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RAVE ALTIMETER User Manual

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1. Introduction

Congratulations on your decision of acquiring our product! RAVE Altimeter information is constantly being maintained and updated. Please refer to our website, www.axelotech.com, for the latest issued documentation.

2. Customer Support

The RAVE altimeter can be configured in many ways via its menu.

If the desired configuration cannot be reached with the support of present document, please get in contact with us at and we will do our best to support you.

We can be contacted in several ways to help you get the maximum from our product:

- through our site www.axelotech.com,
- by email at info@axelotech.com,

We also appreciate any recommendation for improvement.

3. Basic Operation

Navigating through the menu is easy and intuitive.

If the option **Auto-Lock** is active press the middle button 3 times to unlock the device. To enable – disable this feature, see chapter 4.3 Settings – Display.

Anywhere in the menu, access the up and down buttons to move the cursor through the options.

By pressing the middle button, the highlighted option is selected.



Your RAVE altimeter comes with a set of default parameters, please configure it before using it for skydiving activities according to your needs: language, alarm intensity, altitude trigger levels, metric vs. imperial measurement units, etc. Refer to the chapter 4. Menu for details.



IMPORTANT: If the following icon appears on the display, do not use the RAVE altimeter, and contact customer support.



3.1 Basic Setup Procedure

The battery type LIR2450, which is fitted to your device, doesn't need to be removed or changed as it is rechargeable with the USB provided cable.





While charging the device will display the following icon



Your RAVE altimeter is always on and has a power saving mode which switches the display off after 5 minutes.

Please be sure the altimeter is charged before using it for skydiving activities.

If battery replacement is required, please contact support.

3.2 Usage Possibilities

3.2.1 Wrist Mount

RAVE altimeter can be used on your wrist, as a visual altimeter, using the wrist mount accessory provided in the default package





RAVE altimeter fits in the housing attached to the elastic fabric wrist mount.

The elastic wrist band is provided as default in 3 different sizes.

To change the elastic wrist band to a different size, remove the device from the hand mount, slide the 2 parts of the hand mount (principle shown in the first picture below), insert a different size of elastic wrist band, slide back the hand mount and then introduce the altimeter into the new assembly.









3.2.2 Helmet Mount

Rave altimeter can be mounted in the helmet for an enhanced audible guidance if the helmet is specifically designed for this.

Be sure to adjust the intensity of the alarm prior to mounting to the helmet.

3.3 Display Screens / Modes

3.3.1 Ground mode

The ground mode displays altitude, time, battery charge status, whether the Alarms is enabled or disabled and the logbook icon (enabled/disabled).

The RAVE altimeter continues to function in battery saving mode while its display is turned OFF. It can be turned ON by pressing any of the 3 buttons.

The display automatically turns ON if a change in altitude is detected.



Pressing the "Down" button switches the display to Free Fall mode.



Pressing any of the 3 buttons reverts the screen to the Ground display.

3.3.2 Climb mode

The Climb screen shows:

- Altitude
- Climbing speed
- Status icons for Alarms, Logbook and the Battery status.
- Current time.





While in Climb Mode the settings of the device can be accessed and changed from the menu.

3.3.3 Freefall mode

Once you jump, the RAVE altimeter auto detects this and switches into Freefall mode regardless of the current display mode.

Free fall icon alarm type is displayed in the lower left corner.

In this mode the altitude is presented with large characters, in km for metric system or kft for imperial system.

The descent speed is shown m/s for metric system or ft/s for imperial system.





WARNING: SKYDIVING IS A SPORT WITH HIGH HAZARDOUS RISK. IT CAN RESULT IN VERY SERIOUS INJURY OR DEATH.



3.3.4 Canopy mode

When under canopy mode the display shows the altitude in meters for metric system or feet for imperial system. It also shows descent speed in m/s or ft/s.





4. Menu mode

Press the middle button to access the menu.

Scroll through the menu entries by pressing the Up or Down buttons.

Once the desired option is marked by the cursor, press the Middle Button to select.

Always revert to the previous menu by selecting "<Back" (last option on each menu page)



4.1 Alarms Menu

From the Main Menu move the cursor down to "Alarms" and press the middle button.

RAVE altimeter can handle 5 groups of alarms, each with 6 configurable altitude thresholds for the alarms (3 for freefall and 3 for canopy modes). Predefined Groups names are: AFF, Belly, Canopy Control, Tandem and Vertical Formation.



The freefall alarms sound when the altitude is reached. The 3rd freefall alarm is a special emergency alarm: it will sound continuously if the descent speed is high (freefall speed) at the configured altitude or below, i.e. beyond the safety zone.

The canopy alarms sound prior to the configured altitude and stop when reaching it.

The names of the alarm groups can be changed using Rename Group menu.

Intensity of the alarm sound can also be configured for both free-fall and canopy. Choose between value 10 (minimum) and 100 (maximum) intensity.





Once the setting is correctly defined, according to your preference, select "Accept" to save the setting, or "Cancel" to revert to the last saved value.

Alarm Menu Overview

level1	level2	level3	level4	Obs
ICVCII	Select Group	AFF [x]	lever	l
		Belly []		
		Canopy Ctrl. []		Select the active alarm group.
		Tandem []		Scient the delive diann group.
		Vert. Form.		
		<back< td=""><td></td><td></td></back<>		
		V DUCK	¥NNNN ₩NNN	
			¥ NNNN ₩ NNN	
		AFF	¥NNNN ₩NNN	Edit the altitude thresholds for this alarm group
	Edit Altitudes		Accept	
	Edit Altitudes		Cancel	
		Belly		
		Canopy Ctrl.	Same as above	Same as above
		Tandem	came as above	
		Vert. Form.		
Alarms		<back< td=""><td>In.</td><td>T</td></back<>	In.	T
Aldillis			Rename group AFF	
		AFF	as	
	Rename Group		New Name	Rename the selected group
		<u> </u>	New Name	Rename the selected group
			Accept	
			Cancel	
		Belly	Same as above	Same as above
		Canopy Ctrl.		
		Tandem		
		Vert. Form.		
		<back< td=""><td>•</td><td></td></back<>	•	
	Set Volume	Freefall: NN	Edit the alarm sound intensity	
		Other: NN		
				Edit the alarm sound intensity
		Accept		,
		Cancel		
	<back< td=""><td></td><td>•</td><td>1</td></back<>		•	1
	\Dack			

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4.2 Drop Zone Menu

This section allows setting of current altitude and different drop zone offset.

Drop Zone Menu Overview

level1	level2	level3	level4	Obs
Drop Zone		Height: NN		
	Set Height	Accept Cancel		Edit the current altitude
	Set DZ Offset	Offset: NN		Edit the offset between takeoff and dropzone. Note: When the offset is non-zero, the value will be shown on the Ground and Climb display modes with a special icon.
		Accept Cancel		
	<back< td=""><td>•</td><td>•</td><td>•</td></back<>	•	•	•

Example of presetting Drop zone offset value and icon display:







4.3 Settings Menu

From this section of the menu the customization of the RAVE altimeter is done. You can set the menu language, the measurement unit system, display settings and set the time and the date.

Languages to be chosen from are English, French, German and Spanish.

Measurement unit can be selected between Metric and Imperial system.

Display settings allow you to rotate it so the device can be used either on the left hand or on the right hand, as well as to enable/disable the Auto-Lock feature, to avoid the possibility of unintendedly pressing the buttons while using the altimeter.

being properly designed, built and maintained. Your altimeter's solely purpose is to provide an aid when checking your altitude. IT IS NOT AN ACTIVE SAFETY DEVICE. We highly recommend the usage of more than one such monitoring device, to mitigate the risk in case of malfunction. USE THE RAVE ALTIMETER AT YOUR OWN RISK. Do not rely your decision entirely on it, and constantly maintain visual cross reference with the ground.



Setting Menu Overview

level1	level2	level3	level4	Obs
Settings	Language	English [x] French [] German [] Spanish [] <back< th=""><th></th><th>Select the display language</th></back<>		Select the display language
	Measurement	Metric [] Imperial [] <back< th=""><th></th><th>Select the measurement system.</th></back<>		Select the measurement system.
	Display	Flip Display [] Dark Mode [] Auto-Lock [x] <back< th=""><th></th><th>Select display orientation (left hand or right usage) Select between light or dark theme Enables AutoLock (prevents accidental button pressings)</th></back<>		Select display orientation (left hand or right usage) Select between light or dark theme Enables AutoLock (prevents accidental button pressings)
	Time & Date	Set Time	Hour: NN Minute: NN Accept Cancel	
		Set Date	Year: NNNN Month: NN Day: NN Accept Cancel	
	<back< td=""><td></td><td></td></back<>			
	<back< th=""><th></th><th></th><th></th></back<>			

4.4 Info Menu

This section provides manufacturing information of the product and a functional demonstration mode

Info Menu Overview

level1	level2	level3	level4	Obs
	B	Normal Demo	-	Simulates a normal jump with configured altitude alarms
		High Speed Inc.		Simulates a High speed incident
	Demo	Low Speed Inc.		Simulates a Low speed incident
		<back< td=""><td></td></back<>		
		Pres Pa NNNNNN		Current athmosferic pressure
Info		ErrCode N		Error code (0 = ok)
	Miscellaneous	S/N NNNN		Serial number of the device
		Hw ver N.N		Hardware version of the device
		Sw ver N.N		Software version of the device
		Boot ver N.N		Boot sw version of the device
	<back< td=""><td></td><td></td><td></td></back<>			

Demo modes are available for simulating normal/incident jumps.

WARNING: SKYDIVING IS A SPORT WITH HIGH HAZARDOUS RISK. IT CAN RESULT IN VERY SERIOUS INJURY OR DEATH.

Manufacturing data such as Serial Number, software, hardware and boot versions are mentioned in this section.

In case of any issues with your RAVE device, please provide information from this section to customer support.



4.5 Log Book Menu

Your RAVE altimeter supports logging of miscellaneous details for up to 1000 jumps.

Additionally, the Global Info shows statistical data from all stored logs.

Log Book Menu Overview

	level2	level3	level4	Obs
	Log Active [x]			Enalbe/disable logging
	Log #NNN (last)	YYYY.MM.DD HH.MM 술 NNNN m ¥ NNN s NNN kph		Up/down togles through log details - date and time of the jump - jump height, freefall maximum speed - deploy height, freefall time
		NNNN m NN m NN s AF		- canopy time - alarms group name abbreviation
	Log #NNN	Same as above		Same as above
Log Book	Select Logs	Log Offset	Log # NNN Accept Cancel	Allows the selection of first log's number
		View Log	Log # NNN Accept Cancel	Select which jump log to show
		Delete Log	Log # NNN Accept Cancel	Delete a jump log
		Erase All Logs	Logs Cnt: NNN Accept Cancel	Erase all jumps log information
		<back< td=""><td></td><td></td></back<>		
	Global Info	Logs Cnt: NNN FreeFall time: HH.MM.SS Canopy time: HH.MM.SS		Up/down togles through log details - total number of jump logs - cummulated freefall/canopy time
		Freefall speed: avg NNN Km/h max NNN Km/h Canopy speed: max NNN Km/h		- freefal average speed over all logs - freefall maximum speed over all logs - canopy maximum speed over all logs

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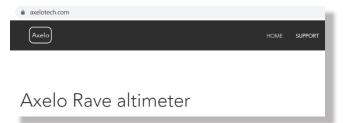
5 Specifications

RAVE Altimeter			
Body material	Thermoplastic Polymer		
Battery Type	LIR2450 (rechargeable)		
Alarms	5 groups with 6 altitude alarms		
Max altitude	9000m (29500ft)		
Temperature	-20 +60 Celsius		
Weight	24g (0.85oz) - without mount		
Overall dimensions	54x36x12mm (2.12x1.4x0.5in)		

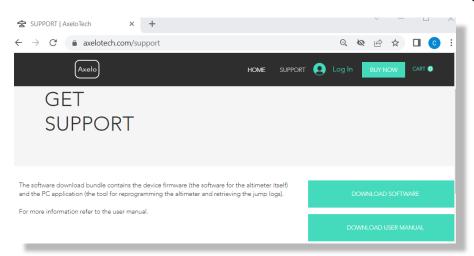
6 Firmware Upgrades and Download Logs

The RAVE altimeter allows you to update its firmware with the newer versions as they become available. Software updates can be downloaded from our website: www.axelotech.com.

Step1: Access the "SUPPORT" section from "axelotech.com" site.

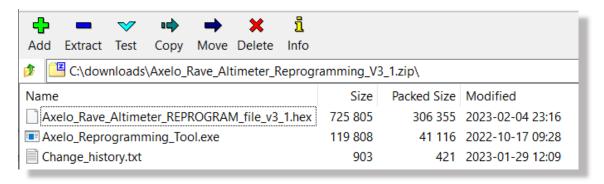


Step2: In the "SUPPORT" menu chose the "DOWNLOAD SOFTWARE" option:



Step3: A .zip file named "**Axelo_Rave_Altimeter_Reprogramming_V3_1.zip**" is saved on your computer in the location your browser saves downloaded files.

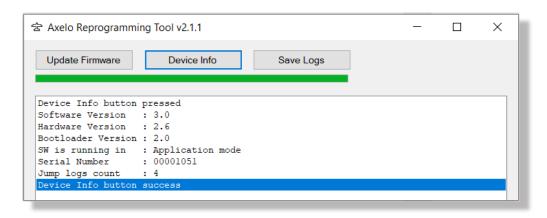
Unzip the file to a location chosen by you.



Inside the unzipped folder you will receive:

- -The reprogramming software tool: "Axelo_Reprogramming_Tool.exe"
- -RAVE software update: "Axelo_Rave_Altimeter_Reprogramming_3_1.hex" (variant v3_0 used as example may differ).

Step4: Connect the RAVE Altimeter to your computer and then double click on "**Axelo_Reprogramming_Tool.exe"** tool, from the location where you unzipped it. Following window is opened:



Step5: You have the option to "Update Firmware" and "Save Logs"

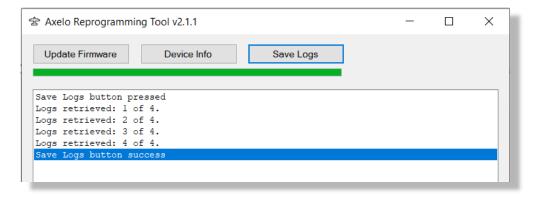
To update the firmware, press the corresponding button and then chose from the location where you unzipped the package

"Axelo_Rave_Altimeter_Reprogramming_3_1.hex" file.

WARNING: SKYDIVING IS A SPORT WITH HIGH HAZARDOUS RISK. IT CAN RESULT IN VERY SERIOUS INJURY OR DEATH. The purchased altimeter is a device potentially subjected to malfunctioning, as all other electrical equipment are, regardless of

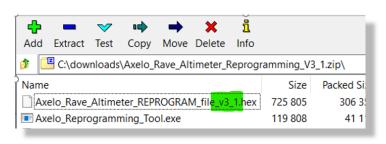
being properly designed, built and maintained. Your altimeter's solely purpose is to provide an aid when checking your altitude. IT IS NOT AN ACTIVE SAFETY DEVICE. We highly recommend the usage of more than one such monitoring device, to mitigate the risk in case of malfunction. USE THE RAVE ALTIMETER AT YOUR OWN RISK. Do not rely your decision entirely on it, and constantly maintain visual cross reference with the ground.

To download the Logs from the device, press the "Save Logs" button then chose a local destination location on your computer.



Step6: (OPTIONAL) From RAVE altimeter Info menu -> Miscellaneous (see link: 4.4. Info Menu), check that the SW version of your RAVE altimeter matches the version from the downloaded package.





7 Maintenance

The RAVE altimeter shall not be disassembled by the user.

Unless specifically mentioned in this document, the maintenance on RAVE altimeter shall only be performed by Axelo Technology SRL.

Please get in contact with customer support prior to disassembling the unit.

We will offer support and advice with issues you might encounter with our product.

8 General Cleaning

Wipe clean the RAVE altimeter with a damp cloth.

Do not submerse the product in water.

Do not use any industrial detergents or solvents as they can damage the display of the RAVE Altimeter.

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9 Servicing

If you encounter an abnormal behavior, immediately discontinue using the RAVE altimeter and contact customer support.

In your inquiry message, please include your contact information (Phone Number, email address) and a brief description of the issue you encounter. Also please provide information shown in the Info->Miscellaneous menu.

10 Warranty

If the products should fail due strictly to defects in manufacturing, then Axelo Technologies will repair or replace the units or parts of it free of charge for 24 months from the date of purchase.

This warranty applies to failures due to defects in materials and workmanship that may occur during normal operations. For the purposes of this clause, "normal operations" do not include skydiving activities, according to the clause of art. 11 below.

This warranty becomes void if damage is caused by the owner or any third party, including but not limited to modifying, attempting to fix, or otherwise altering the product etc.

This warranty doesn't cover damage or failures resulting from including but not limited to accident, misuse, neglect, mishandling of the product etc.

To obtain the benefit of this warranty, deliver the complete product via prepaid transportation with a written description of the failure and the factual circumstances in which it occurred to:

Axelo Technologies S.R.L. str. Ion Cristoreanu nr. 7, ap.2 Timișoara, TM 300323, România email: info@axelotech.com

or to the authorized distributor upon prior acknowledgement.

11 Waiver of liability

THE BUYER AND USER OF THE PURCHASED ALTIMETER INDEMNIFY THE MANUFACTURER AND VENDOR FROM ANY LIABILITY FOR DAMAGE INCURRED BEFORE, DURING AND AFTER SKYDIVING WITH THE PRODUCT.

12 Warning

SKYDIVING IS A SPORT WITH HIGH HAZARDOUS RISK, EVEN DEADLY.

IT CAN RESULT IN VERY SERIOUS INJURY OR DEATH.

The purchased altimeter is a device potentially subjected to malfunctioning, as all other electrical equipment are, regardless of being properly designed, built and maintained.

Your altimeter's solely purpose is to provide an aid when checking your altitude. IT IS NOT AN ACTIVE SAFETY DEVICE. USE THE RAVE ALTIMETER AT YOUR OWN RISK.

We highly recommend the usage of more than one such monitoring device, to mitigate the risk in case of malfunction.