

RAVE ALTIMETER User Manual

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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 and built. Your altimeter's sole 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. Do not rely your decision entirely on it and constantly maintain visual cross reference with the ground.

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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 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 website www.axelotech.com,
- by email at info@axelotech.com,

We also appreciate any recommendation for improvement.

3. Basic Operation

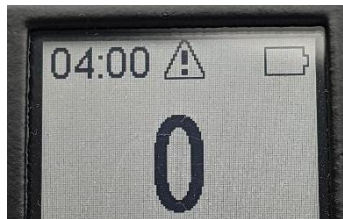
Navigating through the menu is easy to use.

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 Menu chapter for details.

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



3.1 Basic Setup Procedure

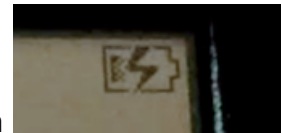
The battery type LIR2450 is already fitted to your device and does not need to be removed or worked upon as it is rechargeable with the USB provided cable.

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The device can as well be charged also while placed in the wrist mount as the external housing allows the access to the USB connector, from both sides.



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

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

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RAVE altimeter fits in the housing attached to the elastic fabric wrist mount. The elastic wrist band is provided as default in 3 sizes.

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.

Please adjust the intensity of the alarm prior to mounting to the helmet.

3.3 Display Screens / Modes

3.3.1 Ground

The ground display shows 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.

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

3.3.2 Climb

The Climb screen shows:

- Climbing speed
- Plane icon
- Status icons for Alarms, Logbook and the battery.
- Current time.



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

3.3.3 Freefall

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.

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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.



3.3.4 Canopy

When under canopy, 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

Press the middle button to access the menu.



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The Main Menu will be displayed.

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).

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.

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.

By going to Alarms -> Set Volume, the alarm sound intensity can be set. Choose between value 10 (minimum) and 100 (maximum) intensity.

Alarm Menu Overview

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level1	level2	level3	level4	Obs
Alarms	Select Group	AFF [x] Belly [] Canopy Ctrl. [] Tandem [] Vert. Form. [] <Back		Select the active alarm group.
	Edit Altitudes	AFF	Freefall 1: NNN Freefall 2: NNN Freefall 3: NNN Canopy 1: NNN Canopy 2: NNN Canopy 3: NNN Accept Cancel	Edit the altitude thresholds for this alarm group
		Belly	same as above	same as above
		Canopy Ctrl.	same as above	same as above
		Tandem	same as above	same as above
		Vert. Form.	same as above	same as above
	Rename Group	AFF	Rename group AFF as New Name Accept Cancel	Rename the selected group
		Belly	same as above	same as above
		Canopy Ctrl.	same as above	same as above
		Tandem	same as above	same as above
		Vert. Form.	same as above	same as above
	Set Volume	Volume: NN		Edit the alarm intensity
		Accept Cancel		
	<Back			

Predefined Groups:



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Example of Edit Altitudes:



Example of Rename Group:



4.2 Drop Zone Menu

This section allows setting of current altitude and different dropzone offset.

Drop Zone Menu Overview

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level1	level2	level3	level4	Obs
Drop Zone	Set Height	Height: NN		Edit the current altitude
		Accept Cancel		
	Set DZ Offset	DZ 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			

Example of 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.

Time and Date can be set in this menu also.

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 Light or Dark mode display.

Setting Menu Overview

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level1	level2	level3	level4	Obs
	<Back			
Settings	Language	English [x]		Select the display language
		French []		
		German []		
		Spanish []		
		<Back		
	Measurement	Metric []		Select the measurement system.
		Imperial []		
	<Back			
Display	Flip Display []		Select display orientation (left hand or right usage)	
	Dark Mode []		Select between light or dark theme	
	<Back			
Time & Date	Set Time	Hour: NN		
		Minute: NN		
		Accept		
	Cancel			
Set Date	Year: NNNN			
	Month: NN			
	Day: NN			
	Accept			
	Cancel			
	<Back			
	<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
Info	Demo	Normal Demo		simulates a normal jump with configured altitude alarms
		Incident Hi Speed		simulates a High speed incident
		Incident Lo Speed		simulates a Low speed incident
		<Back		
	Miscellaneous	Pres Pa NNNNNN		current atmospheric pressure
		ErrCode N		error code (0 = ok)
		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			

Demo modes are available for simulating normal/incident jumps.

Manufacturing data such as Serial Number, software (firmware), hardware and bootloader versions are mentioned in this section.

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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

level1	level2	level3	level4	Obs	
Log Book	Log Active []			Enalbe/disable logging	
	Log #NNN (last)	Date: YYYY.MM.DD			Up/down togles through log details
		Time: HH.MM			- date and time of the jump
		JumpH: NNNN m			- jump height
		DeployH: NNNN m			- deploy height
		Ff time: NNm NNs			- freefall time
		Cp time: Nm NNs			- canopy time
		Group: XX			- alarms group name abbreviation
	Ff sp: NNN Km/h			- freefall average speed	
	MaxFf: NNN Km/h			- freefall maximum speed	
	MaxCp: NN Km/h			- canopy maximum speed	
	Log #NNN	same as above			same as above
	Select Logs	View Log		Log # NNN	Select which jump log to show
				Accept Cancel	
		Delete Log		Log # NNN	Delete a jump log
			Accept Cancel		
Erase All Logs		Logs Cnt: NNN	Erase all jumps log information		
	<Back				
Global Info	Logs Cnt: NNN			Up/down togles through log details - total number of jump logs - cummulated freefall/canopy time - freefal average speed over all logs - freefall maximum speed over all logs - canopy maximum speed over all logs	
	FreeFall time: HH.MM.SS				
	Canopy time: HH.MM.SS				
	Ff sp: NNN Km/h				
	MaxFf: NNN Km/h				
	MaxCp: NN Km/h				
<Back					

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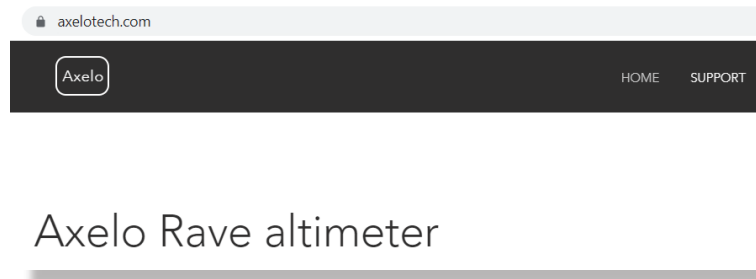
5 Specifications

RAVE Altimeter	
Body material	Thermoplastic Polymer
Battery Type	LIR2450 (rechargeable and replaceable)
Alarms	5 groups with 6 altitude alarms
Max altitude	8000m (26250ft)
Temperature	-20 +60 Celsius
Weight	24g (0.85oz) - without mount
Overall dimensions	54x36x12mm (2.12x1.4x0.5in)

6 Firmware Upgrades

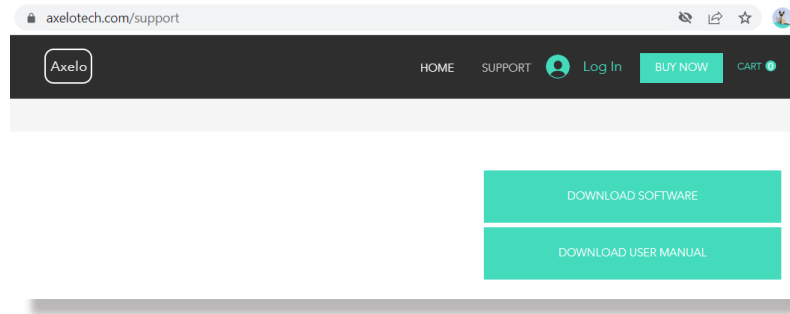
The RAVE altimeter allows you to update its firmware with the newer versions as they become available. Firmware updates can be downloaded from www.axelotech.com website.

Step1: Access the “**SUPPORT**” section from “**www.axelotech.com**” website.

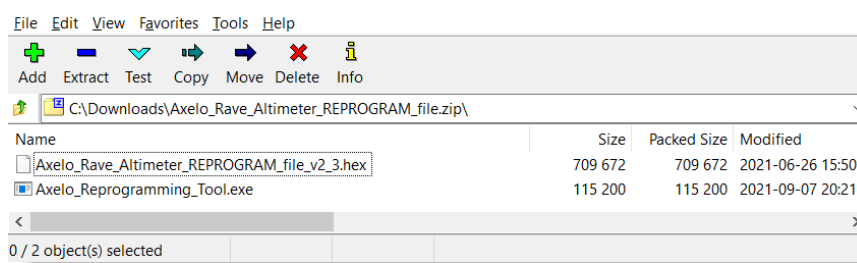


Step2: In the “**SUPPORT**” menu chose the “**DOWNLOAD FIRMWARE**” option:

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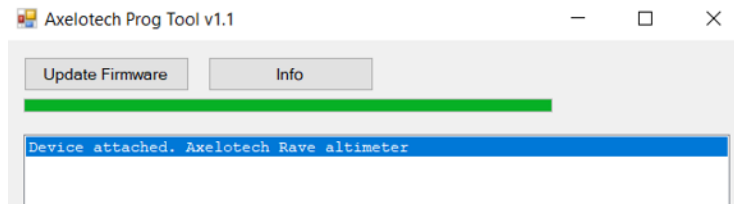
Step3: An archive file named **"Axelo_Rave_Altimeter_REPROGRAM_file.zip"** is saved on your computer (in the location where your browser saves downloaded files).
 Unpack the archive file into a folder location chosen by you.



Inside the unpacked folder you will receive:
 -The reprogramming firmware tool: **"Axelo_Reprogramming_Tool.exe"**
 -Latest RAVE firmware file: **"Axelo_Rave_Altimeter_REPROGRAM_file_v2_3.hex"**
 (Note: The version 2.3 here is only an example, the number might have increased at a later date).

Note: Your computer might allow running an executable (for next step) directly from within the archive, but you really need to extract everything into a separate folder because you will also need access to the firmware file located inside the same archive.

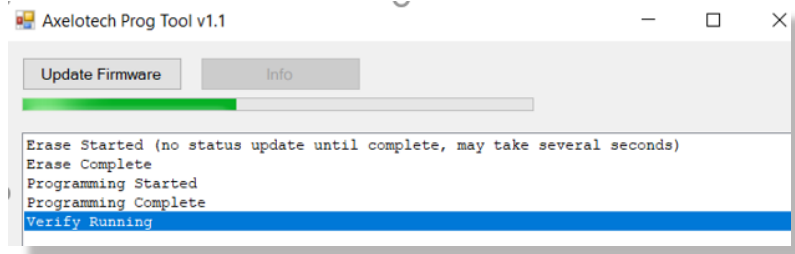
Step4: Connect the RAVE Altimeter to your computer and then double click on **"Axelo_Reprogramming_Tool.exe"** tool, from the location where you unpacked it. The following window is opened:



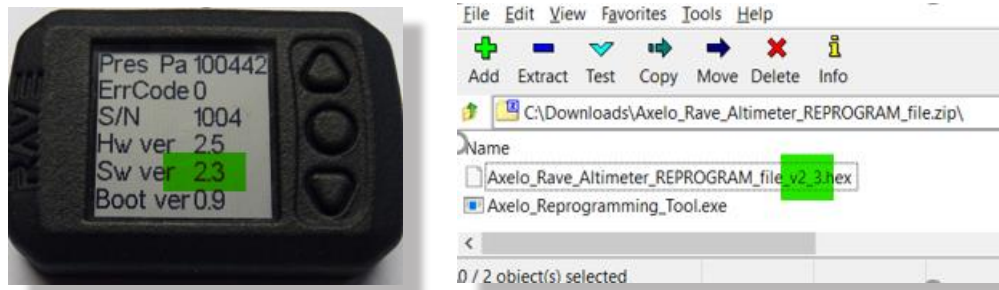
Step5: Click the **"Update Firmware"** button and chose from the location where you unpacked the archive, **"Axelo_Rave_Altimeter_REPROGRAM_file_v2_3.hex"** file. Click **"Open"** button.

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Step5: Firmware update operation is started.



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.



Note: The version 2.3 here is only an example, the number might have increased at a later date.

Firmware Change History

Firmware Version	Changes
2.6	<ul style="list-style-type: none"> - Increase menu font size - Changed alarms/groups handling with alarm naming option - Improved battery State of Charge measurement - Improved vertical speed measurement - Jump-logs can now be exported to PC (as *.csv file) via reprogramming-tool
2.3	Menu changes due to Lcd display increased resolution
1.0	First version

7 Maintenance

The RAVE altimeter shall not be disassembled by the user.

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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 submerge the product in water.

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

9 Servicing

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

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

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