# The GPS ready underwater tablet





English, Rev. 06/2022, ver.1.0	© Dusol, 2022, www.duslate.com





AQUATAB S is a compact underwater tablet with a fully functional touch screen for entering information with a special stylus AQUATAB PEN, which allows divers to take notes underwater, collect and process data, save information, take photos, record videos, access information and run any Android application underwater.

AQUATAB S includes pre-installed smartphones of models: Samsung Galaxy Note 10 lite, Samsung Galaxy Note 20 Ultra or Samsung Galaxy S21 Ultra. Before placing an order, the buyer has the flexibility to choose one of the supported smartphones. This allows the buyer to match the requirements for performance, memory, display resolution and camera. The chosen smartphone is then modified and incorporated into AQUATAB S. The standard Commercial off-the-shelf (COTS) version has Samsung Galaxy Note 10 lite smartphone, which contains the most optimal features for general tasks and allows running standard set of Android applications.

AQUATAB S has a specially designed pre-installed module that receives navigational data from a GPS receiver, which allows divers to use navigation, localize the diver's own geoposition, mark the underwater targets/locations with GPS coordinates on the inbuilt mapping app with pre-loaded offline maps. The underwater navigation operates in conjunction with RedWave<sup>1</sup> system, which includes a set (minimum 4) of lightweight surface buoys, technically satellite navigation signal repeaters, which implements a long navigation base and RedNAV hydroacoustic modem-receiver connected to AQUATAB S through a sealed connector.

Optionally, AQUATAB S can be connected to the surface-based system AQUATAB FLOATING BASE in order to exchange the navigation data as well as provide a wired Internet connection, which technically makes it possible to determine a diver's location in an unlimited water area and support data exchange through media content or information using the Internet. In contrary with RedWave solution, AQUATAB floating base relies on one single GPS signal source, where the accuracy of localization may be reduced, while RedWave provides more accurate position through implementation of adaptive intelligent trilateral localization algorithms.

#### *A* RedWave and AQUATAB FLOATING BASE are separate solutions and are sold separately.

Please read this User Manual carefully before using the device underwater. Devices and software are constantly evolving – the information and illustrations contained in this manual is subject to change and should be used for reference only as they may be changed without notice.

<sup>&</sup>lt;sup>1</sup> The RedWave navigation system, as well as its components: the RedBase repeater buoys and the RedNODE acoustic receiver are developed by Underwater Communications and Navigation Laboratory LLC. More information about the company's products: <u>www.unavlab.com</u>.





### **Copyright notice**

This User Manual is protected by copyright law, including applicable International Treaties. Unauthorized use, copying or distribution of this User Manual or any of its parts may result in administrative or criminal penalties, and will be prosecuted.

All rights reserved. © Dusol LLC, 2022.

Official website of the copyright owner: <u>www.duslate.com</u>.





### Table of contents

1		Dev	<i>v</i> ice layout and equipment	5
	1.1	1	Front view	5
	1.2	7	Rearview	5
2	1.2	- Dro	cautions	3
2		Cot	ting started Quick start	،ر ہ
2	Getting started. Quick start			0
4	Using Stylus AQUATAB Pen			
5		Bati	tery and charging	12
6	I	Pre	ssure and temperature sensor	14
7	I	Unc	derwater navigation	15
	7.1	1	Option #1 - RedWave wireless underwater navigation	15
	7.2	2	Option #2 - Underwater navigation option AQUATAB FLOATING BASE	19
8		Soft	tware	20
	8.1	1	AquaTab service application	20
	8.2	2	Maps	25
9		Spe	ecifications	27
	9.1	1	Materials:	27
	9.2	2	Hardware:	27
	9.3	3	Navigation module	27
1	0	۔ ر	Tare and Maintenance	28
'	∪ 1∩	1	After the dive	20 28
	10	. I	Seeled connector	20 סכ
	10	.2		20
	10	.3	AQUATAB PEN stylus	29
1	1	Ρ	roblems and Troubleshooting	30
1	2	T	echnical support	31
1	13 Service and Warranty		32	
1	4	R	ecommended accessories	33





# 1 Device layout and equipment

1.1 Front view



- 1. AQUATAB S.
- 2. AQUATAB PEN.
- 3. Stylus button.
- 4. Stylus storage compartment.
- 5. Sealed connector.
- 6. Magnet activation sensor.

#### 1.2 Rear view

- 1. Back camera.
- 2. Stylus storage compartment.
- 3. Stylus fixation Adjustment screw.
- 4. Sealed connector.
- 5. Magnet activation sensor.







The standard Commercial off-the-shelf AQUATAB S includes:

- Sealed housing with built-in temperature and pressure sensor 1 pcs.
- Smartphone (see below) 1 pcs.
- AQUATAB PEN wireless stylus 1 pcs.
- Extra AQUATAB PEN wireless stylus 1 pcs.
- Extra tips for AQUATAB PEN wireless stylus 2 pcs.
- Magnets to switch smartphone on/off 2 pcs.
- Charger 1 pcs.
- Carrying case 1 pcs.

A modified version of following smartphones can be used in AQUATAB S at buyer's choice:

- Samsung Galaxy Note 10 lite.
- Samsung Galaxy Note 20 Ultra.
- Samsung Galaxy S21 Ultra.

This allows the buyer to match the requirements for performance, memory, display resolution and camera. The chosen smartphone is then modified and incorporated into AQUATAB S. The standard version has Samsung Galaxy Note 10 lite smartphone onboard, which contains the most optimal features for general tasks and allows running standard set of Android applications.

To ensure the safe and correct use of the AQUATAB S underwater tablet, it is important that you also read the instructions and documentation for the respective smartphone, available on the website of the smartphone manufacturer www.samsung.com. Information about standard functions are available in these instructions and documentation and we recommend you to be acquainted with them in details. Please note that the smartphone manufacturer is not responsible for the use of the smartphone in the AQUATAB S. In case of any technical problems with the AQUATAB S, please refer to Sections 11-13.





# 2 Precautions.

AQUATAB S has been designed and tested for use at depths of up to 100 meters / 328 feet. Carefully inspect the device before diving, if you find cracks on the protective glass or rear chamber or fogging inside the case, please DO NOT use the device, and DO NOT connect it to the mains. These signs indicate a housing seal failure, needs inspection, and possibly require repairing by a specialist.

#### #WARNING! Do not try to disassemble the device yourself, it is strictly prohibited!

Before diving, check that the protective cap of the sealed connector is in place and tightly closed. It should be tightened with a little effort without using excessive force or special tools. Do not dive without the protective cap as this may damage the device.

Turn on the device according to Section 3 and check the charge level:

- the main battery (please refer to Section 5),
- an additional battery (please refer to Section 5).

Make sure your device is fully charged. To fully enjoy the functionality of AQUATAB S during the whole dive, we highly recommend not to use the device if the battery charge is below 60%.

Do not drop the device and avoid prolonged vibrations or exposure to heat sources or direct sunlight.

The MAXIMUM OPERATING DEPTH for the AQUATAB S is 100 meters / 328 feet in seawater.

**WARNING!** The use of any software or application on the AQUATAB S is not a substitute for proper diving equipment and instruments or backup equipment. Make sure you are using the correct equipment, including a depth gauge, compass, pressure gauge, timer or watch, and have access to decompression tables every time you dive with the AQUATAB S.





# 3 Getting started. Quick start.

*Attention!* AQUATAB S has no buttons, which guarantees increased reliability and water resistance.

In order to turn on/off the AQUATAB S, you need to bring the magnet/magnetic element (included) to a special area on the front or back of the AQUATAB S and hold for 8 seconds until vibration:





Upon start and OS load, you will see the Home screen.



#### Apps:

- Compass App
- Maps App OsmAnd
- AQUATAB App
- Settings
- Camera
- Gallery
- Apps Screen
- Widget with Date, time and weather.

*Important!* The desktop can be customized by the user according to his/her needs. However, deletion of key applications 1 (Compass), 2 (OsmAnd), 3 (AQUATAB) might make it impossible to re-install them yourself or their installation version might not match the version of the operating system.





*Important!* For unrestricted and east use, the manufacturer has configured all pre-installed software and set optimal settings of AQUATAB S. In order to preserve the functionality, we highly recommend avoiding changing system settings, performing operating system update and/or uninstalling pre-installed applications without contacting technical support of the manufacturer. In case these requirements are violated, the manufacturer may not guarantee the correct operation of AQUATAB S.

AQUATAB S is operated using a special stylus, which allows divers to work with gloves and, at the same time, enter data, click small icons on the desktop, draw any diagrams or take notes, etc.



More information about using Stylus is located in Section 4.

Using the icons at the bottom of the home screen, you can perform a number of basic functions:

- 1. Return return to the previous screen, cancel an action, etc.
- 2. Home return to the main screen.
- 3. Windows view active applications with the ability to close them.





# 4 Using Stylus AQUATAB Pen

AQUATAB S is operated using a special stylus, which allows divers to work with gloves and, at the same time, enter data, click small icons on the desktop, draw any diagrams or take notes, etc.



Despite the fact that the stylus is electronic, it does not require charging. The stylus collects required charge while interacting with the screen of the AQUATABS using the electromagnetic induction.

- 1. Pen tip (replaceable).
- 2. Stylus button.
- 3. Eyelet for fastening to AQUATAB S case.

To use the stylus, lightly touch AQUATAB S protective glass using the pen tip. There is no need to apply excessive force, as the stylus is quite sensitive to pressure. With the help of the stylus, you can launch and manage applications, as well as make various drawings, diagrams and handwriting with the ability to recognize text.

Use the AQUATAB PEN like a pen - place it comfortably in your hand.

*Important!* Please note that some parts of the screen might be less sensitive and hence you may experience slower reaction to stylus actions. In such cases, please keep in mind that using the stylus closer to 45° ensures optimal interaction between the stylus and the screen.

The stylus incorporates a button designed to activate additional functions. Pressing the button once or twice activates various commands. For example, bringing the stylus tip close to the screen (without touching it) and pressing the button twice activates the additional functions menu. This shortcut menu for additional functions is customizable.

When using the applications for drawing, pressing the button will activate the eraser function.

For more information about the various functions of the stylus, please visit the website of the manufacturer of the smartphone installed in your AQUATAB S.





If the tip is damaged or heavily worn out, it is recommended to replace it. In order to replace it, unscrew the cap (counterclockwise), pull out the tip and install a new one.



*Important!* Stylus AQUATAB Pen is an unibody device. Please do not try to disassemble the stylus. Only physical manipulation that can be performed is replacement of the pen tip as specified in this manual.





# 5 Battery and charging

Before taking AQUATAB S to dive, make sure it is fully charged. It is recommended that the battery charge level be at least 90%.

*Important!* To fully enjoy the functionality of AQUATAB S during the whole dive, we highly recommend not using the device if the battery charge is below 60%. Otherwise, there is a possibility that the device will stop working during the dive.

AQUATAB S has two inbuilt batteries: main and additional. The main battery is required to turn on and operate the AQUATAB S. Top bar of Home screen shows the current battery charge level.



The additional battery is designed to power a special module installed in the AQUATAB S housing, which provides data exchange with RedWave system and navigation receiver or AQUATAB FLOATING BASE surface-based system, as well as can be used to connect various external OTG devices using same connector.

*Important!* Exposing the AQUATAB S to cold or extremely hot conditions for extended duration can cause the batteries to drain quickly and even damage them.

To charge the device:

- 1. Turn the device off (see Section 3).
- 2. Unscrew the cover of the sealed connector and connect the charger.

In case the device does not charge, please refer to Section 11 to resolve the issue.





When the charger is connected, information about the current battery level of the smartphone and the total charging time of the smartphone battery and the optional battery will appear. On average, it takes 3-5 hours to fully charge the AQUATAB S with two batteries, depending on the remaining charge level.

*Important!* Make sure the sealed connector (USB/charging port) is completely dry before connecting the charger cable. Water, especially seawater, may corrode the contacts in the connector when the charger is connected. Therefore, it is important that the sealed port is dry and closed with a special cover when not in use. Corrosion damage to sealed connector pins is not covered by the warranty.





## 6 Pressure and temperature sensor.

AQUATAB S has a highly sensitive pressure and temperature sensor that is designed to measure depths up to 300 meters.

Please launch the AQUATAB service application to view the current depth and temperature data. Please refer to Section 8 for details on how the application works.









# 7 Underwater navigation.

AQUATAB S is a unique device that allows the diver to determine his/her accurate geolocation underwater, which is obtained using the AQUATAB S's inbuilt navigation receiver module. The navigation module allows divers to use the navigation functions and mark the exact location of objects on pre-loaded offline maps.

*Important!* The smartphone's internal GPS/Glonass receiver will not be able to receive the GPS/Glonass signal underwater. Underwater navigation in AQUATAB S is possible only if a special external GPS/Glonass receiver is connected using any of the proposed options as specified in this Section below.

### 7.1 Option #1 - RedWave wireless underwater navigation

Underwater navigation function in AQUATAB S can work when used in conjunction with the RedWave navigation system<sup>2</sup>, which includes light floating buoys (satellite navigation signal repeaters) and an acoustic receiver modem connected to AQUATAB S.

The RedWave navigation system provides navigation data (absolute geographic coordinates and depth) that allows a diver to determine his/her geolocation on any offline maps. The operating principle of the navigation system is similar to that of global satellite navigation GPS and GLONASS. The system allows the diver to determine the geographic position underwater without the need to surface and use remote GPS antennas over the cable.

#### The main advantages of underwater navigation:

- Works with offline maps in real time.
- Determines diver's own location.
- Records the movement route (track).
- Allows saving various points under water (found objects, etc.) by saving markers or adding to favorites.
- Supports fulfillment of route tasks (inspections, diagnostics, search, etc.) by matching the geolocation with movement track.
- Allows taking media notes in real time (underwater photo and video recording with reference to GPS coordinates)
- The maximum distance between buoys and repeaters is up to 700 meters / 2296,59 feet (underwater area).

<sup>&</sup>lt;sup>2</sup> The RedWave navigation system, as well as its components: the RedBase repeater buoys and the RedNODE acoustic receiver, are developed by Underwater Communications and Navigation Laboratory LLC. More information about the company's products: www.unavlab.com.





*Attention!* For more information on working with maps, please refer to Section 8.2.

Hydroacoustic buoys-repeaters are designed to organize a long navigation base underwater, which is then utilized by navigation receivers to function correctly. The long navigational base is formed with the help of at least four buoys. Each set of buoys contains four buoys with serial numbers (addresses) from "1" to "4". Buoys's serial number determines the isolating code of communication channel. Therefore, the system requires the presence of all buoys in the set.

It is possible to replace buoys with buoys from another set with the same addresses, any other options are unacceptable and will lead to the impossibility of determining coordinates using navigation receivers. The following picture shows the general view of the buoy:



Buoys are placed on the water surface in subjected water area with their positions fixed using anchors.

It is worth mentioning that although the buoys have a slight positive buoyancy, they are not intended for direct attachment to the anchor line. To unload the buoy from the weight of the anchor rope, fenders (or floats) corresponding to the rope weight should be used.

For more information about the operation of the system and the installation of buoys, please visit the manufacturer's website:

#### https://docs.unavlab.com/documentation/EN/RedWAVE/RedWAVE\_Users\_Manual\_en.html

Before diving, you must attach the acoustic navigation receiver using either of following ways:

- on the diver's shoulder;
- on a special panel that the diver holds in his hands;
- on the cylinder to ensure the lowest possible acoustic shadowing.





Optimum operating conditions for the hydroacoustic receiver are achieved when there is a direct line of sight between the navigation receiver and the hydroacoustic transmitters of all four buoys throughout operation time.

The following picture shows the variant of placing the hydroacoustic receiver on the main strap of a diver's cylinder.



Next, you need to connect the RedNAV acoustic receiver to the sealed AQUATAB S connector.

*Important!* It is strictly recommended to connect the RedNAV acoustic receiver to the sealed AQUATAB S connector on the surface. Carrying out the physical connection procedure in water can damage both the acoustic receiver and the AQUATAB S itself.

To start working with the underwater navigation system, you need to launch the AquaTab service application (see Section 8.1.) by pressing the 'Run' button (1) and wait for the coordinates to be determined (2). It usually takes from 20 seconds to 5 minutes, depending on a number of factors, including weather conditions.



*d* **Important!** Make sure the service is connected - this is displayed at the bottom of the AquaTab service application. If the service is not connected, then the coordinates will not appear and you need to find out the cause of this problem. See Section 11 for details.

To the left of the 'Run' button is a 'Satellite' button to check the status of the relay buoys and determine if any of the buoys has a problem.



To the right of the 'Run' button is the main settings button.







In the "Settings" section, you can configure the system depending on the equipment used, diving conditions, etc. Please do not change the settings yourself without consulting our specialists.

When finished with the underwater navigation, it's required to correctly end the connectivity session by pressing the 'Stop' button in the AquaTab application:



This will stop the transfer of geolocation data and allow you to correctly record and save the dive track.

For more information about the AquaTab application and its features, see Section 8.

### 7.2 Option #2 - Underwater navigation option AQUATAB FLOATING BASE.

AQUATAB FLOATING BASE is a surface-based system that allows you to transmit GPS/Glonass satellite signals, as well as the Internet via a wire connected to AQUATAB S, which makes it possible not only to determine your location in an unlimited water area, but also to transmit any media content or information to the surface.

*Attention!* The optional navigation systems specified in this Section are sold separately.





# 8 Software

The AQUATAB S underwater tablet computer runs on the Android operating system, which allows you to install the applications officially available through OS app stores. At the same time, AQUATAB S comes with pre-installed applications, in particular, AquaTab and OsmAnd<sup>3</sup>.

### 8.1 AquaTab service application.

To work with the underwater navigation system (see Section 7 for more details) or activate the pressure sensor and obtain data on temperature and current depth, you must use the AquaTab application:



This is a service application that has a number of important functions, and also allows you to properly configure the use of the underwater navigation system.

In the "Settings" section, you can configure the system depending on the equipment used, diving conditions, etc. Please do not change the settings yourself without consulting our specialists.



<sup>&</sup>lt;sup>3</sup> Developed by: OsmAnd BV (https://osmand.net).





The main Settings menu contains the following items:

### AQUATAB

Settings	
Main	>
Connection	>
Dept sensor	>
Track recording	>

Menu item "General Settings":

Main - allows you to make basic system settings.

Connection – allows you to select how you want to connect to the navigation system.

Depth Sensor - Fine-tune the pressure sensor to provide the most accurate depth data depending upon the dive conditions.

Track recording - setting the rules for recording and logging.



Language - allows you to select the application language Russian, English.

Mock locations - Must always be ON to receive geolocation data from the navigation system.

Broadcast GPS data to OsmAnd – allows you to select the version of the OsmAnd mapping application.



Depth - allows you to select the data source: AQUATAB's build-in pressure and temperature sensor or the RedNAV acoustic receiver. When using the navigation system, you must select the "GPS" item.





#### Menu item "Connection":

AQUATAB		
Settings: Connection		
Interface		
USB	BLUETHOOTH	
Interface Settings		
Baud rate	115200	

This menu item allows you to select the navigation system connection mode: USB (via a sealed connector) or BLUETOOTH (in case you use a diver's navigation receiver RedNAV).

It also provides the ability to set the data transfer rate.

*Important!* It is not recommended to change these parameters yourself.

#### Menu item "Depth sensor":



Allows you to adjust the built-in depth sensor depending on the environmental conditions when diving (fresh water or sea water, high mountains, etc.).

#### Menu item "Record track":



This setting allows you to set the parameters to store dive data.

This technical information is necessary to analyze the quality of navigation data and must be provided to our specialists in order to troubleshoot navigation system malfunctions. See more below.





The raw data and service information needed to analyze the dive data is stored in a dedicated RAW section:



This information is necessary for our technical staff to determine the causes of problems that the user has encountered during the course of a dive or series of dives. When contacting our specialists, please download and attach with your request all data files from this folder without exception. To download all files, you must click on the "Select all" button, and then "Share" and choose any convenient method offered by the application:







The "Clear" button means to remove the selection and you can select files individually, if necessary. The "Delete" button means to delete the selected files. Please do not delete the files, they are necessary to solve possible problems related to the use of underwater navigation.

*Important!* If you think that you made a mistake when choosing the settings, then in this case, click "Default" or "Reset settings" and the application will return to the factory settings.





### 8.2 Maps

The service application is optimized to work with OsmAnd maps, which allows you to display the location of buoys-repeaters on the screen:



The application makes it easier to navigate underwater and greatly facilitate underwater work, since the diver can see the entire area covered by the GPS / Glonass satellite signal on the screen.

The diver has the liberty to use any other mapping application. The diver can view his/her geolocation and if the mapping applications allows, record the dive track as well.

When working with OsmAnd maps, please note that the developer offers two versions:

- OsmAnd Free A shareware and allows you to install a limited amount of maps; additional maps can be purchased as an in-app purchase.
- OsmAnd Plus paid version and contains the included map pack and additional features.

In most cases, the OsmAnd Free version contains everything you need and is optimal for underwater navigation with AQUATAB S.

Important! For correct operation of underwater navigation system, please be sure to perform the setup of mapping application before diving. Please navigate through menu to the "Settings" -





"General" - "Broadcast GPS data to OsmAnd" section and select the version of installed OsmAnd application.



Do not press the OFF/STOP button if you are planning to use underwater navigation.

Important! Please, learn more about the available both versions of OsmAnd, as well as the functionality on the developer's website (www.osmand.net). Please note that not all features are necessary or applicable underwater. For example, features such as "Avoid toll roads" or "Calculate time of arrival" will obviously be of no use to a diver.





# 9 Specifications

#### 9.1 Materials:

Housing/body	Aluminum alloy
Glass	Chemically strengthened / tempered / solid polycarbonate
Stylus	Photopolymer resin / plastic

### 9.2 Hardware:

Characteristics of the basic version, which uses a modified smartphone Samsung Galaxy Note 10 lite:

Depth	up to 100 meters
Operating system	Android 11
Screen working area	6.7'
Dimensions	163.7×76.1×26 mm
Display	Super AMOLED HDR
Permission	1080×2400 pixels, 20:9 ratio (~394 ppi density)
CPU	Octa-core (4×2.7 GHz Mongoose M3 & 4×1.7 GHz
	Cortex-A55)
Memory	128GB 6GB RAM, 128GB 8GB RAM
Memory slot	microSDXC
rear camera	three 12 MP
Front-camera	32MP
Video	4K@30/60fps, 1080p@30/60/240fps; gyro-EIS
Net	Wi-Fi 802.11 a/b/g/n/ac, dual-band, Wi-Fi Direct,
	hotspot
Bluetooth	5.0, A2DP, LE
Geolocation	A-GPS, GLONASS, GALILEO, BDS
Peculiarities	Accelerometer, gyro, proximity sensor, compass
Battery	LiPo 4500 mAh
Additional navigation battery	LiPo 2300mAh
Information input technology	EMR
Stylus	EMR stylus
Weight	1.1 kg

### 9.3 Navigation module

The AQUATAB S housing contains an electronic control board that provides data transfer from external devices, including a navigation receiver, recharging the device and navigation receiver, connecting the device to a ersonal computer, and ensuring its operation as an underwater navigator.





# 10 Care and Maintenance.

In order to prolong the life of your AQUATAB S, please read and follow these guidelines carefully.

Do not leave AQUATAB S and AQUATAB PEN in direct sunlight for a long time. Excessive heat may damage these devices.

The device can be stored at temperatures between 0°C and +40°C.

The device can be used at temperatures between 0°C and +40°C.

If the device is not in use, it is recommended to store it in a special protective case (included in the delivery).

Important! To avoid scratches, do not wipe the protective glass and rear camera glass with hard or abrasive materials.

### 10.1 After the dive

The body of the AQUATAB is made of a corrosion-resistant aluminum alloy. However, sea water is a corrosive environment that can have a negative impact if exposed for a long time.

After diving, immediately submerge the AQUATAB S completely in clean fresh water. If you cannot do this immediately, then do so as soon as possible after the dive. At the same time, make sure that the sealed connector is closed with a special cover.

Important! Before using underwater, always check the tightness of the sealed connector and the integrity of the o-ring.

### 10.2 Sealed connector

If you are not using a sealed connector (to connect a GPS receiver or other external device, make sure that the sealed connector is tightly closed with the protective cap (included) before diving. Never dive or lower the AQUATAB S into water unless the sealed connector is closed. Water, especially salt water in the connector, will corrode the contacts when the charger is plugged in. This will not happen if the connector is dry. Corrosion damage is not covered by the warranty.

# Important! Always check the sealed connector before diving. It must be dry and clean, and the o-ring must be intact with no sign of cracks or breakage.

To prevent damage to the O-ring, it must be kept clean and lightly lubricated with silicone grease. This will help keep the O-ring from drying out and being damaged when protective cap of the sealed connector is screwed on. To lubricate the O-ring, it must be carefully removed and a small amount of lubricant applied in a thin layer. Apply only the required amount of lubricant so that the O-ring is smooth. Do not stretch the O-ring.





### 10.3 AQUATAB PEN stylus

After diving, immediately submerge the AQUATAB PEN completely in fresh water just as AQUATAB S. If you cannot do this immediately, do so as soon as possible after the dive.

Check the tip - it should be intact and should move freely when gently pressed with a small amplitude.

Important! Do not try to move the tip too fast or forcefully. Doing so can damage the stylus as it is designed to be used gently with smooth strokes without applying excessive force.

To clean or replace the tip, unscrew the cap (counterclockwise), pull out the tip, clean and install a new one.





# 11 Problems and Troubleshooting

Problem	Possible reasons
AQUATAB S is not charging	Turn off the device (see Section 3).
	Check the connection of the charging cord to the
	mains.
	Try gently pulling it out several times and quickly insert
	the charging cord back into the sealed connector.
AQUATAB service does not start	Make sure the 'Run' button is pressed.
	Please fully Charge AQUATAB S.
AQUATAB PEN does not work	Unscrew the tip and rinse it in clean water. It is possible
	that some dirt or dust is hindering free movement of
	the tip.
	Use an optional stylus and contact support.
Coordinates are not detected	In the AQUATAB application, check if the service is
	enabled - make sure the 'Run' button is pressed and
	"Connected" is indicated at the bottom of the screen.
	In the "Satellites" section, check the status of the relay
	buoys. If there is no signal from one of the buoys, then
	it needs to be charged.
	Stop the AQUATAB service application by pressing the
	'Stop' button and restart the service application by
	pressing the 'Run' button again.
	Wait for up to 5 minutes.
AQUATAB PEN stylus falls out of	Tighten the adjusting bolt.
the compartment	

If you have not found a solution to your problem, please contact the Support Service.

Important! Do not disassemble AQUATAB S by yourself. In case of problems, contact the store where you purchased it or contact the manufacturer directly. The manufacturer's contacts are listed on the website: www.duslate.com in the "Contacts" section.





# 12 Technical support.

Before contacting technical support for assistance or returning a product, please read Section 11 carefully and try to resolve the problem in the ways indicated.

#### **Technical support:**

Email: info@duslate.com Website: www.duslate.com Phone + 8 800 350-27-98 +7 (495) 198-11-59 Country of origin: Russian Federation.

All of our devices undergo rigorous internal quality control and performance testing. The product fully complies with TU 26.20.15-001-39017689-2022.

Manufacturer: Dusol LLC

Russian Federation, 107564, Moscow, Krasnobogatyrskaya st., 2/2, 34.





### 13 Service and Warranty

#### **TERMS OF USE**

The device is designed for underwater use at depths up to 100 meters and water temperatures between 0°C and +40°C. To work with the device and enter information, you must use a special stylus AQUATAB PEN, located in the device holder.

#### STORAGE AND TRANSPORTATION

The device is recommended to be stored and transported in a special protective case (included in the delivery set). The device can be stored at temperatures between  $+8^{\circ}$ C and  $+40^{\circ}$ C.

#### MANUFACTURER WARRANTY

This product is warranted to be free from manufacturing defects for a period of one (1) year from the original date of purchase. The manufacturer guarantees reliable operation of the AQUATAB S underwater tablet computer and the AQUATAB PEN stylus during the entire warranty period, subject to the rules of operation, storage and transportation.

Delivery to the service center of the device, subject to warranty repair, is carried out by the client at his own expense. The manufacturer has the right, at its discretion, to repair the device or replace it with a new one. All other claims of any nature are not covered by the warranty. Other than the foregoing, no other warranties, expressed or implied, apply to this device.

Warranty obligations do not apply to materials and parts that are considered consumable during operation (stylus tip, etc.).

#### CONDITIONS FOR TERMINATION OF WARRANTY

Warranty obligations may be terminated in the following cases:

- presence of obvious or hidden mechanical damage to the device caused by violation of the rules of transportation, storage or operation.
- non-compliance with the Rules and operating conditions for devices of this type, identified during the repair process.
- damage to control labels and seals (if any).
- presence of foreign objects inside the body of the device, regardless of their nature, if the possibility of such is not specified in the technical documentation and operation instructions.
- > device failure caused by force majeure and/or actions of third parties.
- > identified traces of attempts to disassemble the device.
- > identified traces of corrosion of the sealed connector contacts.





### 14 Recommended accessories.

The following accessories and devices can be purchased separately:

- Optional AQUATAB PEN.
- Optional tip.
- AQUATAB CLAW glove pad.
- Optional USB cable for AQUATAB S charging and data transfer.
- RedWAVE wireless underwater navigation system (transponder buoys + hydroacoustic receiver).
- AQUATAB FLOATING BASE.

For purchase, please contact the manufacturer or dealer in your area.