch beeps every hour on the hour.

To set alarms

1. Use (C) to enter the Alarm Mode.
2. Press (D) to select Alarm 1 through 5.



3. After you select an alarm, hold down (A) until the hours digits flash on the display. The hours digits flash because they are selected. At this time, the alarm is automatically switched on.
4. Press (C) to change the selection in the following sequence.



5. Press (D) to increase the selected digits and (B) to decrease them. Holding down either button changes the selection at high speed.
 - The format (12-hour and 24-hour) of the alarm time matches the format you select for normal timekeeping.
 - When setting the alarm time using the 12-hour format, take care to set the time correctly as morning (AM) or afternoon (PM).
6. After you set the alarm, press (A) to return to the Alarm Mode.

To switch an alarm or the Hourly Time Signal on and off

1. In the Alarm Mode, press (D) to select an alarm or the Hourly Time Signal.
2. When the alarm or Hourly Time Signal you want to is selected, press (B) to switch it on and off.

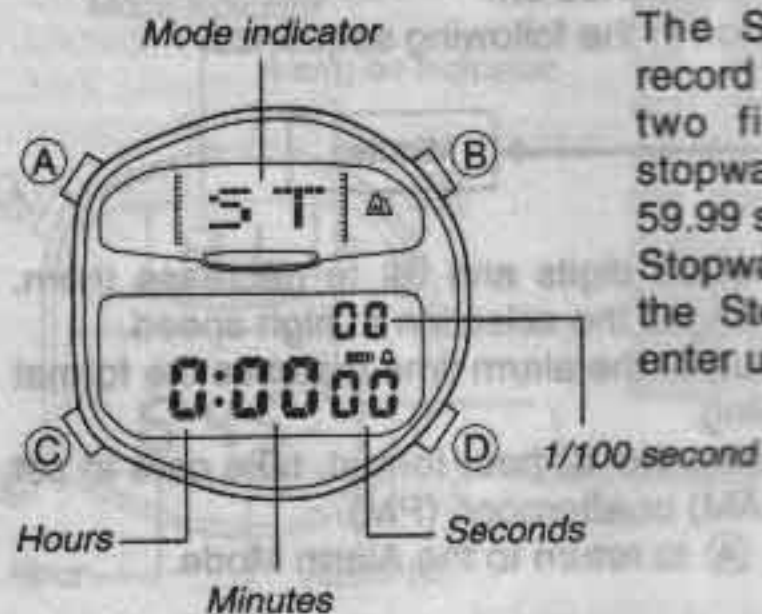
||||| Indicates alarm is ON

🔔 Indicates Hourly Time Signal is ON

To test the alarm

Hold down (D) while in the Alarm Mode to sound the alarm.

STOPWATCH FUNCTIONS



The Stopwatch Functions let you record elapsed time, split times, and two finishes. The range of the stopwatch is 23 hours, 59 minutes, 59.99 seconds.

Stopwatch functions are available in the Stopwatch Mode, which you can enter using (C).

To measure elapsed time

1. Press (D) to start the stopwatch.
2. Press (D) to stop the stopwatch.
3. Press (B) to clear the stopwatch to 0:00 00 00.

To measure cumulative elapsed time.

1. Press (D) to start the stopwatch.
2. Press (D) to stop the stopwatch.
3. Press (D) again to resume timing from the time show on the display. You can repeat steps 2 and 3 as many times as you like.
4. Press (B) to clear the stopwatch to 0:00 00 00.

To record split times



(Split Time Display)

1. Press (D) to start the stopwatch.
2. Press (B) to display the timing up to that point. Stopwatch timing continues internally.
3. Press (B) to clear the split time and to continue time measurement on the display.
 - You can repeat steps 2 and 3 as many times as you want.
4. Press (D) to stop the time measurement.
5. Press (B) to clear the stopwatch to 0:00 00 00.

To time first and second place finishes

1. Press (D) to start the stopwatch.
2. Press (B) when the first finisher crossed the line, and record the time.
3. Press (D) when the second finisher cross the line.
4. Press (B) to display the finishing time of the second finisher.
5. Press (B) again to clear the stopwatch to 0:00 00 00.

ABOUT ALTITUDE AND ATMOSPHERIC PRESSURE MEASUREMENTS

Altimeter

Generally, atmospheric pressure and temperature decrease as altitude increases. This watch bases its altitude measurements on International Standard Atmosphere (ISA) values stipulated by the International Civil Aviation Organization (ICAO), which define relationships between altitude, atmospheric pressure, and temperature.

ALTITUDE	ATMOSPHERIC PRESSURE	TEMPERATURE
6000 m	472 mb	-24°C
5500 m	540 mb	-17.5°C
5000 m		
4500 m	616 mb	-11°C
4000 m		
3500 m	701 mb	-4.5°C
3000 m		
2500 m	795 mb	2°C
2000 m		
1500 m	899 mb	8.5°C
1000 m		
500 m	1013 mb	15°C
0 m		

About 6.7 mb per 100 m (between 6000m and 5000m)
 About 7 mb per 100 m (between 5000m and 4000m)
 About 8 mb per 100 m (between 4000m and 3000m)
 About 9 mb per 100 m (between 3000m and 2000m)
 About 10 mb per 100 m (between 2000m and 1000m)
 About 11 mb per 100 m (between 1000m and 500m)
 About 12 mb per 100 m (between 500m and 0m)

About 6.5°C per 1000 m (between 0m and 6000m)

Source: International Civil Aviation Organization

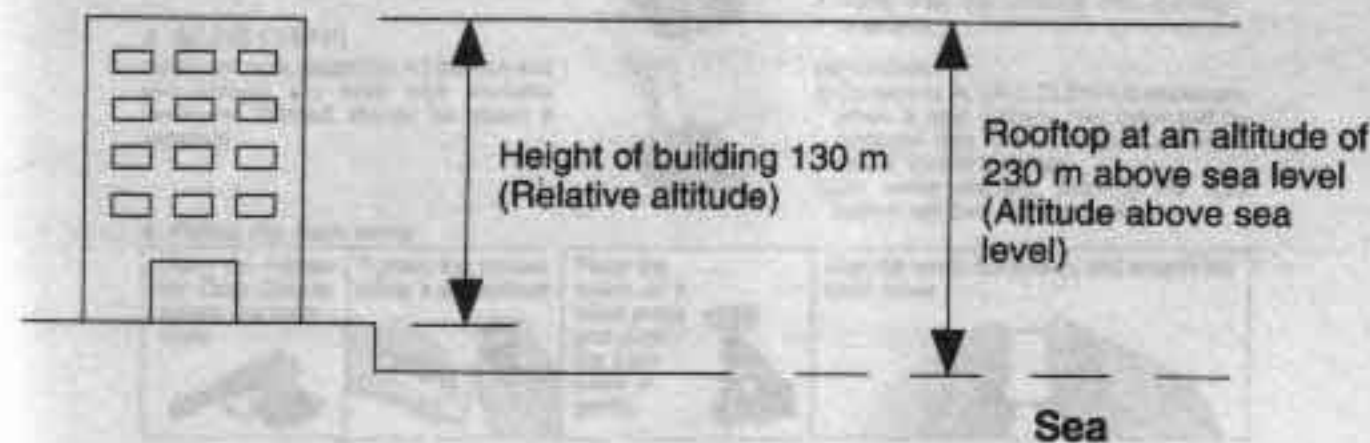
ALTITUDE	ATMOSPHERIC PRESSURE	TEMPERATURE
20000 ft	13.76 inHg	-12.2°F
18000 ft	16.22 inHg	2.0°F
16000 ft		
14000 ft	19.03 inHg	16.2°F
12000 ft		
10000 ft	22.23 inHg	30.5°F
8000 ft		
6000 ft	25.84 inHg	44.7°F
4000 ft		
2000 ft	29.92 inHg	59.0°F
0 ft		

About 0.119 inHg per 200 ft (between 20000ft and 18000ft)
 About 0.1315 inHg per 200 ft (between 18000ft and 16000ft)
 About 0.15 inHg per 200 ft (between 16000ft and 14000ft)
 About 0.17 inHg per 200 ft (between 14000ft and 12000ft)
 About 0.192 inHg per 200 ft (between 12000ft and 10000ft)
 About 0.21 inHg per 200 ft (between 10000ft and 8000ft)

About 3.6°F per 1000 ft (between 0ft and 20000ft)

Source: International Civil Aviation Organization

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 difference places.



Barometer

Barometric pressure indicates changes in the atmosphere, and by monitoring these changes you can predict the weather with reasonable accuracy. Rising atmospheric pressure indicates good weather, while falling pressure indicates deteriorating weather conditions.

The atmospheric pressures that you see in the newspaper and on the TV weather report are measurements corrected to values measured at 0 m sea level.

12






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

Screw-in type	Screwed type	Snap-on type (A)	Snap-on type (B)	Snap-on type (C)
				

2. Removing the back cover Place the watch on soft material, like buckskin, and hold it firmly.

<p>With the Adjustable Case Opener, turn the back cover counter-clockwise.</p> 	<p>Using a screwdriver, remove the screws from the back cover.</p> 	<p>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.</p> <p>Case Opener A</p> 	<p>Fit Case Opener B into the notch and pry open the back cover.</p> <p>Case Opener B</p> 	<p>Insert Opener B into a gap between the two hooks, and pry open the back cover.</p> <p>Avoid inserting the case opener at the hook position, or the case may be damaged.</p> <p>Case Opener B</p> 
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BATTERY LIFE: 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.

3. Replacing the battery

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



4. AC (AC CLEAR)

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



CAUTION

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

IMPORTANT

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

5. Fitting the back cover

<p>Using the Adjustable Case Opener, tighten the back cover.</p> 	<p>Tighten the screws, using a screwdriver.</p> 	<p>Place the watch on a hand press and push the back cover in gently.</p> 	<p>Hold the watch horizontally and snap-fit the back cover.</p> 
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Accuracy at normal temperature: ± 15 seconds a month

Timekeeping Function: Hour, minutes, seconds, am/pm, year, month, date, day of the week (Full-auto calendar; 1990 to 2029)

Altimeter Functions

Measuring range: 0 m to 6000 m (or 0 ft. to 19680 ft.)

Display range: -6000 m to 6000 m (or -19680 ft. to 19680 ft.)

Negative values can be caused by readings produced based on a reference altitude or because of atmospheric conditions.

Display unit: 5 m (or 20 ft.)

Measurement Timing: Every 5 seconds for the first 5 minutes, followed by measurements every 2 minutes.

Other: Auto/Manual memory measurements (up to 50 sets of data, each set including altitude, temperature, month, date, time); reference altitude setting; altitude alarm

Barometer Functions

Measuring range: 460 mb to 1100 mb (or 13.55 inHg to 32.45 inHg)

Display range: 460 mb to 1100 mb (or 13.55 inHg to 32.45 inHg)

Display unit: 1 mb (or 0.05 inHg)

Measurement Timing: Every 5 seconds for the first 5 minutes, followed by measurements every 2 hours.

Other: Calibration



Thermometer Functions

Measuring range: -20°C to 60°C (or -4°F to 140°F)

Display range: -20°C to 60°C (or -4°F to 140°F)

Display unit: 0.1°C (or 0.2°F)

Measurement Timing: Every 5 seconds for the first 5 minutes, followed by measurements every 5 minutes.

Other: Calibration

Pressure sensor precision

	Altimeter	Barometer
Fixed Temperature	\pm (altitude differential \times 5.0% + 30 m) max. \pm (altitude differential \times 5.0% + 100 ft.) max.	\pm (pressure differential \times 5.0% + 3 mb) max. \pm (pressure differential \times 5.0% + 0.0885 inHg) max.
Effect of Variable Temperature	\pm 100 m every 10°C \pm 330 ft. every 18°F	\pm 10 mb every 10°C \pm 0.295 inHg every 18°F

Source: International Civil Aviation Organization

- Values are guaranteed for a temperature range of -20°C to 40°C (-4°F to 104°F).
- Precision is lessened by strong impact to either the watch or the sensor, and by temperature extremes.

Temperature sensor precision: $\pm 2^{\circ}\text{C}$ ($\pm 3.6^{\circ}\text{F}$) in range of -20°C to 60°C (-4°F to 140°F)

Alarm Functions: 5 daily alarm, hourly time signal

Stopwatch Functions

Measuring capacity: 23 hours 59 minutes 59.99 seconds

Measuring unit: 1/100 of a second

Measuring modes: Elapsed time, split time, two finishes

Micro-light

Battery: One lithium battery (Type: CR2025)

Battery life: Two years under the following conditions:

- 1 second light operation per day
- 20 seconds alarm operation per day
- Approximately 10 hours of mountain climbing, once per month
- 8 normal (5 minutes each) measurement per month
- 4 altitude alarm operations (5 seconds each) per month

Español