

alterra/aerial



ALTIWARE
SERIES

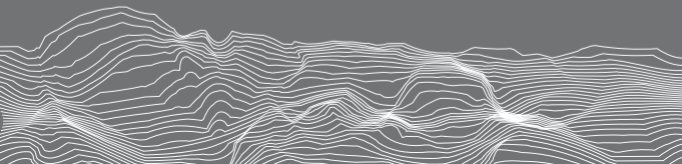


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Congratulations on your purchase of an **ALTERRA/AERIAL OUTDOOR WRIST INSTRUMENT**. These products represent the state-of-the-art in recreational sensor watches. We use only the finest Swiss sensors to create the most accurate and dependable products possible.

The Aerial unit features an altimeter/barometer/weather station along with a full selection of advanced watch and chronograph functions. The Alterra has all the features of the Aerial with the addition of a highly accurate digital compass.

Please keep in mind, your watch is a sensitive technical instrument. With proper care and maintenance, it will last for many years. However, improper care and handling can cause the various sensors to be damaged and to stop functioning.

Please read all sections of this manual carefully and become fully familiar with the operation of the watch before using it in the field.

WARNING: Before starting any exercise program or performing any vigorous physical activity, we strongly suggest you visit your doctor for a complete physical and to discuss your plans.

CAUTION: Your watch is designed to be water resistant to a static pressure of 5 ATM and can be worn while showering and light swimming. However, we recommend that extensive use of the unit in the water be avoided whenever possible as water could enter the unit through the altimeter sensor port and damage the unit.

The unit should not be worn while snorkeling or scuba diving as these activities will damage the altimeter sensor.

CAUTION: Care should be taken not to press any keys while the unit is wet or submerged as this can force moisture past the key seals and damage the unit.

CAUTION: Exposure to strong magnetic fields will cause the compass unit to malfunction and may even permanently damage the compass sensor. Keep the unit away from magnetic sources.

WARNING: This product is NOT designed to be used as a PRIMARY altitude instrument for flying, skydiving, hang gliding or other sports where sudden significant changes in altitude may occur or when there is a need for industrial precision.



Your **ALTERRA/AERIAL OUTDOOR WRIST INSTRUMENT** should be protected from shocks, extreme heat and extended exposure to direct sunlight. You should only perform service procedures related to the changing of the battery as shown in this manual. **NEVER** attempt to disassemble or otherwise service your watch. Store your watch in a clean, dry area at room temperature.

Clean your watch using a moist cloth. Care should be taken when cleaning the lens not to rub dirt into the surface as it can become scratched and hard to read.

CHANGING WATCH BATTERY

The Alterra/Aerial use a common **CR2032 3V** Lithium battery.

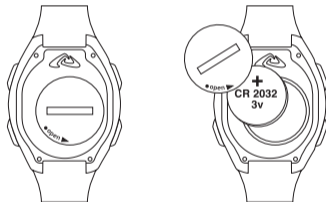
Normal battery life is approximately 1yr.

NOTE: Heavy usage of the Altimeter, Compass or Backlight system may significantly reduce battery life.

NOTE: A blank display or inaccurate altimeter or compass readings are indications that the battery is getting weak and should be replaced.

REPLACING THE WATCH BATTERY





1. Remove battery door using a coin.
2. Turn the black plastic battery retainer counter-clockwise.
3. Carefully remove the retainer and old battery. Do not damage the O-ring seal.
4. Place a fresh battery in the battery compartment with the positive (+) side facing up.
5. Slide the battery retainer over the battery and position the tabs into their appropriate holes.
6. Slide the retainer counter clockwise.
7. Replace battery door using a coin.
8. If the O-ring has been damaged, replace it before reinstalling the battery door. Most jewelers and watch shops should have replacement O-ring seals.



NOTE: Extreme care should be taken when replacing the battery to ensure the unit remains fully water resistant. Failure to properly replace the battery and correctly seal the unit may cause the unit to become damaged and may void the warranty.

THE WATCH DISPLAY ICONS

WEATHER ICONS



symbol	description	what it means
	RAINY	Barometric pressure very low or falling, raining or rain likely
	SUNNY	Barometric pressure high, weather fair
	CLOUDY	Barometric pressure low, rain possible but not likely
	PARTLY CLOUDY	Barometric pressure falling or rising, weather changeable

TIME ICONS

symbol	description	what it means
T¹	TIME ZONE 1	Time Zone 1 on Display
T²	TIME ZONE 2	Time Zone 2 on Display
•))	DAILY ALARM	Daily Alarm is active
A	AM	A.M. time
P	PM	P.M. time

THE WATCH DISPLAY ICONS

ALTIMETER ICONS

symbol	description	what it means
Ft	FEET	Current Altitude measured in feet
M	METERS	Current Altitude measured in meters
ALTI	ALTIMETER SCREEN IDENTIFIER	Watch is in Altimeter mode
	LOG BOOK RECORDING ICON	Log Book recording in progress
	ALTIMETER ALARM	Altimeter Alarm is active

BAROMETER ICONS

symbol	description	what it means
mbar / hPa	MBAR	Millibar barometric pressure units
inHg	INHG	Inches of Mercury barometric pressure units
°F	DEGREES F	Fahrenheit temperature units
°C	DEGREES C	Centigrade temperature units
SEA level BARO	SEA LEVEL BAROMETER SCREEN IDENTIFIER	

KEYS AND THEIR FUNCTIONS

The Alterra/Aerial unit is equipped with 5 individual keys. Each key has several functions. The drawing identifies the keys and their names as used in this manual.

S5 KEY

- Enter/Exit Setting mode for each function
- Clear Chronograph and Altimeter memories



S1 KEY

- Changes View in Time, Barometer, Altimeter, Altimeter Log and Chronograph Log modes
- Start/Stop information storage in Altimeter mode
- Advances variable in Setting mode
- Start/Lap/Split action in Chronograph mode
- Starts Ski Chrono
- Turns Daily Alarm On/Off

S2 KEY

- View/Select Time 1 / Time 2 in Time of Day mode
- View/Select C/F and inHg/mbar in Barometer mode
- View/Select Ft/M in Altimeter mode
- Scroll through Altitude Log files
- Turn Altimeter Alarm On/Off
- Stop Chronograph/Save Chronograph Files
- Scroll through Chronograph Log files
- Store Base Altitude in Ski Chronograph
- Select Alarm 1 or 2

S3 KEY

- Activate EL Backlight system

S4 KEY

- Advances display through the various operational modes
- Selects variable in setting mode

KEYS AND THEIR FUNCTIONS

KEY ACTIONS – QUICK PRESS VS. PRESS AND HOLD

There are two key actions used to program the watch:

QUICK PRESS

The key is pressed quickly and immediately released. This is the most common key action and is used for most aspects of operation

PRESS & HOLD

The key is pressed and held for 2-3 seconds. This key action is generally used to initiate a programming sequence or to change an on-screen variable.

NOTE 1: Generally, when a **PRESS & HOLD** action is required, the word **HOLD** will appear on the center line of the display.

NOTE 2: In this manual we will indicate when a **PRESS & HOLD** is required. In most other instances a **QUICK PRESS** should be assumed.

PROGRAMMING THE WATCH – COMMON KEY ACTIONS

ENTER A PROGRAMMING SEQUENCE

PRESS & HOLD the **S5** key.

The words **HOLD – ADJUST** will appear in the center and bottom lines of the display. Continue to hold the key until the display automatically advances to the first variable in the programming sequence.

ADJUST VARIABLE IN A PROGRAMMING SEQUENCE

QUICK PRESS the **S1** or **S2** keys.

Variables in a programming sequence are adjusted up using a **QUICK PRESS** of the **S1** key and down using a **QUICK PRESS** of the **S2** key.

In most programming options, a **PRESS & HOLD** of either the **S1** or **S2** key will cause the variable to fast advance, allowing you to quickly advance to a different number.

Continued next page.

ADVANCE TO NEXT VARIABLE IN A PROGRAMMING SEQUENCE

QUICK PRESS the **S4** key.

When you have chosen the variable you want for a particular portion of a programming sequence

QUICK PRESS the **S4** key to set and advance to the next variable.

NOTE: *As long as you press the S4 key, you will continue to cycle through the variables for that sequence.*

EXIT A PROGRAMMING SEQUENCE

QUICK PRESS the **S5** key.

Once all variables of a programming sequence have been entered to your satisfaction, **QUICK PRESS** the **S5** key to exit the programming sequence and return to the initial main display.

ACTIVATE THE DISPLAY BACKLIGHT SYSTEM-

QUICK PRESS the **S3** key.

Activate the backlight system at any time with a **QUICK PRESS** of the **S3** key. The backlight will remain active for a period of 5-seconds after the press of the **S3** key. If, while the backlight is active, another key is pressed, the timer will be reset and the 5-second period will start again. This will happen for as long as keys are pressed. This allows you to easily operate and program the watch in low light situations.

NOTE: *Excessive use of the backlight system will result in shorter battery life.*

MAIN DISPLAY MODES

Advance through the modes below using **QUICK PRESSES** of the **S4** key. Upon entering a mode, the name of the mode will be displayed on screen for a period of 1.5 seconds before advancing automatically to the mode's primary screen.

**TIME****COMPASS** (Alterra only)**BAROMETER****ALTIMETER**

MAIN DISPLAY MODES (continued)



ALTIMETER LOG



CHRONOGRAPH



CHRONOGRAPH
DATA



SKI CHRONOGRAPH



ALARM

VIEW TIME ZONE 1 / TIME ZONE 2

The Alterra/Aerial unit is equipped with a full feature wrist watch package including Time of Day, Day/Date/Day of Week, Two Time Zones and Two Daily Alarms.

The Time Zone being displayed is indicated by a small **T1/T2** in the lower left corner of the display.

VIEW / CHANGE TIME ZONE: **PRESS & HOLD** the **S2** key

SETTING THE TIME OF DAY

1. Start in **TIME** Mode.
2. Select **TIME 1** or **TIME 2** using the **S2** key.
3. **PRESS & HOLD** the **S5** to enter the setting sequence.
4. Adjust **HOUR, MINUTES, SECONDS, YEAR, MONTH, DATE, 12/24 HOUR** mode using the **S1** and **S2** keys. The variable being programmed (Hours, Min, Sec, etc.) will be shown in the Bottom Line of the display.
5. Set each variable using the a **QUICK PRESS** of the **S4** key.
6. Exit setting sequence using the **S5** key.
7. Select alternate time and repeat the above procedure.



SECONDARY TIME SCREENS

There are 4 secondary time display options accessed by **QUICK PRESSES** of the **S1** key.

**SCREEN 1**

Top Line: **TEMPERATURE**
Center Line: **TIME OF DAY**
Bottom Line: **DAY AND DATE**

**SCREEN 2**

Top Line: **LOCAL BAROMETRIC PRESSURE**
Center Line: **TIME OF DAY**
Bottom Line: **DAY AND DATE**

NOTE: All four screens also have an icon in the upper right hand corner showing a visual representation of the current weather.

**SCREEN 3**

Top Line: **CURRENT ALTITUDE**
Center Line: **TIME OF DAY**
Bottom Line: **DAY AND DATE**

**SCREEN 4**

Top Line: **TIME OF DAY**
Center Line: **GRAPH OF BAROMETRIC PRESSURE FOR THE PAST 24HOURS** (see pg 21 Barometric pressure graph)
Bottom Line: **TEMPERATURE**

NOTE: The temperature sensor measures the temperature of the watch unit. If worn on your wrist or exposed to direct sunlight, the sensor may read artificially high. For accurate temperature readings, remove the watch from your wrist and place in a shaded area for 10-15 minutes.

The Alterra is equipped with a highly accurate digital magnetic compass with reading in one degree increments. The compass can be adjusted to compensate for the magnetic declination corresponding to the area where the compass is being used.

COMPASS SCREEN

There is only one screen display available in the **COMPASS** mode. The display shows the **TIME OF DAY** in the top line. The **CURRENT HEADING IN QUARTER CARDINAL POINTS** is shown as a rotating scale across the center line and the bottom line displays the **CURRENT HEADING IN DEGREES**.



CALIBRATING THE COMPASS

The **COMPASS** of the Alterra must be calibrated on a regular basis. The compass should be calibrated any time it does not seem to be working properly. We recommend calibrating the compass prior to any activity where optimal accuracy is desired, such as a long back country trip.

1. Start in **COMPASS** mode.
2. **PRESS & HOLD** the **S5** key to enter the calibration sequence.
3. **CAL** will appear in the center line of the display.
4. Rotate the watch clockwise for two complete rotations of approximately 15-seconds per rotation.
5. To exit the calibration sequence at this point **QUICK PRESS** the **S1** key. Or advance to setting the magnetic declination using a **QUICK PRESS** of the **S5** key.

NOTE: For the optimum accuracy, the compass must be held completely level during the calibration process. We recommend placing the unit on top of a drinking glass while performing the calibration as this will make it easier to keep the compass level.



CALIBRATING THE COMPASS (continued)

6. If the calibration is successful the display will show **CAL** in the center line and **END** in the lower line and automatically advance to the compass display.
7. If the calibration was unsuccessful, an **ERR** message will appear in the lower line of the display, and you will need to repeat the calibration sequence.
8. If you have chosen to set a magnetic declination, adjust the degrees and direction using the **S1** and **S2** keys. Set and advance from variable to variable using the **S4** key.
9. If you do not know the Magnetic Declination for your area, leave this setting at **ZERO**.
10. When you have completely entered the magnetic declination, exit the calibration sequence using the **S5** key.



MAGNETIC DECLINATION

A magnetic compass points to the earth's magnetic north pole. Depending on your location, this may be different from True North. Adjusting the **MAGNETIC DECLINATION** allows you to compensate for this variation. Magnetic Declination for an area can be found on topographical maps. Declination can change over time and distance. Make sure the source for your declination settings is up to date. The following websites are good sources for finding local Magnetic Declination.

http://www.gsc.nrcan.gc.ca/geomag/field/mdcalc_e.php

<http://www.ngdc.noaa.gov/seg/geomag/jsp/Declination.jsp>

REACTIVATING COMPASS

To save power, the compass feature of the Alterra unit only remains active for a period of 30-seconds. To reactivate the compass display, **QUICK PRESS** the **S1** key.

BAROMETER

The Alterra and Aerial are equipped with a highly sensitive barometer/weather station. The **BAROMETER** measures the Absolute Barometric Pressure and calculates the Barometric Pressure corrected to Mean Sea Level (MSL). Barometric pressure may be displayed in either Inches of Mercury (inHg) or Millibar/HectoPascals (mbar/hpa).

PROGRAMMING STEPS

1. Start in **BAROMETER** mode.
2. **PRESS & HOLD** the **S5** key to enter setting sequence.
3. Adjust current weather using the **S1** and **S2** keys.
NOTE: There are four different Icons for weather. **SUNNY**, **PARTLY CLOUDY**, **CLOUDY** and **RAIN**. Choose the icon which most closely matches the weather at the present time. The icon will change to indicate an estimate of what the weather will be like for the next 6-hours.
4. Advance to **BAROMETER (BARO)** display using **QUICK PRESSES** of the **S4** key.
NOTE: Do not randomly adjust the barometric pressure setting of the watch. Inaccurate setting of the barometric pressure may result in inaccurate altimeter and weather readings. If you are not certain of the proper use of this function, it is better to leave this variable at its factory setting. The Mean Sea Level barometric pressure may be adjusted if desired to achieve the highest levels of accuracy.
5. Adjust **SEA LEVEL BAROMETRIC PRESSURE** using **S1** and **S2** keys. Do not adjust your absolute barometric pressure.
6. Exit the barometer setting sequence using the **S5** key.



BAROMETER

SECONDARY BAROMETER SCREENS

There are 4 secondary **BAROMETER** display options accessed by **QUICK PRESSES** of the **S1** key.



SCREEN 1
Top Line: **BAROMETRIC PRESSURE MSL**
Center Line: **GRAPH OF BAROMETRIC PRESSURE FOR THE PAST 24-HOURS**
Bottom Line: **TIME OF DAY**



SCREEN 2
Top Line: **BAROMETRIC PRESSURE MSL**
Center Line: **GRAPH OF BAROMETRIC PRESSURE FOR THE PAST 24-HOURS**
Bottom Line: **LOCAL UNADJUSTED (ABSOLUTE) BAROMETRIC PRESSURE**



SCREEN 3
Top Line: **BAROMETRIC PRESSURE MSL**
Center Line: **GRAPH OF BAROMETRIC PRESSURE FOR THE PAST 24-HOURS**
Bottom Line: **TEMPERATURE**



SCREEN 4
Top Line: **BAROMETRIC PRESSURE MSL**
Center Line: **TEMPERATURE**
Bottom Line: **LOCAL UNADJUSTED (ABSOLUTE) BAROMETRIC PRESSURE**

BAROMETRIC PRESSURE GRAPH

The center line of several of the **BAROMETER** screens, as well as one of the **TIME OF DAY** screens, shows a **GRAPH OF BAROMETRIC PRESSURE CHANGES** over the past 24-hours. The graph updates once every hour and only indicates changes relative to the previous measurement.

**CHANGE BAROMETER UNITS**

While the watch is in **BAROMETER SCREEN 1** and **2**, you can view and change the display units for barometric pressure between **INCHES OF MERCURY (inHg)** and **MILLIBAR/HECTOPASCALS (mbar/hPa)** using a **PRESS & HOLD** of the **S2** key. Continue to hold the key until the pressure units icon stops flashing.

CHANGE TEMPERATURE UNITS

While the watch is in **BAROMETER SCREENS 3** and **4**, you can view and change the **TEMPERATURE DISPLAY UNITS** between degrees **FAHRENHEIT** and **CELSIUS** using a **PRESS & HOLD** of the **S2** key. Continue to hold the key until the temperature units icon stops flashing.

NOTE: The **TEMPERATURE** or **BAROMETRIC PRESSURE** units chosen while in the **BAROMETER** mode will be the units displayed in the **TIME OF DAY** and **ALTIMETER** modes.




Because the **ALTIMETER** system in the Alterra/Aerial relies on Barometric Pressure for its measurements, it is critical that you regularly calibrate the unit to a known altitude. For maximum accuracy, daily calibration is a must. If you are using the unit during times of changeable weather, the unit may need to be calibrated more often. Generally, the small pressure changes experienced during a day of use will have only a minor effect on the accuracy of the unit, however, the arrival or departure of a weather front can change the current weather display by several hundred feet or more.

SET ALTIMETER

1. Start in **ALTIMETER** mode.
2. **PRESS & HOLD** the **S5** key to enter the setting sequence.
3. **"REAL"** will display on the screen. **QUICK PRESS** the **S4** key and the **CURRENT ALTITUDE** will appear flashing in the center line of the display
4. Adjust the current altitude up and down using the **S1** and **S2** keys.
5. Set the altitude and advance to Activating the Altitude Alarm using the **S4** key.

The Alterra and Aerial are equipped with an Altitude Alarm which will sound to warn you if you exceed a preset altitude.

6. Turn the **ALTITUDE ALARM ON** or **OFF** using the **S1** or **S2** key.
7. Set your choice using the **S4** key.
8. If you choose **"ON"**, the **ALARM ALTITUDE** will appear flashing in the center line of the display with **ALTI** and **ALM** in the top and lower lines.
9. Set the **ALARM ALTITUDE** using the **S1** key to increase and the **S2** key to decrease.
10. When the **ALARM ALTITUDE** is active, a small icon () will be shown on the Altimeter screen. When active, the Altitude Alarm will sound any time you exceed the programmed altitude.
11. Advance to the **ALTITUDE MEMORY** displays using the **S4** key.



SET ALTIMETER (continued)

12. There are two altitude memory displays showing the **MAXIMUM ALTITUDE** and **ACCUMULATED ASCENT** since the last time the memory was cleared. Clear each memory using the **S1** or **S2** key and advance from the **MAXIMUM (HIGH)** to the **ACCUMULATED (ACC)** memories using the **S4** key.
13. Exit the **ALTIMETER CALIBRATION** sequence using a **QUICK PRESS** of the **S5** key.

SETTING THE ALTIMETER PRESETS

The Alterra/Aerial is equipped with three altimeter preset locations. Preset Locations are useful in the daily calibration process. If you know the exact altitude of a particular place, you can preset your Alterra/Aerial to this location for quick calibration.

1. Start in **ALTIMETER** mode
2. **PRESS AND HOLD** the **S5** key to enter the setting sequence.
3. **"REAL"** will display flashing on the screen.
4. **QUICK PRESS** the **S1** key to set altitude presets. Using **S1**, scroll through **LOCATION 1**, **LOCATION 2** and **LOCATION 3**.
5. Choose the Location you would like to set. **QUICK PRESS** the **S4** key to set that Location's altitude. The **LOCATION'S ALTITUDE** will appear flashing in the center line of the display.
6. Adjust the **ALTITUDE UP** and **DOWN** using the **S1** and **S2** keys.
7. Exit the **ALTIMETER PRESET** sequence using a **QUICK PRESS** of the **S5** key.
8. Follow steps 1 through 7 in order to set the remaining location presets.

RECALLING ALTIMETER PRESETS

1. Start in **ALTIMETER** mode
2. **PRESS AND HOLD** the **S5** key to enter the setting sequence.
3. **"REAL"** will display on the screen.
4. **QUICK PRESS** the **S1** key to scroll through **"LOC 1"**, **"LOC 2"** and **"LOC 3."**
5. Once you have selected the desired Location, **QUICK PRESS** the **S5** key to set your altimeter to that particular location.

SECONDARY ALTIMETER SCREENS

The **ALTIMETER** mode has 4 secondary display options which are accessed by a **QUICK PRESS** of the **S1** key.



SCREEN 1

Top Line: **TIME OF DAY**
Center Line: **CURRENT ALTITUDE**
Bottom Line: **TEMPERATURE**



SCREEN 2

Top Line: **TIME OF DAY**
Center Line: **GRAPH SHOWING ALTITUDE CHANGES OVER TIME**
Bottom Line: **CURRENT ALTITUDE**



SCREEN 3

Top Line: **RATE OF ASCENT OR DESCENT IN FT OR METERS PER MINUTE ACCORDING TO ACTIVITY**
Center Line: **TOTAL FEET OR METERS ASCENDED. PRESS S2 TO VIEW TOTAL FEET OR METERS DESCENDED**
Bottom Line: **TEMP**



SCREEN 4 (ONLY ACTIVE WHEN LOG BOOK IS ACTIVE)

Top Line: **RATE OF ASCENT OR DESCENT IN FT OR METERS PER MINUTE ACCORDING TO ACTIVITY**
Center Line: **CURRENT ALTITUDE/TOTAL FT/M DESCENDED/TOTAL FT/M ASCENDED**
Bottom Line: **TEMP/DESCENT/ASCENT**

CHANGE ALTITUDE UNITS

While the watch is in **ALTIMETER SCREENS 1** and **2**, you can view and change the display units for altitude between Feet and Meters using a **PRESS & HOLD** of the **S2** key. Continue to hold the key until the altitude units icon stops flashing.



MAX/ACC SCROLLING MESSAGE

When you enter the Altimeter mode, the center line of the display will show you your maximum and accumulated altitude since the last time you cleared the memories.

NOTE: To skip the scrolling **QUICK PRESS** the **S1** or **S2** key.

NOTE: To see **MAXIMUM** and **ACCUMULATED ALTITUDES** during use, **PRESS & HOLD** the **S3** key. To **CLEAR** the **MAXIMUM AND ACCUMULATED MEMORIES**, see *Set Altimeter* section.

ALTITUDE LOCK


If the altitude does not change significantly for a period of 30-minutes the Alterra/Aerial unit will automatically activate the **ALTITUDE LOCK** function. **ALTITUDE LOCK** is **INDICATED BY THE WEATHER ICONS APPEARING ON THE ALTIMETER DISPLAY**. When the unit enters the Altitude Lock mode, the altitude at that time is locked in memory and will not change in response to gradual external barometric pressure changes. You can unlock the Altitude Lock function at any time simply by pressing any key. The Altitude Lock function will automatically deactivate if it detects any major change in pressure/altitude over a short period of time.

The **ALTIMETER DATA LOG** allows you to capture specific, detailed altitude information over a specific period of time in up to 15 individual files.

An **ALTIMETER DATA LOG** file tracks the following information:

1. **TOTAL FEET** or **METERS ASCENDED** and **AVERAGE RATE OF ASCENT.**
2. **TOTAL FEET** or **METERS DESCENDED** and **AVERAGE RATE OF DESCENT.**
3. Number of **LAPS**. A **LAP** is counted as any change in altitude of greater than 150'/50m UP and DOWN.
4. **TOTAL TIME** for file.

START/STOP LOG BOOK

1. Start In **ALTIMETER** mode,
2. Activate the **ALTIMETER LOG** – **PRESS & HOLD S1** key. **START** and **LOG** will appear on screen
3. The display will automatically revert to the **ALTIMETER** screen with the **LOG BOOK ICON** () visible.
4. **STOP** the **ALTIMETER LOG** – **PRESS & HOLD S1** key. **STOP** and **LOG** will appear on screen.
5. The display will automatically revert to the **ALTIMETER** screen with the **LOG BOOK ICON** no longer on the display.

CLEARING THE LOG BOOK MEMORY

1. To **CLEAR** an individual **LOG**, advance to the desired **LOG** using the **S4** key.
2. **PRESS & HOLD** the **S5** key. **HOLD, CLEAR** and the **LOG NUMBER** will appear flashing on the display.
3. Continue to **PRESS & HOLD** the **S5** key until the message in the lower line changes from the **LOG NUMBER** to **ALL**.
4. **RELEASE** the **S5** key before the **ALL** indication stops flashing to clear a single **LOG**.
5. To **CLEAR ALL LOGS** continue to **PRESS & HOLD** the **S5** key while the **ALL** message is displayed in the lower line. When **ALL** files are cleared, **4 DASHES** will be displayed in the center line.



REVIEWING ALTIMETER LOG DATA

Starting in the **LOG DATA** screen

The watch will automatically display the most recent **ALTIMETER LOG FILE** recorded with the **LOG NUMBER** in the center line of the display and the Date of the file in the upper and lower lines.

SCROLL through the recorded files using the **S2** key. Use the **S1** key review the information in the following screens:



SCREEN 1

Top line: **AVERAGE RATE OF ASCENT**
Center line: **FEET OR METERS ASCENDED**
Bottom line: **ASC (ASCENT)**



SCREEN 2

Top line: **AVERAGE RATE OF DESCENT**
Center line: **FEET OR METERS DESCENDED**
Bottom line: **DSC (DESCENT)**



SCREEN 3

Center line: **NUMBER OF LAPS**. (A lap corresponds to a vertical ascent and decent of greater than 150' or 50m)
Bottom line: **LAP**



SCREEN 4

Center line: **TOTAL TIME FOR THE SEGMENT**
Bottom line: **TOTAL**

The Alterra/Aerial units feature a sophisticated digital **CHRONOGRAPH** timing system capable of storing multiple timed workouts. The chronograph has a resolution of 0.01 seconds and displays both lap time and split time on screen simultaneously.

WHAT ARE LAPS AND SPLITS

The Alterra/Aerial unit displays both **LAP** and **SPLIT** times on screen. A **LAP** is a discrete period of time from when the **CHRONOGRAPH** has started (Lap 1) or since the end of a previous lap. A **SPLIT** is the cumulative total of all previous **LAPS**. Any time an individual lap is timed it also automatically generates a corresponding split.



OPERATING THE CHRONOGRAPH TIMING LAPS AND SPLITS (50)

The Alterra/Aerial unit is capable of timing up to 50 **LAPS** and **SPLITS**. These can be stored in any combination in up to 20 individual Runs or workouts.

While the **CHRONOGRAPH** is running, the top line will display the number of the current lap, the middle line will show the time for the current lap and the bottom line will show the current split time.

START TIMING

QUICK PRESS the **S1** key

TIME A LAP/SPLIT

QUICK PRESS the **S1** Key.

When the **S1** key is pressed the display will flash for approximately 6 seconds showing the final lap and split time for the timed segment as well as the number of the **LAP** and **SPLIT** on the top line of the display. At the end of the 6-second period the display will stop flashing and show the time for the currently timing lap and split including the 6 seconds where the previous lap and split times were flashing on the display.

STOP TIMING

QUICK PRESS the **S2** key.

This will stop the **CHRONOGRAPH** and show the final times for the last lap and split which was being timed. When timing has stopped, you then have two options.

OPTION 1 – **STORE A RUN/WORKOUT** –
PRESS & HOLD the **S2** key

OPTION 2 – **CLEAR A RUN/WORKOUT PRIOR TO STORING**
– **PRESS & HOLD** the **S5** key



When you store a Run/Workout using a **PRESS & HOLD** of the **S2** key it is captured by the **CHRONOGRAPH DATA LOG MEMORY**.

MANAGING THE CHRONOGRAPH DATA LOG

Runs are stored in the **LOG MEMORY** with the newest runs first. The center line of the display will show the date the run was recorded and the lower line will show the number 1-20 for the stored run.

REVIEWING RUNS

Move through the stored runs using the **S2** key.

REVIEWING LAP/SPLIT DATA FOR EACH RUN

Once you have selected the **RUN/WORKOUT**, scroll through the stored data using the **S1** key. As you scroll through the data the display will show the following information:

1. **LAP** and **SPLIT TIMES** for the recorded laps starting with Lap 1.
2. The **TOP LINE** will show the **LAP #**.
3. The **CENTER LINE** will show the **LAP TIME**.
4. The **LOWER LINE** will show the **SPLIT TIME**.

After reviewing all lap information the display will show the **BEST TIME OF ALL LAPS**.

The final display will show the **AVERAGE TIME OF ALL LAPS** which were timed.



CLEARING LAPS AND RUNS

To **CLEAR** an individual **RUN/WORKOUT**, advance to the desired Run/Workout using the **S2** key. **PRESS & HOLD** the **S5** key. The display will show **HOLD** in the top line of the display, **CLEAR** flashing in the center line and the Run/Workout number in the lower line. Continue to **HOLD** the **S5** key until the message in the lower line changes from the **RUN** number to **ALL**. **RELEASE** the **S5** key before the **ALL** indication stops flashing, or you will clear **ALL** the runs in memory.

To delete **ALL RUN/WORKOUT** files, continue to **PRESS & HOLD** the **S5** key while the **ALL** message is displayed in the lower line. When **ALL** files are cleared, **4 DASHES** will be displayed in the center line.



The Alterra/Aerial units are equipped with a timer system which is started at the top of a run and will track the time of your ski runs back to the base, stopping at a preset base altitude.

SETTING THE SKI CHRONOGRAPH

The primary display of the Ski Chronograph shows your current altitude in the top line, a 10-second count-down timer in the center line and your stored base altitude in the lower line.



STORING A BASE ALTITUDE

A Base Altitude can be stored either automatically or manually.

AUTOMATIC STORE –

When you are physically at the location you want to establish as your base altitude (such as if you are standing at the bottom of a run you want to time), simply **PRESS & HOLD** the **S2** key. The center line of the display will show **STORE** while the current altitude is being stored as the base altitude. When complete the center line of the display will show **STORED** and you may **RELEASE** the **S2** key. Your new base altitude will now be displayed in the lower line of the display.



STORING A BASE ALTITUDE (continued)

MANUAL STORE –

If you wish to manually store a base altitude, **PRESS & HOLD** the **S5** key. The display will show **HOLD** in the center line and **ADJUST** in the bottom line for a period of approximately 3 seconds and then automatically change to the screen for manual adjustment of the **BASE ALTITUDE** with altitude displayed in the center line. **ADJUST** the **BASE ALTITUDE** using the **S1** and **S2** keys until you have adjusted the display to your chosen altitude. **QUICK PRESS** the **S5** key to exit the setting mode and return to the primary **SKI CHRONOGRAPH** screen.

NOTE: We recommend you store your base altitude often as local pressure changes may cause it to shift up or down and effect the accuracy of the timing.



OPERATING THE SKI CHRONOGRAPH

Once you have established a **BASE ALTITUDE**, go to the top of a ski run. Before starting your run simply **QUICK PRESS** the **S1** key. The 10 second countdown timer will start. When the timer reaches zero (**0**) the watch will beep and you should begin skiing. The timer will automatically stop once you reach your programmed base altitude. At the end of a run, the display will show your **TIME FOR THE RUN** in the center line of the display, your **AVERAGE RATE OF DESCENT** in the upper line and your **BASE ALTITUDE** in the lower line.

To clear the information from the display and get ready for another run, **QUICK PRESS** the **S5** key to return to the initial **SKI CHRONOGRAPH** screen.

NOTE: If you reach the bottom of the run and the **SKI CHRONOGRAPH** does not stop automatically, this means a pressure change has caused the base altitude setting to become inaccurate. To manually stop the timing, **QUICK PRESS** the **S2** key.



The Alterra/Aerial is equipped with two individual daily alarms which can be set to the hour and minute for either Time Zone 1 or Time Zone 2.

TURNING AN ALARM ON/OFF

1. Start in **ALARM** mode.
2. The top line of the display will show the **CURRENT TIME OF DAY**, the center line will show the **CURRENT ALARM SETTING** and the lower line will show either **AL1** or **AL2** indicating the alarm currently being viewed.
3. To the right of the **ALARM TIME** are symbols indicating if the alarm is on (**ON**) or off (**--**). **TOGGLE** between **ON** and **OFF** using the **S1** key.



SELECTING ALARM 1 OR 2

TOGGLE between **ALARM 1** and **ALARM 2** shown in the lower line of the display using the **S2** key.

SETTING THE DAILY ALARM

1. Starting in **ALARM** mode.
2. Choose the Time Zone you wish to program an alarm for in the Time of Day screen.
3. **SELECT** the alarm you wish to program using the **S2** key.
4. **PRESS & HOLD** the **S5** key to enter the programming sequence.
5. **ADJUST** the **HOURS**, **MINUTES** and **CHIME** using the **S1** and **S2** key.
6. **SET** and **ADVANCE** from variable to variable using the **S4** key.
7. **EXIT SETTING SEQUENCE** using the **S5** key.

NOTE: The **CHIME** is a single beep each time a key is pressed and a double beep at the start of each hour. The **KEY PRESS CHIME** is useful if you are trying to operate the watch under circumstances where it is difficult to look at the watch to confirm that an action has taken place when a key is pressed.

NOTE: You must choose **T1** or **T2** in the **TIME OF DAY** screen before setting the **DAILY ALARM**. The Time Zone cannot be changed during the Alarm Programming process.



RESETTING THE WATCH

To **RESET** the watch back to its default values **PRESS** the **S1**, **S2**, **S4** and **S5** keys down at the same time. The display will light up showing all segments followed by a sequence of screens showing various numbers. The watch will then automatically change to the **TIME OF DAY** screen at 12 o'clock on the first of January.

Resetting the watch will clear any information stored in the watch. This should be done only as a last resort.

GENERAL

Water Resistance 5ATM
Watch Battery CR 2032 3v Lithium

ALTIMETER

Range -702 to +9158m / -2305 to +30,045ft
Resolution 1m / 1f

ALTIMETER LOG

20 Individual date coded files storing date, time, vertical ascent and decent distance and rate, laps and total elapsed time
Log Book has a resolution of 7 ft/ 2 meters

THERMOMETER

Range -10 to +50C / +14 to +122F
Resolution 0.1C/0.1F

COMPASS

Resolution of 1 degree
Rotating digital bezel in quarter cardinal points

BAROMETER

Range 300 to 1100mbar/hPa or (8.86 inHg to 32.48 inHg)
Resolution 1mbar/hPa or 0.01InHg

CHRONOGRAPH

Range 24 hours
Resolution 0.01 second for first hour; 1.0 second for hours 2-23

CHRONOGRAPH LOG

50 Laps/Splits
20 Runs/Workouts showing Lap/split times, Best Lap, Average Lap

The Alterra/Aerial is a very sensitive and sophisticated instrument. If properly cared for it should last and remain accurate for many years. However, from time to time problems may happen. It has been our experience that the majority of the problems seen by consumers with products such as these are related to dead or dying batteries.

While the estimated life of a fresh battery in the unit is approximately one year, this can be shortened considerably if the compass, altimeter or EL systems of the unit are used extensively. Whenever you are experiencing issues related to the function of the unit it is recommended that you install a fresh battery as a first course of action, especially if it has been more than a half a year since the last time the battery was replaced.

BE AWARE – Lithium batteries of the type used in this watch are very susceptible to improper storage. Many times, batteries purchased as new are dead or weak before they are purchased. Do not assume that batteries in stores are good. If you try a new battery and problems persist, please try a second battery from another source, just to be certain.

If the battery on the watch unit of the Alterra/Aerial is failing it may show itself in several ways. Indications of a weak battery are:

1. A fading or blank display.
2. If the display goes blank when the EL system is operated and then comes back on when the EL system turns off.
3. Inaccurate readings from the Altimeter or Compass systems

Because the compass is magnetic it may be affected by local sources of electromagnetic radiation (EMI). Avoid using the compass near appliances, in cars, near home security systems and other sources of EMI. If after several compass calibration attempts, you still see an ERR message, please demagnetize your compass. You can demagnetize your compass by holding your watch over a demagnetizing machine while in compass mode with "CAL" displayed on the screen. Most retail stores and libraries have demagnetizing machines for anti-theft purposes. An example of a demagnetizer is a machine that deactivates the magnetic security strip within a product.

The Alterra/Aerial is equipped with a display which allows it to be used in a wide variety of environments. However, if the unit is used in extreme cold (<32 F or 1c) the function of the display may be slower than normal. If exposed to extreme heat or cold, the display may also darken. The display should return to normal once the temperature returns to normal levels.

alterra/aerial



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ALTWARE
SERIES

