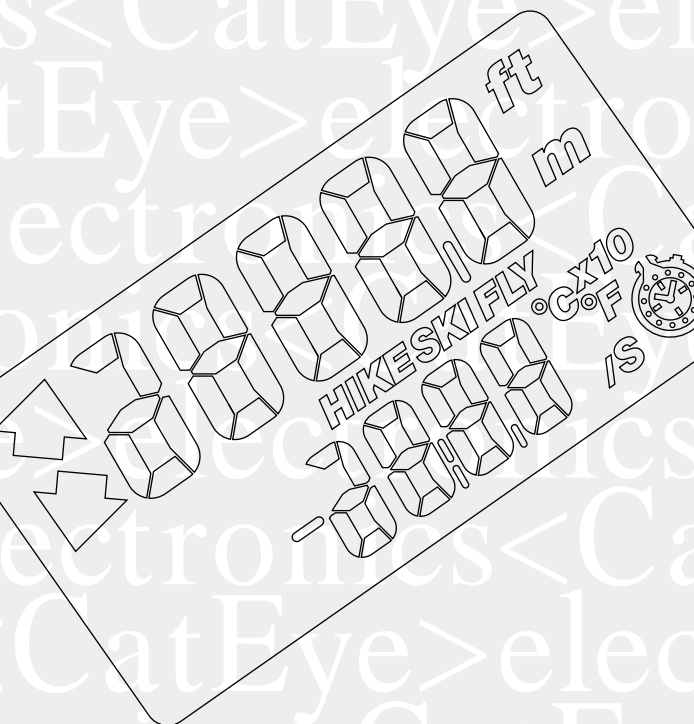




MULTISPORTS ALTIMETER

AT-110

マルチスポーツアルティメータ
ALTIMETRE MULTISPORT
MULTI-SPORT-HÖHENMESSER



MULTISPORTS ALTIMETER





MULTISPORTS ALTIMETER MODEL AT-110

Instruction Manual

INTRODUCTION

Thank you for purchasing CATEYE Model AT-110.

This altimeter is designed to help quantify altitude data for vertical sports such as, skiing, hiking, climbing, mountaineering, hang-gliding, parasailing, ballooning, sail-planing and sky-surfing, etc. The patented temperature compensated pressure captures atmospheric pressure and gives accurate altitude reading in 1 meter or 5 foot resolution. Three types of measuring mode (Hike, Ski and Fly) allow for meaningful data collection for each sport. The screen has an EL (electro-luminescent) backlight for night viewing.



Features:

- Displays altitude with 1 meter or 5 feet resolution up to 6000m or +20,000ft.
- Temperature compensated atmospheric pressure sensor.
- Measures atmospheric temperature.
- Audible and visible alarm in the Fly Mode to easily note any ascent or decent.
- Three types of measuring modes designed for the characteristics of different activities; (Hike, Ski and Fly).
- Shows current altitude in the large display with clock time, temperature, stopwatch, speed of ascend/descend, altitude gain and loss, on the small display.
- Displays LOG-Book data of highest trip altitude, lowest trip altitude, sum of ascends, sum of descends.
- Preserves LOG-Book data in memory even after replacing battery.
- Displays in feet or meters, fahrenheit or celsius.
- EL (electro-luminescent) back-lit screen for viewing data at night.
- Audible beep with each button operation.

Before operating, thoroughly familiarize yourself with this manual so that you understand the functions completely. Please keep this manual, along with the warranty card, for future reference.

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FOR SAFE OPERATIONS (IMPORTANT)

For safe and appropriate use, always observe the following.

Caution:

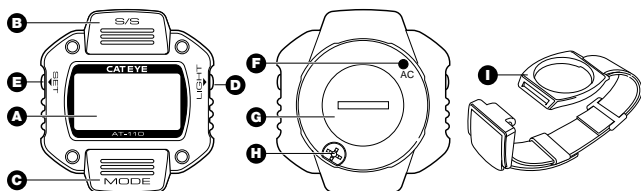


- This altimeter is not intended to be a definitive measuring device.
- Give due consideration to your surroundings. Don't pay too much attention to the data on the screen when using.
- Safely dispose of old batteries. Don't place within reach of children. If swallowed, consult a physician immediately.

Note:

- Please note that atmospheric pressure is effected by the weather. The AT-110 calculates altitude from the changes in atmospheric pressure. Even during stable weather condition, the altitude reading may change as much as 40m or 130ft, over the course of the day.
- Select the best-suited mode for your activity.
- Never disassemble the main unit. It can not be re-assembled.
- The main unit is loaded with highly sensitive components. A strong impact may result in malfunctions.
- Never intentionally submerge the main unit under water. Although the main unit is water-resistant to normal weather conditions it is not designed to be used underwater.
- Don't leave the main unit exposed to direct sunlight for extended periods of time.
- If the main unit is heated by strong direct sunlight, the temperature sensor inside of the main unit may give incorrect temperature readings.
- The atmospheric pressure is continually changing. Thus, the data of the current altitude of one location might fluctuate from day to day depending on the weather.
- The Current altitude should be calibrated (corrected) before each use.
- Sudden temperature change such as moving from inside a heated building to a cold outside can cause temporary incorrect altitude data.
- Static electricity might cause incorrect data.
- In pressurized aircraft the unit will not give a correct altitude.
- If the sensor cover is clogged with mud or sand, it will not measure accurately. Clean according to "Daily Care" instructions.
- If the main unit or accessories/attachments become dirty with mud etc., gently wash with mild soap and wipe dry with a soft cloth. Never apply paint thinner, benzine or alcohol; damage will result.

NAMES

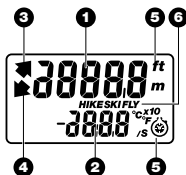


A Display

- 1 Large Display
- 2 Small Display
- 3 Icon of Ascend
- 4 Icon of Descend
- 5 Icon of Scales/Function
- 6 Icon of Mode

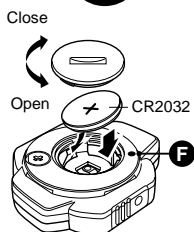
B S/S Button

- C Mode Button
- D Light Button
- E Set Button
- F AC (All Clear) Button
- G Battery Cover
- H Sensor Cover/Filter
- I Wrist Band (Accessory)



PREPARATIONS

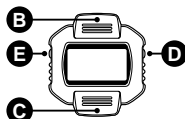
1. Battery Installation



1. Remove the battery cover on the back, with a coin.
 2. Insert a new lithium battery (CR2032) with the (+) pole outward, as illustrated. Close the cover securely.
 3. Press the **F** AC (All Clear) button on the back.
- * Battery Life: approx. 4 months (average use of one hour per day; varies depending on frequency of use)

Note: If the display disappears while press of the **D** Light button, or often shows irregular altitude, replace the battery.

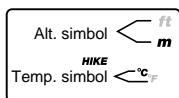
Caution: Dispose of old batteries properly. Keep batteries out of reach of children. If swallowed, consult a physician immediately.



2. Data Scale Set Up

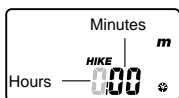
First, press the **F** AC (All Clear) button; the entire display will illuminate and then "m" and "°C" symbols appear. Press the **B** S/S button to chose between "°C" (celsius) and "°F" (fahrenheit). Press the **C** Mode button to chose between "m (meter)" and "ft (feet)". Select the desired scale and press the **E** Set button to fix the scale.

Note: If "°C" (celsius) scale is selected a 24-hour clock is displayed. If "°F" (fahrenheit) is selected a 12-hour clock is displayed.



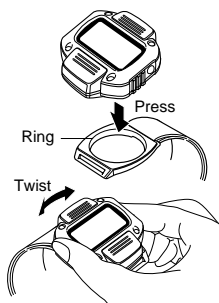
3. Time Set Up

After the data scale is set, the display displays clock set up mode. With each press of the **B** S/S button, the digits for hours increase by one. (To increase rapidly, hold down the button.) Press the **C** Mode button to select the minute digits. Adjust the minutes by pressing the **B** S/S button. Press the **E** Set button to set the time. After the clock time is set, the AT-110 defaults to Hike mode.



4. Attaching Wrist Band

Press the main unit onto the ring of the wrist band. It can be mounted perpendicularly or parallel to the belt. To remove the unit, twist it to the left or the right.

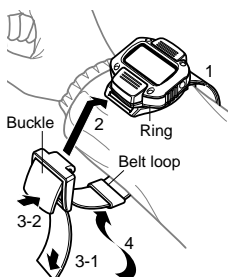


5. Attaching to Your Body

By using a longer mounting belt (option), the unit can also be attached on your leg, not only on your arm.

1. Adjust the belt length tentatively, according to the part to put the unit on. (Make it a bit longer than it looks necessary.)
2. Roll the belt around the part to wear the unit, and hook the buckle on the ring with the buckle lever lifted.
3. Pull the belt end to tighten, and lay down the buckle lever.
4. Pass the belt end through the belt loop.
5. To remove the unit, lift the buckle lever and detach the buckle from the ring.

Note: Lift the buckle lever, when the buckle is attached to/detached from the ring.



HOW TO USE AS AN ALTIMETER

1. Functions and Button Operations

Before Operation:

The initial value of the Current altitude shown on the display may not indicate the correct altitude of your location. First read through this section, and then correct the altitude according to the instructions on page 12.

Modes

This unit has three modes; Hike, Ski and Fly. Each mode has its own characteristics. Select the best-suited mode for your purpose. You can change the mode during use.

Hike Mode: Suitable for hiking, mountaineering, or other general activities with gradual changes in altitude.

Ski Mode: Suitable for skiing, snow-boarding, mountain biking, or other activities where you want to record numbers of runs.

Fly Mode: Suitable for hang-gliding, paragliding, parajumping, skysurfing, ballooning, sail-planing or other sky-sports where there are sudden and significant changes in altitude.

How to Shift From One Mode to Another

Hold down the **E** Set button and the mode shifts from Hike to Ski to Fly.

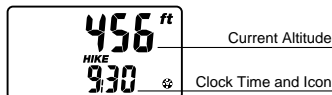


Functions

Each of the three modes has a Main Screen, Sub Functions and LOG-Book Functions.

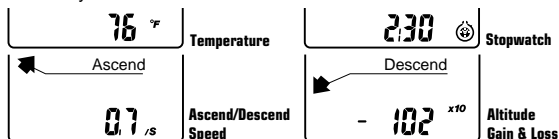
Main Screen:

The Main Screen gives the basic data of current altitude and time of day. It is necessary to be in this Main Screen in order to shift between Sub Functions and LOG-Book Functions.



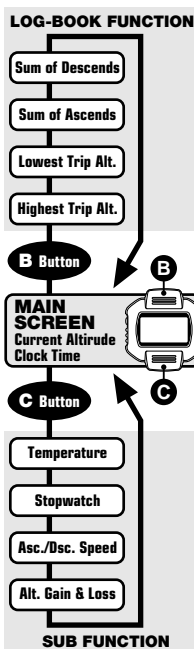
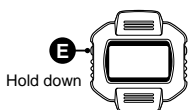
Sub Function:

This function shows current data and conditions, such as temperature, stopwatch, etc. The data appears on the lower display. This data is accessed by pressing the **C** Mode button. The icon tells what data it is being displayed. On the large display, current altitude is always viewed. To return to the Main Screen, press the **B** S/S button in any Sub Function.



LOG-Book Function:

This function shows data stored in memory, such as highest trip altitude, sum of ascends, etc. The data appears on the large display, and the name of the LOG-Book data is indicated on the small display.



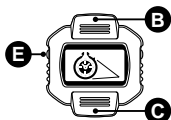
To cycle from one LOG-Book data to another, press the **B** S/S button. To return to the Main screen, press the **C** Mode button in any time.



Highest Trip Altitude Lowest Trip Altitude Sum of Ascends Sum of Descends

* The illustration shows an example of Hike mode.

Using the Stopwatch



In the stopwatch Sub Function the **E** Set button, the stopwatch starts/stops. To reset it to zero, refer to the following reset operation (press the **B** S/S button and **C** Mode button simultaneously). When the stopwatch is active, the stopwatch icon blinks.

Resetting Data



Display the data function you want to reset. Then press the **B** S/S button and **C** Mode button simultaneously. The data resets to zero. If the stopwatch is still active (running), when it is reset, the stopwatch continues counting after returning to 00:00:00.

Note: If this operation is done in the Main screen, the corrected figure of the current altitude is reset. (Refer to page 12 - "Altitude Correction".)

Note: If you are resetting the data of highest trip altitude or lowest trip altitude, firstly the screen shows the largest figure of its range; and then the reset data becomes the same value as the current altitude.

Light Button **D**



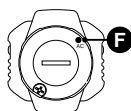
Pressing the **D** Light button will illuminate the EL (electro-luminescent) back-lit screen for approx. 2 seconds.

Set Button **E**

This button is used:

- to shift from one mode to another
- to start/stop the stopwatch
- to calibrate (correct) the current altitude, or to fix the scale/clock time.

AC (All Clear) Button (on the back) **F**



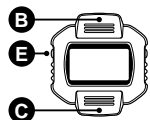
This button is used to set up the programming of the main unit after having replaced the battery, or when irregular display occurs during use. When this button is pressed, all displays illuminate and then only the scale symbols appear. The scale and clock time must be set again according to "PREPARATIONS".

Preserving LOG-Book Data

The LOG-Book data stored in memory in each mode will not be lost even after the **F** AC (All Clear) button is pressed, because the data is preserved in EE-PROM memory. LOG-Book data is cleared when the **B** S/S button and the **C** Mode button are pressed simultaneously and only then is the displayed LOG data reset. EE-PROM calculates the data from when the clock time of your unit passes 0:00 every day.

Power Saving Function

If no buttons are pressed for five minutes, the power saving function automatically starts. To release this function, press either **B** S/S, **C** Mode or **E** Set buttons for more than 1 second. If the unit perceives an altitude change of more than 4 meters or 10 feet, the power saving function is turned off.



- In the power saving function:
 - data of altitude and temperature are still updated every 2 minutes.
- In the standard waking mode:
 - data of altitude is updated every second and temperature is updated every 20 seconds.



HIKE

LOG-BOOK FUNCTION

B **3123 ft**
HIKE dSc x10
Sum of Descends

B **4783 ft**
HIKE aSc x10
Sum of Ascends

B **352 ft**
HIKE ALo
Lowest Trip Altitude

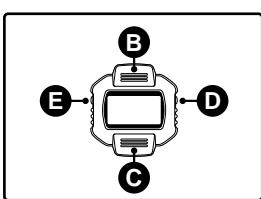
B **4876 ft**
HIKE AHh
Highest Trip Altitude

MAIN SCREEN

Current Altitude
Clock Time

1660 ft
HIKE
9:30

E **CORRECTION OF ACTUAL ALTITUDE**



How to Shift to Another Mode
Hold down **E**

How to Reset the Data
In the Sub/LOG-book Functions
Press **B** and **C** Simultaneously

Shortcut Key
To return to the Main Screen from the LOG-Book Function, press **C** Mode button. To return to the Main Screen from the Sub Function, press **B** S/S button.

SUB FUNCTION

B **1660 ft**
HIKE
76 °F
Temperature

E **1660 ft**
HIKE
2:30
Stopwatch

C **1660 ft**
HIKE
2.3 /s
Ascend/Descend Speed

C **1660 ft**
HIKE
102 x10
Altitude Gain & Loss

2. Hike Mode

This mode is designed for general activities, such as hiking, mountaineering, cross country, etc. Its Sub Function and LOG-Book Function is illustrated as follows:

Characteristics of Hike Mode

- Suitable for general activities, such as hiking, etc.
- Desirable for slow change of altitude.

Data

Main Screen

Current altitude:	Indicates the current altitude (above sea level) of the present spot on the large display, in 1 meter or 5 foot increments.
Clock Time:	Shows the present time on the small display. If the temperature scale is set as "°C" (celsius), the clock reads as a 24-hour clock; if the scale is set as "°F" (fahrenheit), the clock becomes 12-hour clock.

Sub Function (Always displays the current altitude on the large display)

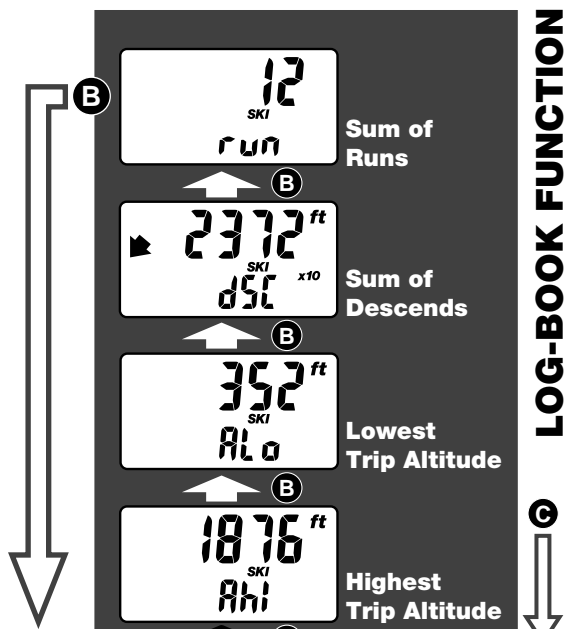
Temperature:	Measures the atmospheric temperature every 20 seconds and displays it on the small display, in 1 degree increment.
Stopwatch:	Shows the elapsed time from its start to the current point. It is displayed in units of minutes and seconds up to ten minutes; and in units of hours and minutes when it exceeds ten minutes. If the AT-110 clock is set as a 24 hour clock, the stopwatch continues to count up to 24 hours. If the clock-time is set as a 12-hour clock, the stopwatch continues to count up to 12 hours.
Ascend/Descend Speed:	Indicates the averaged speed of ascend/descend, in the scale of meter or feet per second, on the small display in increments of 0.1meter per second or 0.3 feet per second.
Altitude Gain & Loss:	Indicates the altitude difference between the start and the current point, on the small display. The figure on the display shows the 1/10 value, so the symbol of "x10" appears.

LOG-Book Function

Highest Trip Altitude: Ah	Indicates the highest altitude ever made since the start to the current point, on the large display "Ah" on the small display stands for "Altitude High".
Lowest Trip Altitude: Al	Indicates the lowest altitude ever made since the start to the current point, on the large display. "Al" on the small display stands for "Altitude Low".
Sum of Ascends: ASC	Indicates the total of ascends (altitude gain) on the large display. The data of descend (altitude loss) is not included. The figure on the display shows the 1/10 value, so the symbol of "x10" appears. "ASC" on the small display stands for "Altitude Sum Count".
Sum of Descends: dSC	Indicates the total of descends (altitude loss) on the large display. The data of ascends (altitude gain) is not included. The figure on the display shows the 1/10 value, so the symbol of "x10" appears. "dSC" on the small display stands for "Descent Sum Count".



SKI



LOG-BOOK FUNCTION

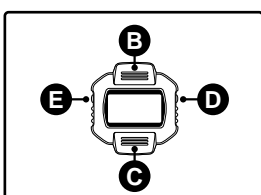
- 12
SKI
run
Sum of Runs
- 2372 ft
SKI x10
dsc
Sum of Descends
- 352 ft
SKI
Alo
Lowest Trip Altitude
- 1876 ft
SKI
Ahi
Highest Trip Altitude

MAIN SCREEN

Current Altitude
Clock Time

1456 ft
SKI
9:30

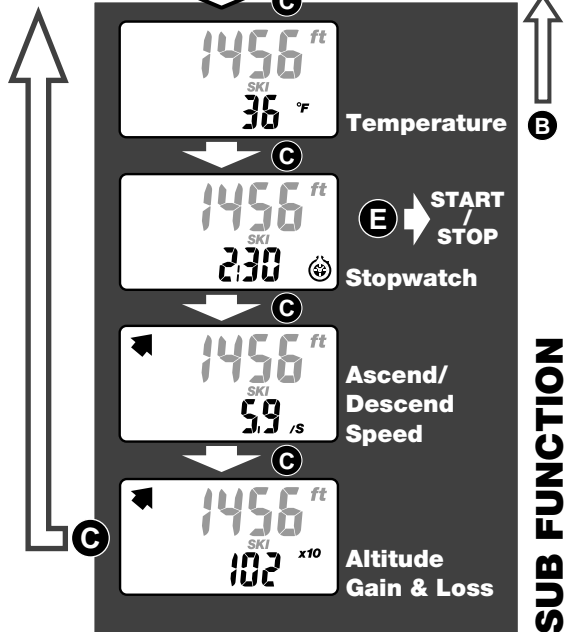
CORRECTION OF ACTUAL ALTITUDE



How to Shift to Another Mode
Hold down **E**

How to Reset the Data
In the Sub/LOG-book Functions
Press Simultaneously **B** and **C**

Shortcut Key
To return to the Main Screen from the LOG-Book Function, press **C** Mode button. To return to the Main Screen from the Sub Function, press **B** S/S button.



SUB FUNCTION

- 1456 ft
SKI
36 °F
Temperature
- 1456 ft
SKI
2:30
Stopwatch
- 1456 ft
SKI
59 /s
Ascend/Descend Speed
- 1456 ft
SKI
102 x10
Altitude Gain & Loss

3. Ski Mode

This mode is designed for the sport activities, such as skiing, snow-boarding, etc. The special feature of this mode is that it counts the number of runs or “sum of runs”. The Sub Function and LOG-Book Function of this mode is illustrated as follows:

Characteristics of Ski Mode

- Suitable for sports that repeat (ascends and descends) runs.
- Desirable for slow change of altitude.

Data

Main Screen

Current altitude:	Indicates the current altitude (above sea level) of the present spot on the large display, in 1 meter or 5 foot increments.
Clock Time:	Shows the present time on the small display. If the temperature scale is set as “°C” (celsius), the clock reads as a 24-hour clock; if the scale is set as “°F” (fahrenheit), the clock becomes 12-hour clock.

Sub Function (Always displays the current altitude on the large display)

Temperature:	Measures the atmospheric temperature every 20 seconds and displays it on the small display, in 1 degree increment.
Stopwatch:	Shows the elapsed time from its start to the current point. It is displayed in units of minutes and seconds up to ten minutes; and in units of hours and minutes when it exceeds ten minutes. If the AT-110 clock is set as a 24 hour clock, the stopwatch continues to count up to 24 hours. If the clock-time is set as a 12-hour clock, the stopwatch continues to count up to 12 hours.
Ascend/Descend Speed:	Indicates the averaged speed of ascend/descend, in the scale of meter or feet per second, on the small display in increments of 0.1meter per second or 0.3 feet per second.
Altitude Gain & Loss:	Indicates the altitude difference between the start and the current point, on the small display. The figure on the display shows the 1/10 value, so the symbol of “x10” appears.

LOG-Book Function

Highest Trip Altitude: Ahi	Indicates the highest altitude ever made since the start to the current point, on the large display. “Ahi” on the small display stands for “Altitude High”.
Lowest Trip Altitude: ALo	Indicates the lowest altitude ever made since the start to the current point, on the large display. “ALo” on the small display stands for “Altitude Low”.
Sum of Descends: dSc	Indicates the total of descends (altitude loss) on the large display. The data of ascends (altitude gain) is not included. The figure on the display shows the 1/10 value, so the symbol of “x10” appears. “dSc” on the small display stands for “Descent Sum Count”.
Sum of Runs: run	Calculates the number of runs, judging from the altitude change, and shows it on the large display. “run” on the small display stands for “Number of Runs”. The AT-110 counts a “run” when a descent of more than 10 meters’ or 30 feet altitude difference is recorded within 20 seconds. Then next run is counted, only when descend is done again after ascend of more than 10 meters’ or 30 feet altitude difference is made within 20 seconds (such as when going up with lift). Thus, a “run” might not be calculated if the ascent is on foot, or slope is gentle.



FLY

LOG-BOOK FUNCTION

B **2877 ft**
dsc^{FLY x10} Sum of Descends

B **3009 ft**
Asc^{FLY x10} Sum of Ascends

B **481 ft**
ALo^{FLY} Lowest Trip Altitude

B **3735 ft**
AHi^{FLY} Highest Trip Altitude

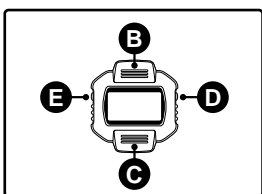
G

MAIN SCREEN

Current Altitude
Clock Time

E **1456 ft**
FLY
9:30

E **CORRECTION OF ACTUAL ALTITUDE**



How to Shift to Another Mode
Hold down **E**

How to Reset the Data
In the Sub/LOG-book Functions
Press Simultaneously **B** **C**

Shortcut Key
To return to the Main Screen from the LOG-Book Function, press **C** Mode button. To return to the Main Screen from the Sub Function, press **B** S/S button.

SUB FUNCTION

B **1456 ft**
FLY
76 °F Temperature

E **START / STOP**

C **1456 ft**
FLY
2:30 Stopwatch

C **1456 ft**
FLY
1:15 /s Vario

C **1456 ft**
FLY
102 x10 Altitude Gain & Loss

4. Fly Mode

This mode is designed for the sports in the air, such as hang-gliding, para-gliding, sky-diving, etc. The special feature of this mode, Vario, quickly finds up-wind channels (ascending currents). Its Sub Function and LOG-Book Function is illustrated as follows:

Characteristics of Fly Mode

- Audible beeps in the Main Screen/Sub Functions allow you to ascent or descent without looking at screen.
- In the Main Screen/Sub Functions, the icon of ascent/descent is always on so that altitude change is easily noticeable.
- Desirable for sudden and sharp change of altitude.

Alarms (in the Main Screen/Sub Function)

- ▲ & beeper : when ascending at a speed faster than +0.25m/s or +0.82f/s
- ▼ : when descending at a speed of faster than -0.25m/s or 0.82f/s
- ▲ ▼ : when ascending/descending within the speed of $\pm 0.25\text{m/s}$ or 0.82f/s

Data

Main Screen

Current altitude: Displays the current altitude of the present location on the large display, in 1 meter or 5 foot increments. The icon of ascend or descend always appears on the display. If there is no change of the altitude, both icons appear.

Clock Time: Shows the present time on the small display. If the temperature scale is set as "°C" (celsius), the clock reads as a 24-hour clock; if the scale is set as "°F" (fahrenheit), the clock becomes 12-hour clock.

Sub Function (Always displays the Current altitude on the large display)

Temperature: Measures the atmospheric temperature every 20 seconds and displays it on the small display, in 1 degree increment.

Stopwatch: Shows the elapsed time from its start to the current point. It is displayed in units of minutes and seconds up to ten minutes; and in units of hours and minutes when it exceeds ten minutes. If the AT-110 clock is set as a 24 hour clock, the stopwatch continues to count up to 24 hours. If the clock-time is set as a 12-hour clock, the stopwatch continues to count up to 12 hours.

Vario: Shows the vertical ascend/descend speed, in the scale of meter or feet per second, on the small display. The increment is 0.5m/s or 1.6f/s and it easily finds the up-wind channels (ascending currents).

Altitude Gain & Loss: Indicates the altitude difference between the start and the current point, on the small display. The figure on the display shows the 1/10 value, so the symbol of "x10" appears.

Note: In the Fly Mode, the icons of ascend/descend signify the different meaning from other modes; refer to "Alarms" on the previous page.

LOG-Book Function

Highest Trip Altitude: Indicates the highest altitude attained since the start to the current point, on the large display. "Ah" on the small display stands for "Altitude High".

Ah

Lowest Trip Altitude: Indicates the lowest altitude ever made since the start to the current point, on the large display. "ALo" on the small display stands for "Altitude Low".

ALo

Sum of Ascends: Indicates the total of ascents (altitude gain) on the large display. The data of descents (altitude loss) is not included. The figure on the display shows the 1/10 value, so the symbol of "x10" appears. "ASC" on the small display stands for "Ascent Sum Count".

ASC

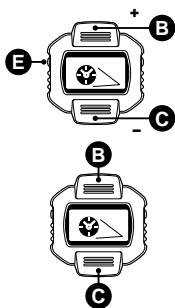
Sum of Descends: Indicates the total of descents (altitude loss) on the large display. The data of ascents (altitude gain) is not included. The figure on the display shows the 1/10 value, so the symbol of "x10" appears. "dSC" on the small display stands for "Descent Sum Count".

dSC

5. Altitude Correction

Atmospheric pressure changes constantly, due to various weather conditions. As AT-110 calculates the altitude from the atmospheric pressure, it is necessary to correct the current altitude in order to get more precise data. It is recommended to make corrections whenever a reliable index (such as topographical map or altitude marker is available.

* The basic knowledge of the altitudes of your home, public facilities, etc. will be useful information for correction.



How to Correct the Altitude

First, display the Main Screen. Then press the **E** Set button, and the altitude digits flash. To increase the figure, press the **B** S/S button; to decrease, press the **C** Mode button. To increase/decrease rapidly, hold down the button. Adjust the figure to the correct altitude, and press the **E** Set button to complete this operation.

Resetting Standard Atmospheric Scale

After adjusting the altitude to compensate for changes in weather, it may be helpful to reset the AT-110 to its preset standard scale. In the Main Screen, press the **C** Mode button and the **E** Set button simultaneously. This resets the AT-110 to Standard Atmosphere (ISO 2533).

BASIC KNOWLEDGE OF ALTITUDE MEASURING

1. Altitude Measuring of AT-110

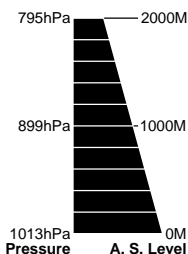
The AT-110 contains a highly sensitive atmospheric pressure sensor. It estimates the altitude by using the "correlation between altitude and pressure" based on the Standard Atmosphere (ISO 2533) of ICAO (International Civil Aviation Organization). Conventional pressure sensors are affected by temperature and will therefore give errors. The AT-110 is temperature-compensated every 20 seconds and records in 1 meter or 5 feet resolution. Also, it offers three types of measuring modes; Hike, Ski and Fly; to give essential altitude data for various sports.

Note: The current altitude data may give an incorrect value temporarily, such as when it is taken out of doors from inside a building. These temporary incorrect readings are to be expected and are not a malfunction. Correct readings will return shortly.

2. The Correlation Between Altitude and Pressure

The higher the altitude gets, the lower the pressure becomes.

At venues of which altitudes are under 500 meters, the pressure decreases by approx. 12hPa per each 100 meters.



A.S.Level	Pressure	A.S.Level	Pressure	A.S.Level	Pressure
4500 m	577 hPa	1000 m	899 hPa	300 m	978 hPa
4000 m	616 hPa	900 m	910 hPa	200 m	989 hPa
3500 m	658 hPa	800 m	921 hPa	100 m	1001 hPa
3000 m	701 hPa	700 m	932 hPa	0 m	1013 hPa
2500 m	749 hPa	600 m	943 hPa	-100 m	1025 hPa
2000 m	795 hPa	500 m	955 hPa	-200 m	1038 hPa
1500 m	845 hPa	400 m	966 hPa	-300 m	1050 hPa

3. Weather and Atmospheric Pressure

Changes in weather from a high pressure system (clearer, calmer weather) to a low pressure system (overcast, rain, storming weather) can cause a change in the altitude reading of 100 meters, 325 feet or more. Thunderstorms or other strong low pressure weather conditions may cause even greater change. Even though the weather appears stable, the pressure may considerably from morning to evening. Even in seemingly stable weather, the morning to evening change can be as much as 30 meters or 100 feet.

TROUBLESHOOTING

If a trouble or malfunction occurs, check the following before seeking technical support.

Trouble/Check Items/Remedy

Buttons do not change the display.

Is the unit in the power saving function?

Press any button for more than 1 second and release this function.

No display appears. Or the display disappears when the **D** Light button is pressed.

Has the battery worn out? Or is it about to wear out?

Replace it with a new one (CR2032). (*After replacing the battery, be sure to press the **F** AC (All Clear) button and to reset the scale and clock time again.)

Incorrect data appears.

Static electricity may cause an incorrect readings.

Press the **F** AC (All Clear) button and reset the scale and clock time again.

The unit does not measure altitude.

Is there anything clogged in the sensor cover?

Clean it off according to "Daily Care". (If the cleaning still doesn't work, press the **F** AC (All Clear) button and reset the scale and clock time again.)

The current altitude data is incorrect.

Is the correction of the current altitude appropriately done?

The altitude is influenced by the change of the pressure. Correct it before each use.

The liquid crystal screen is dark and unusual display appears.

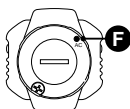
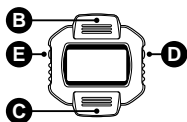
Was it left for a long time under direct sunlight?

It returns to normal by being left in the shades. The data will not be affected.

Display response is slow.

Is it the temperature under 0°C or 32°F?

It returns to normal when the temperature rises. The will not be affected.

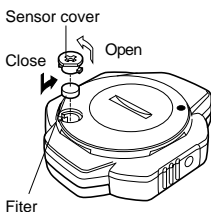


DAILY CARE

If the sensor cover is clogged with mud etc., the unit doesn't measure altitude. After each use, check the situation of the sensor cover and take care according to the following instruction.

1. Turn the sensor cover counterclockwise with a screwdriver, and take it off.
2. Carefully take out the filter inside, and wash the sensor cover and the filter with clean water.
3. Put the filter back as it was, and close the sensor cover.

Note: The altitude sensor is located under the filter. Be sure not to insert pins or sharp objects.



SPARE ACCESSORIES

The following parts are available separately.

#166-5150 Lithium Battery (CR2032)

#169-9880 Sensor Cover/Filter

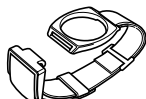
#239-9990/239-9991 Wrist Band / Long Band



#166-5150



#169-9880



#239-9990/239-9991

SPECIFICATIONS

Function			
HIKE MODE	Main screen		
	Current altitude		-380 - +5870m [-1200 - +19200ft] ±1m [±5ft]
	Clock Time	⌚	0:00'- 11:59' or 23:59' 1'
	Sub Function		
	Temperature	°C [°F]	-5 - 55°C [23 - 131°F] 1°C [1°F]
	Stopwatch	⌚	00'00" - 9'59"/00:10' - 23:59'[11:59'] 1"/1'
	Ascend/Descend Speed	/S	0 - ±200m/s [±299ft/s] ±0.1m/s [±0.3ft/s]
	Altitude Gain & Loss	x 10	0 - ±2999 x10m [ft] ±1 x10m [ft]
	LOG-Book Function		
	Highest Trip Altitude	Ahi	-380 - +5870m [-1200 - +19200ft] ±1m [±5ft]
Lowest Trip Altitude	ALo	-380 - +5870m [-1200 - +19200ft] ±1m [±5ft]	
Sum of Ascends	ASC(x10)	0 - 29999 x10m [ft] 1 x10m [ft]	
Sum of Descends	dSC(x10)	0 - -29999 x10m [ft] -1 x10m [ft]	
SKI MODE	Main screen		
	Current altitude		-380 - +5870m [-1200 - +19200ft] ±1m [±5ft]
	Clock Time	⌚	0:00'- 11:59' or 23:59' 1'
	Sub Function		
	Temperature	°C [°F]	-5 - 55°C [23 - 131°F] 1°C [1°F]
	Stopwatch	⌚	00'00" - 9'59"/00:10' - 23:59' [11:59'] 1"/1'
	Ascend/Descend Speed	/S	0 - ±200m/s [±299ft/s] ±0.1m/s [±0.3ft/s]
	Altitude Gain & Loss	x 10	0 - ±2999 x10m [ft] ±1 x10m [ft]
	LOG-Book Function		
	Highest Trip Altitude	Ahi	-380 - +5870m [-1200 - +19200ft] ±1m [±5ft]
Lowest Trip Altitude	ALo	-380 - +5870m [-1200 - +19200ft] ±1m [±5ft]	
Sum of Descends	dSC(x10)	0 - -29999 x10m [ft] -1 x10m [ft]	
Sum of Runs	run	0 - 255 1	
FLY MODE	Main screen		
	Current altitude		-380 - +5870m [-1200 - +19200ft] ±1m [±5ft]
	Clock Time	⌚	0:00'- 11:59' or 23:59' 1'
	Sub Function		
	Temperature	°C [°F]	-5 - 55°C [23 - 131°F] 1°C [1°F]
	Stopwatch	⌚	00'00" - 9'59"/00:10' - 23:59'[11:59'] 1"/1'
	Ascend/Descend Speed	/S	0 - ±200m/s [±299ft/s] ±0.5m/s [±1.6ft/s]
	Altitude Gain & Loss	x 10	0 - ±2999 x10m [ft] ±1 x10m [ft]
	LOG-Book Function		
	Highest Trip Altitude	Ahi	-380 - +5870m [-1200 - +19200ft] ±1m [±5ft]
Lowest Trip Altitude	ALo	-380 - +5870m [-1200 - +19200ft] ±1m [±5ft]	
Sum of Ascends	ASC(x10)	0 - 29999 x10m [ft] 1 x10m [ft]	
Sum of Descends	dSC(x10)	0 - -29999 x10m [ft] -1 x10m [ft]	
Alarms (in the Main Screen/Sub Function)	🔊 & beeper 🔊 🔊	when ascending with the speed of more than +0.25m/s when descending with the speed of more than -0.25m/s when ascending/descending within the speed of ±0.25m/s	
Controller	4-bit 1-chip microcomputer (crystal controlled oscillator)		
Display	Liquid crystal (with electro-luminescence backlight)		
Operation Sound	Piezoelectric buzzer sound		
Operating Temperature Range	-5 °C - 55 °C [23 °F - 131 °F]		
Storage Temperature Range	-20 °C - 55 °C [-4 °F - 131 °F]		
Power Supply/Service Life	Lithium battery (CR2032) x 1 pc./ approx. 4 months (one hour's measuring per day; roughly estimated and varies depending on frequency of use)		
Dimension/Weight	56 x 52 x 22.5 mm / 41.5 gram		

*The specification and design are subject to change without notice.

LIMITED WARRANTY

1-Year Warranty: Only Main Unit (excluding battery)

If trouble occurs during normal use specified in this manual, the part is repaired or replaced free of charge. The service must be performed by CAT EYE Co., Ltd., and the product which needs service must be returned to CAT EYE Co., Ltd. directly by purchaser. When returning the product for CAT EYE warranty service, pack it carefully, and enclose the warranty certificate and instructions for repair. Please make sure to type your name and address clearly on the warranty certificate, so that the product can be shipped back to you as soon as the necessary repair/adjustment is completed. Insurance, handling and transportation charges to our address shall be borne by the person desiring service. Attachments such as battery, wrist band, are not included in this warranty. This warranty shall only be applied to the product itself, and CAT EYE is exempted from any responsibility resulting from the use of the product.

Address for service:

CAT EYE CO.,LTD.

2-8-25 Kuwazu, Higashi Sumiyoshi-ku Osaka 546 JAPAN

Attention: CAT EYE Customer Service Section

Phone: 81-6-719-7781 FAX: 81-6-719-2362

Service & Research Address for United States Consumers:

CAT EYE Service & Research Center

1705 14th St. 115 Boulder, CO 80302

Phone: 303-443-4595

Toll Free: 800-5CATEYE

FAX: 303-473-0006

e-mail: CatEyeUSA@aol.com

MULTISPORTS ALTIMETER



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