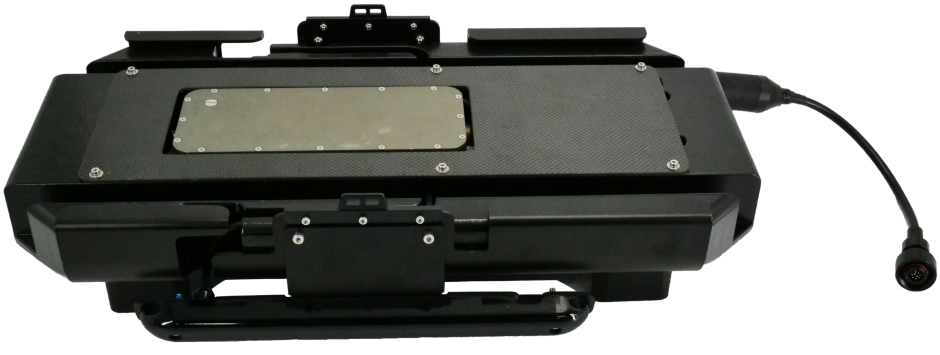
USER MANUAL
Side Scan Sonar(100m)



V2.2

Contents

01/Safety Rules

Before operating FIFISH products, please be sure to receive relevant training and take practices, and read this document thoroughly before performing underwater operations. Operations in violation of QYSEA safety rules may result in the consequence that your safety and interests cannot be guaranteed.

1.Regarding the damages to accessories and underwater ROV caused by unauthorized modification, disassembly or opening in violation of regulations, or damages to accessories and underwater ROV caused by improper installation, improper use or operations not in accordance with official regulations, QYSEA doesn't bear any legal responsibility and the warranty will also be ineffective.

2. When installing the accessories, the underwater ROV shall be shut down.

3. Please check whether all the parts of the sonar are complete. If there is any part missing, please contact QYSEA after-sales service personnel in a timely manner.

4. Please check whether all interfaces, plug-ins and O-rings are kept dry and tidy, otherwise they should be replaced as soon as possible.

02/Product Specification

Item	Specification
Frequency	900kHz
Max. Slope Range	75m @900kHz
Parallel Beam Width	0.4° @900kHz
Vertical Beam Width	40°
Along Track Resolution	0.14m@20m; 0.35m@50m;
Across Track Resolution	1cm@900kHz
Signal Type	CW/Chirp
Power Supply	DC12-30V
Power Consumption	10W-30W
Interface	100M Ethernet
	RS232 Auxiliary Sensor
Depth Rating	100 meters
Working Temperature	-5°C~35°C

03/Usage Instructions

Precautions before usage

1. Please get the HydroSonar software ready before using the Side Scan Sonar.

2. Before usage, please check whether all accessory interfaces, plug-ins, and O-rings are damaged or missing, and whether they are kept dry and clean.

3. Before connecting the sonar with the underwater ROV, the underwater ROV shall be powered off.

4 Check the battery level of the underwater ROV to ensure that there is sufficient and stable power.

5. Before putting the ROV in the water, please check and ensure the connection between the accessories and the ROV is sealed to be watertight.

6. When attaching the connector of the water sampler to the Q-interface of the underwater ROV, please ensure accurate alignment between the connector's black positioning pin and Q-interface's small cut to avoid damage.

7. Check and ensure the underwater ROV and the remote control are working normally.

8. Check the batteries of mobile phones, tablet PCs and laptops.

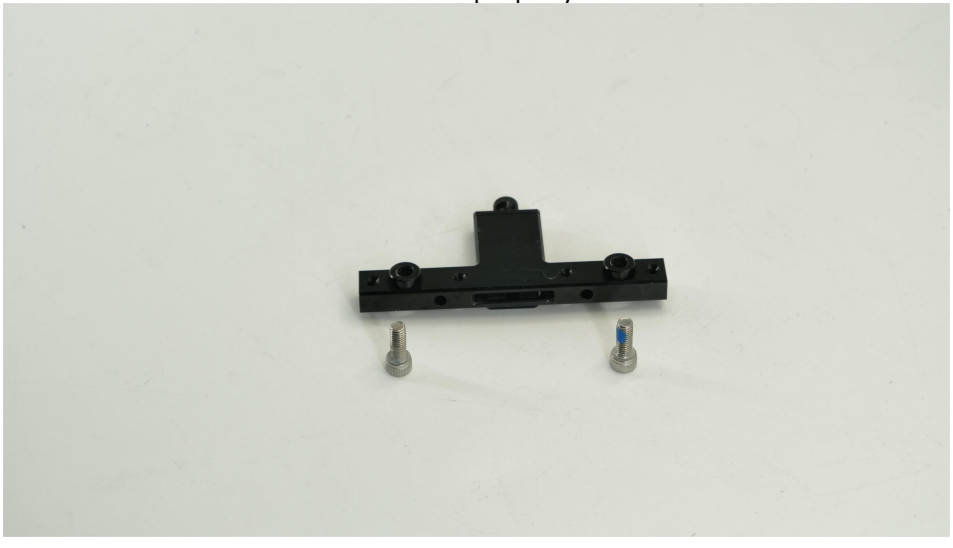
9. After-sales service email: support@qysea.com

04/Installation

1. Installation Method 1

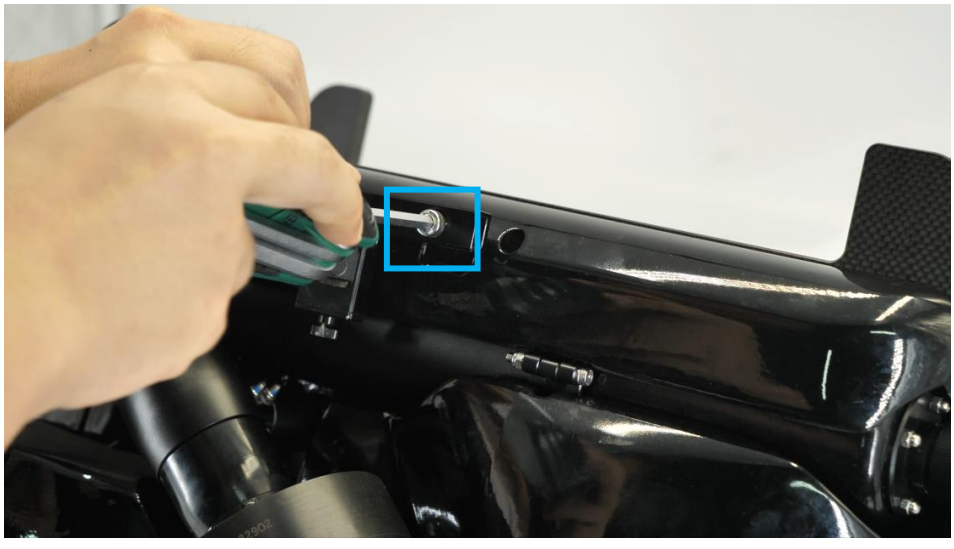
1.1. Get the quick release buckles ready before mounting them on the W6 ROV.

1.1.1. Check and make sure the screws fit properly before the installation.



1.2. Install the quick release buckles on the underwater ROV.

1.2.1. Align the screws to the mounting holes on the ROV before tightening them.

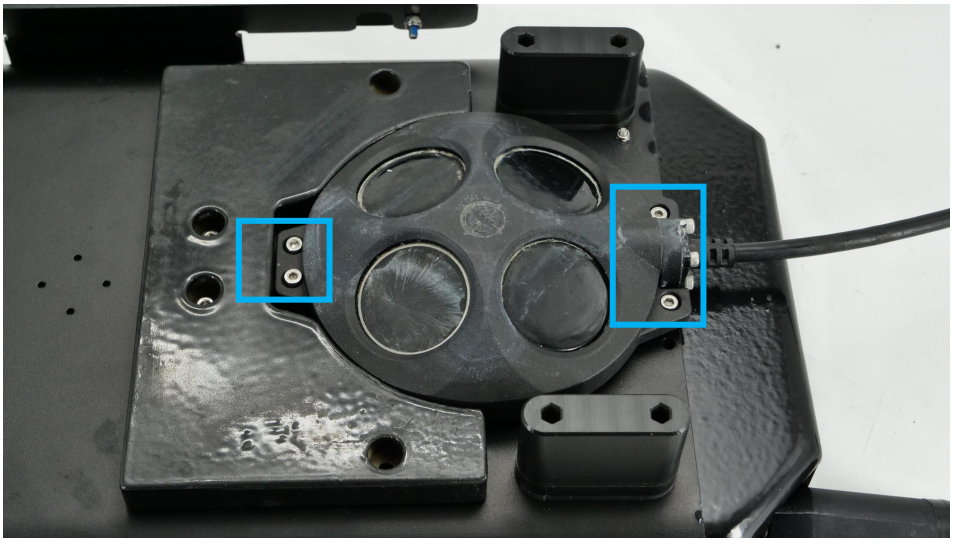


1.2.2. After tightening, pull the locking pin downwards and press the buckle retainer inwards to keep the quick release buckle opened.

1.3. Install the Q-DVL(optional) at the bottom mounting area of the side scan sonar module.

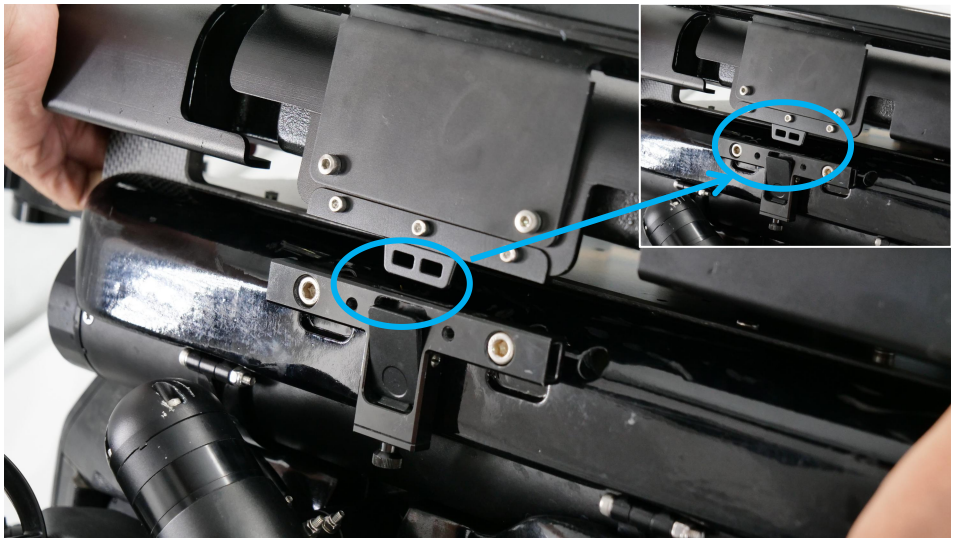
1.3.1. Flip over the side scan sonar for pre-installation of the Q-DVL.

1.3.2. Thread four M3 screws into the screw holes to lock the Q-DVL in place.



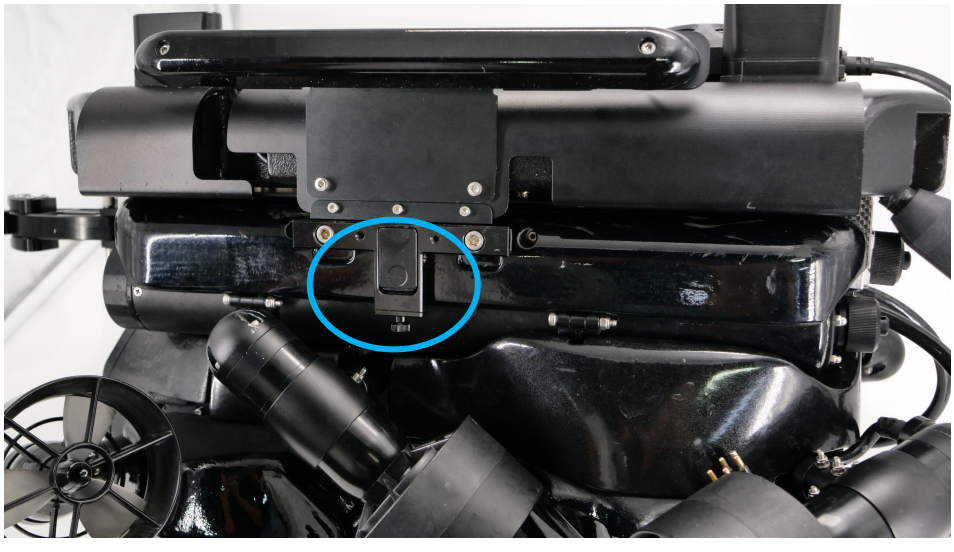
1.4. Align two male connectors on the side scan sonar to the buckle slots.

1.4.1. Align the male connector on the side scan sonar module to slots on the buckle before the installation.



1.5. Lock the quick release buckles.

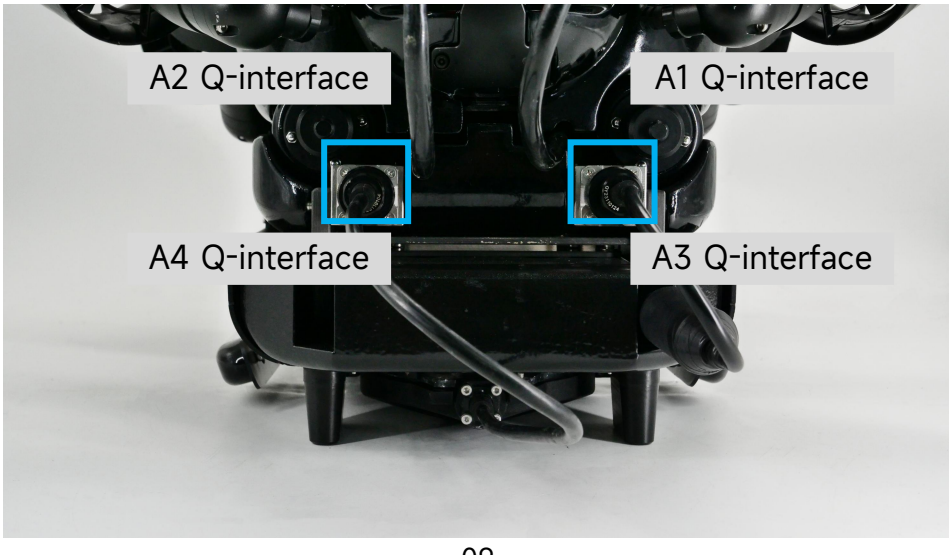
1.5.1. Pull the locking pin downwards to secure the side scan sonar module in place.



1.6. Attach the connectors for the Q-DVL(optional) and side scan sonar to the Q-interface on the ROV.

1.6.1. Connect the cables for the Q-DVL and side scan sonar to the Q-interface of the ROV.

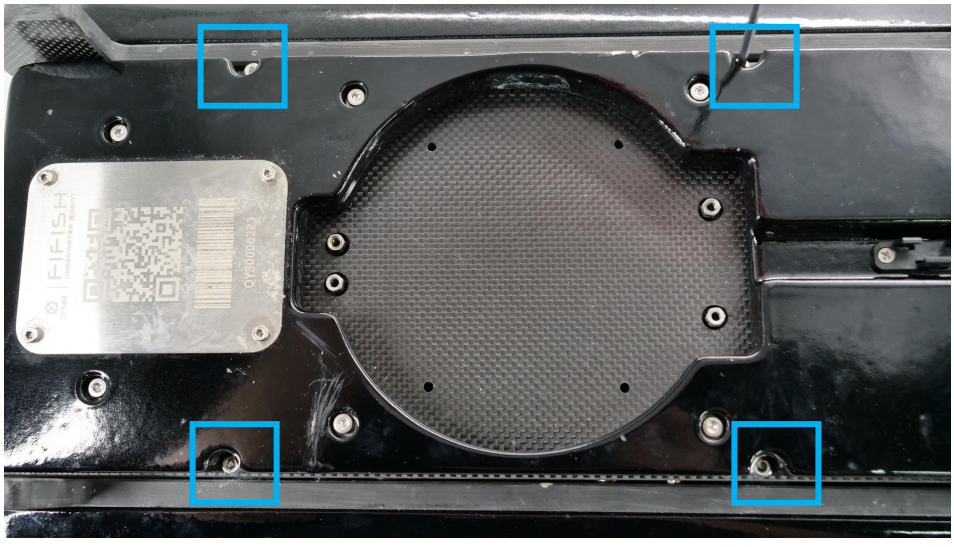
1.6.2. Please attach the connector of the Q-DVL to the A3 or A4 Q-interface only. Attach the connector of the side scan sonar to any Q-interface on the ROV.

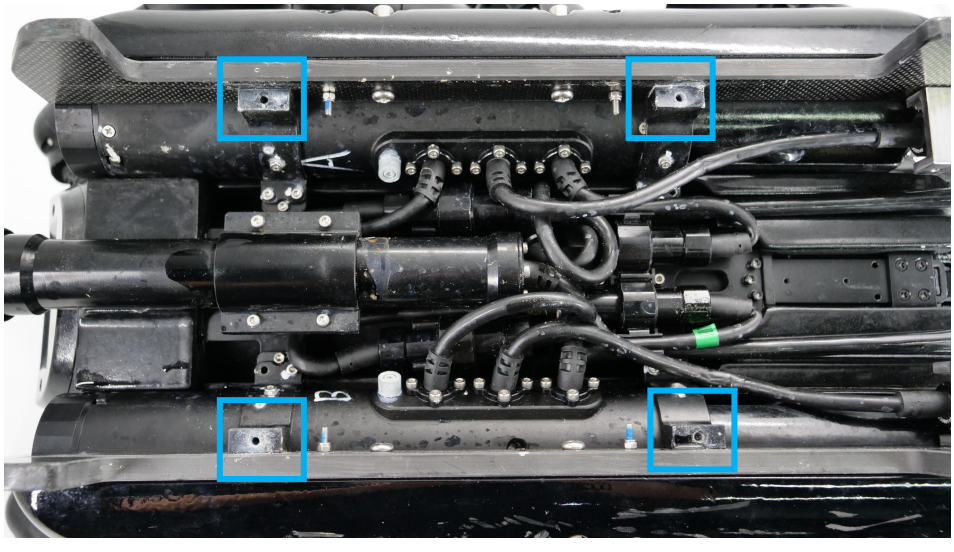


2. Installation Method 2

2.1. For the FIFISH W6 NAVI, please detach the Q-DVL module from the ROV first before installing the side scan sonar module at the bottom of the ROV.

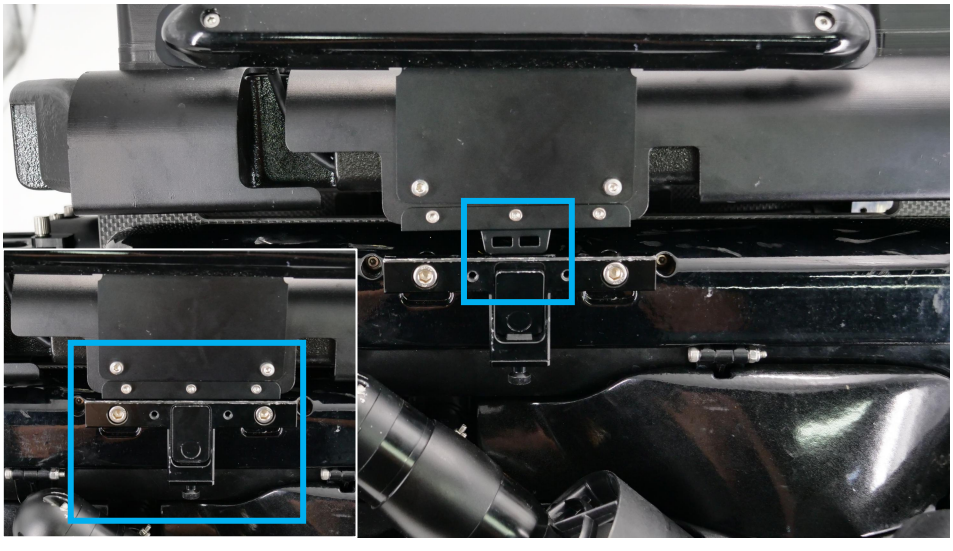
2.1.1. Remove the four securing screws to disengage the robotic arm module from the ROV.





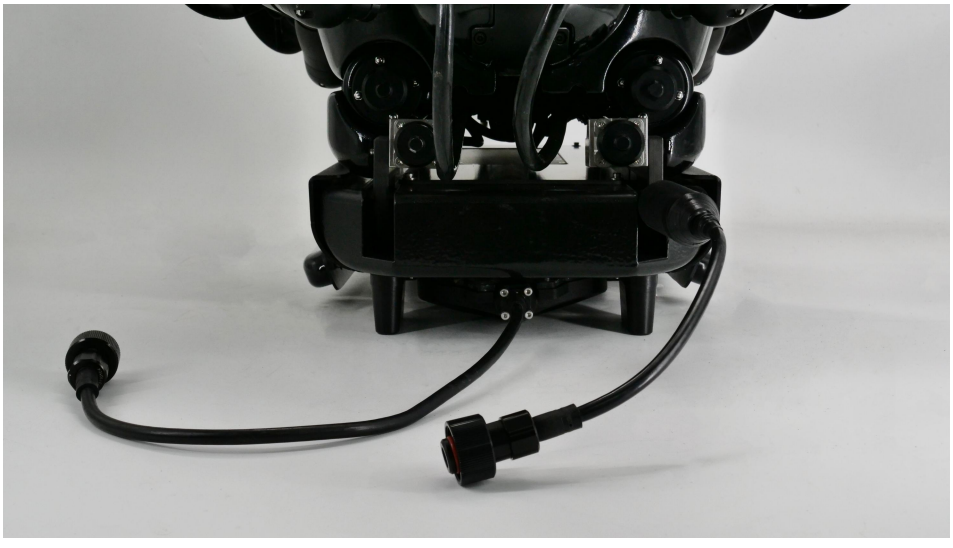
2.2. Install the quick release buckles on the ROV while aligning male connectors on the side scan sonar to the buckle slots.

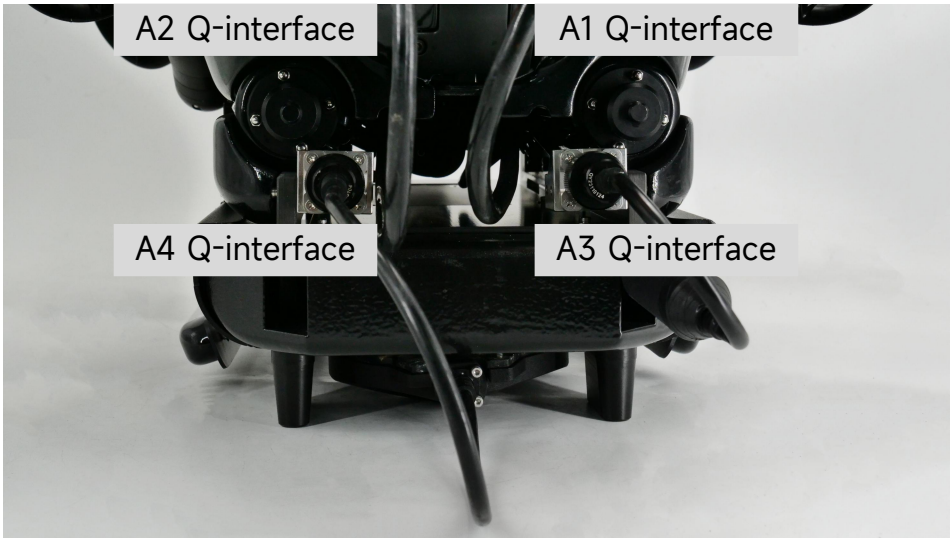
2.2.1. Fit the male connectors of the side scan sonar module into the buckle slots while pull the locking pin downwards to lock it in place.



2.3. Attach the connectors for the Q-DVL(optional) and side scan sonar to the Q-interface on the ROV.

2.3.1. Couple the connector of the Q-DVL with the A3 or A4 Q-interface only. Attach the connector of the side scan sonar to any Q-interface on the ROV.





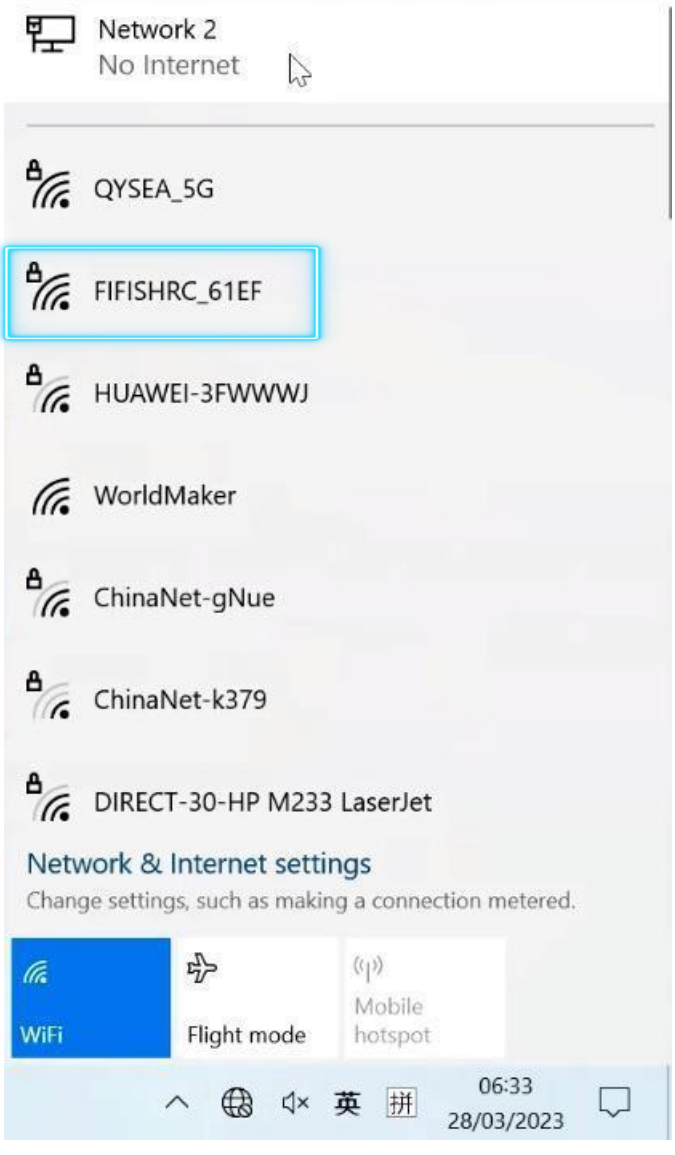
3.Detachment

3.1. Turn the ROV upside down to disengage the side scan sonar module from the ROV.

3.1.1. Pull the locking pin of the quick release buckle downwards and press the buckle retainer, then release the locking pin to engage the buckle retainer before detaching the sonar module from the ROV.

1. Get the whole ROV system connected and connect the WiFi of the RC

1.1. Turn on WiFi of the laptop and connect to the WiFi of the remote controller



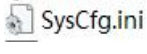
2. Download “HydroSonar” and install the app on the laptop

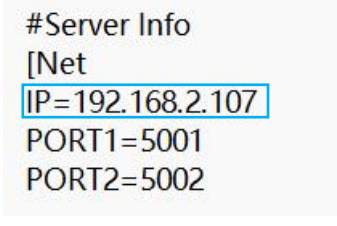
2.1. Install the HydroSonar software by using the included U flash drive or check the download link of the “HydroSonar” below

HydroSonar V1.1.16	https://drive.google.com/file/d/1YsJzzddepUxORj53I9DJj0IuR5USDhAy/view?usp=sharing

3. Change the IP Settings

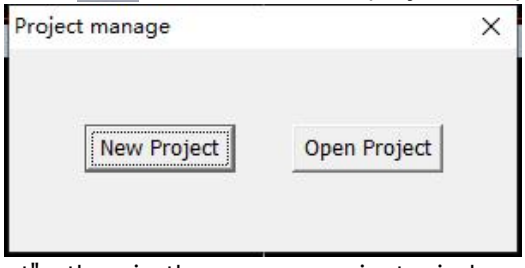
3.1. Open the folder where the HydroSonar app is located and find the script file named “SysCfg.ini”, double click the file and change the local IP address of the laptop from 192.168.1.** to 192.168.2.107



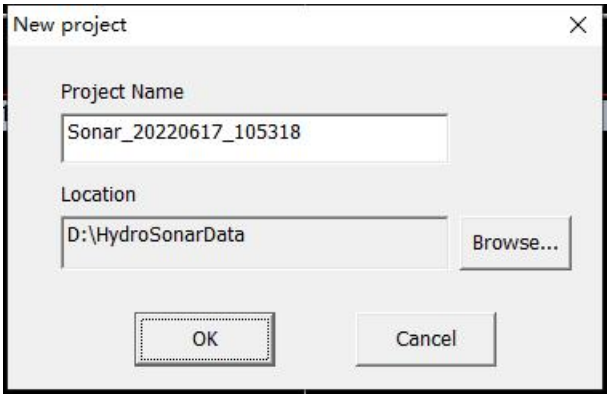


4. Create a “New Project” and connect with sonar

4.1. Click the project icon  to create a new project or open an old project



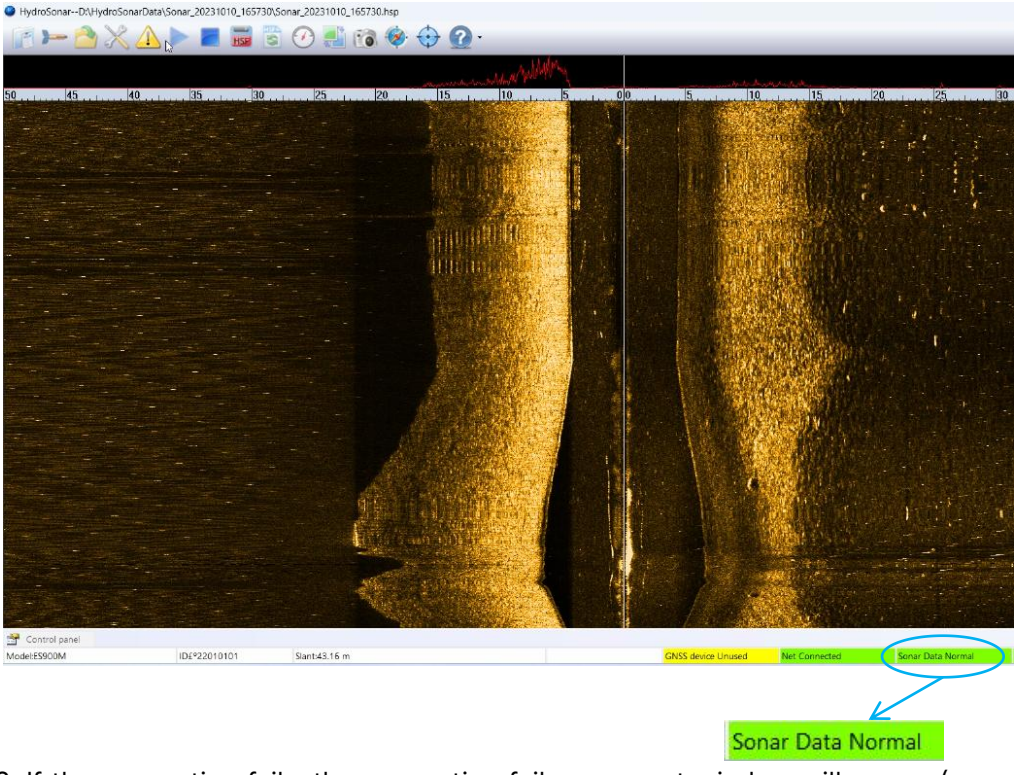
4.2. Click "New Project" , then in the pop-up project window, set up the project name and saving path. Click “OK” as shown in Figure below



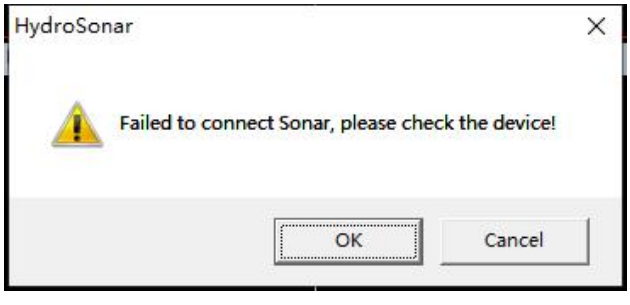
4.3. After creating the new project, click the connection icon  to connect with the sonar, and the prompt window will pop up if the connection is done

5. Connection Failure

5.1. Open “HydroSonar” and check the connection status to ensure the connection is normal



5.2. If the connection fails, the connection failure prompt window will pop up(as shown in Figure below). At the time, please check if the connection between the RC and laptop is success or if the IP setting is set correctly



6. After connecting with the sonar, check the tool icons on the app

6.1.Check the following tool icons (from left to the right), "Project," "Connect," "Open File," "Parameter Settings," "Alarm Settings," "Start Working," "Stop Working," "Start/Stop Storing HSF Files," "Calibrate Pressure," "Switch the Window," "Screen Snapshot," "Navigation Window," "Target Window," and "Help"

refers to connect with the side scan sonar

click the icon to select HSF format playback files and enter the playback mode

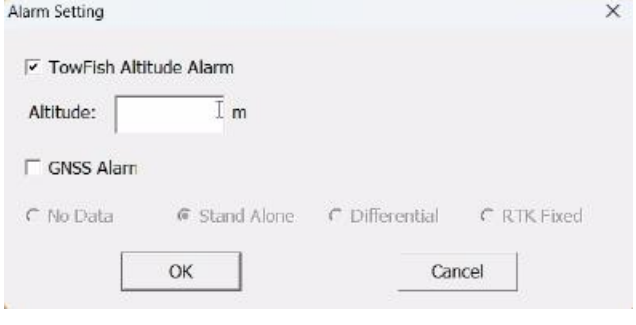
click this icon to start generating the sonar imaging

click this icon to stop generating the sonar imaging

click the icon to start recording HSF format playback files

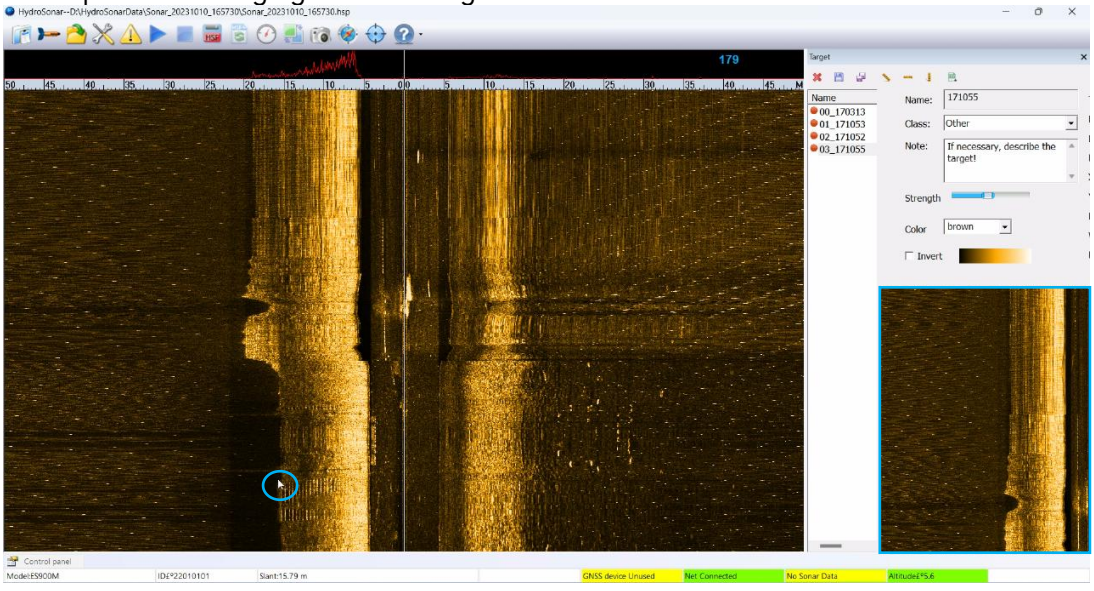
click the icon to stop recording HSF format playback files

used for setting an alarm to know if the towfish depth of the sonar sensor reaches the pre-set value

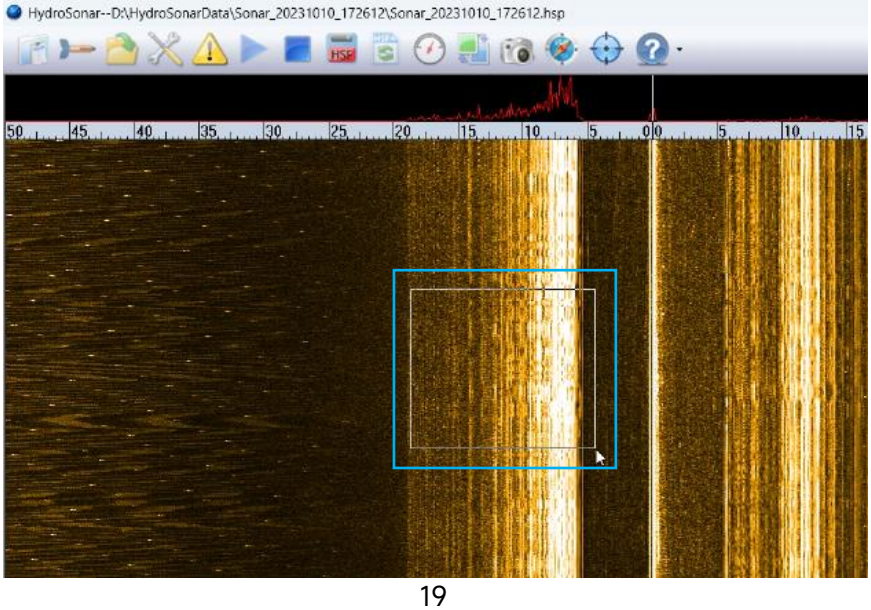


7. Target Window

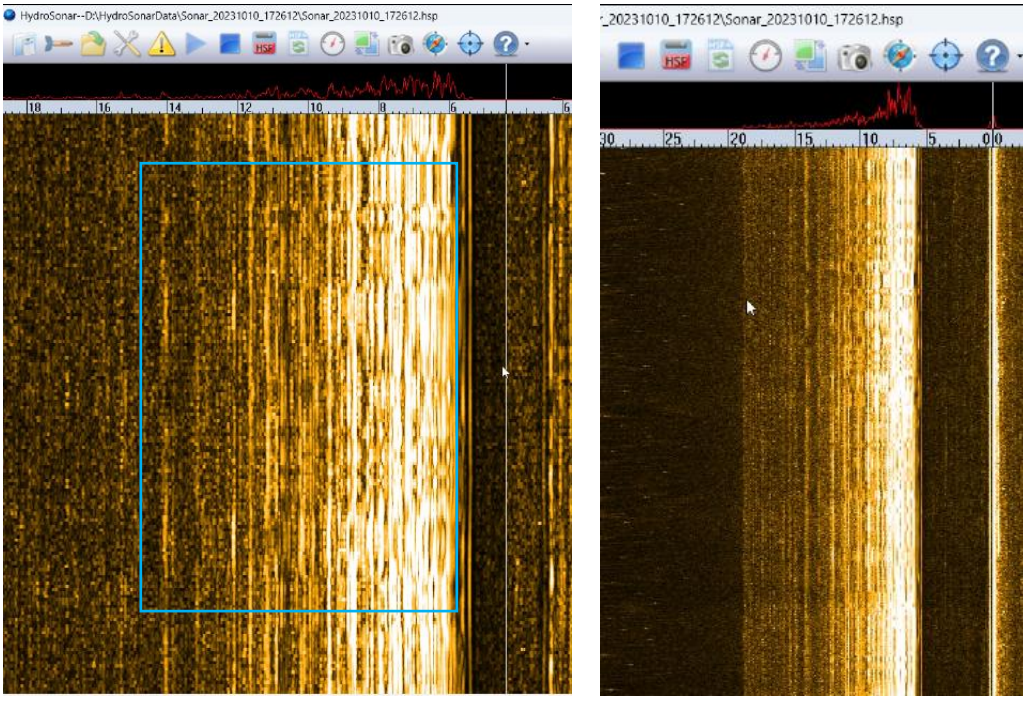
7.1. Click the “Target” icon  to check the “Target” window, and then use the mouse cursor to select an area before double click the right button on the mouse to capture the imaging for the “Target” window



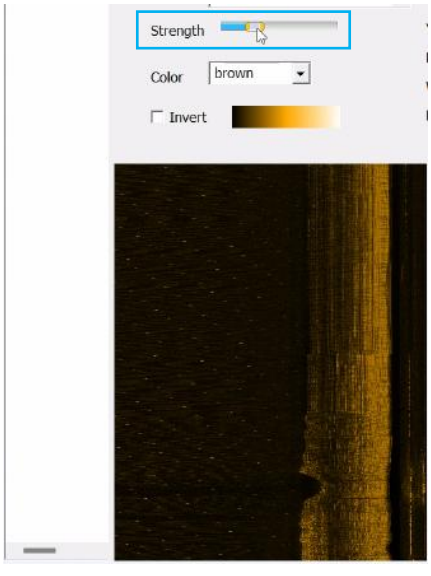
7.2. Click and hold the left button of the mouse to zoom in the designated area if needed



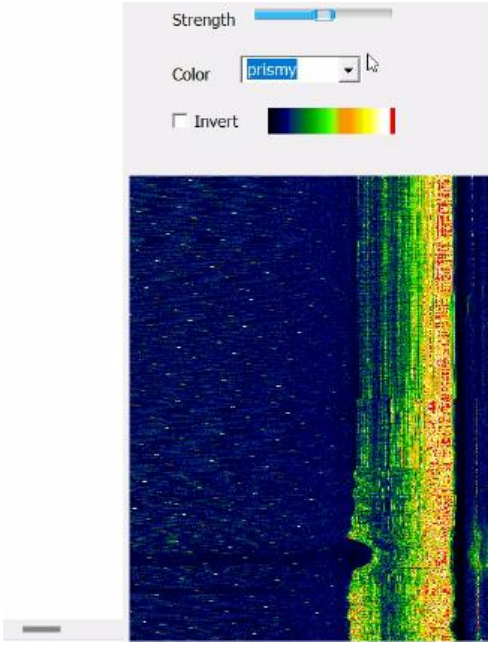
7.3. Double click the left mouse button to retore the imaging after zooming in



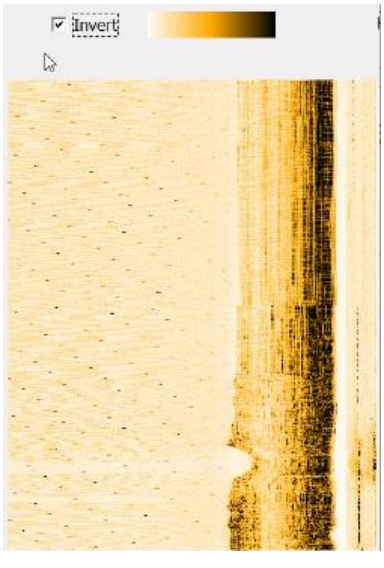
7.4. Adjust the color intensity of sonar imaging by moving the “strength” slider on the strength bar



7.5. Click the color option to select the preferred color

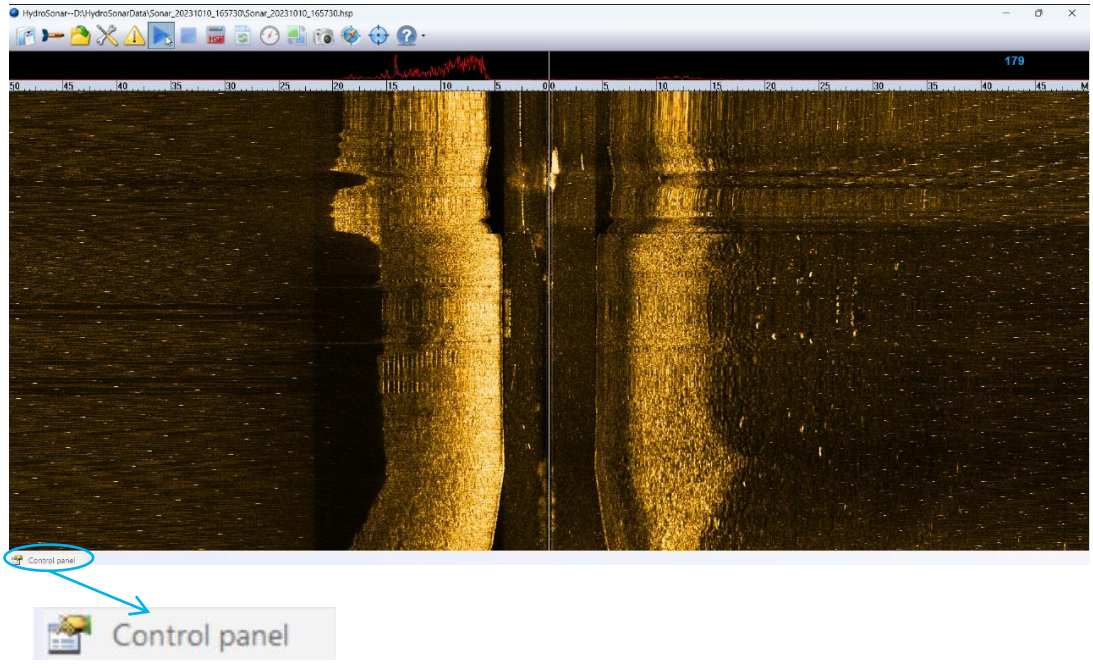


7.6. Click the “invert” button to reverse the sonar imaging

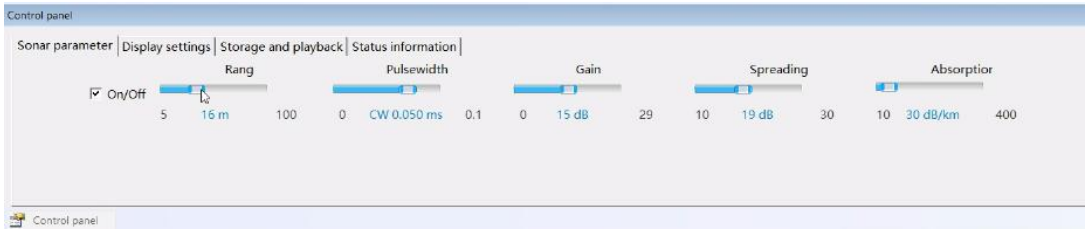


8. Control Panel

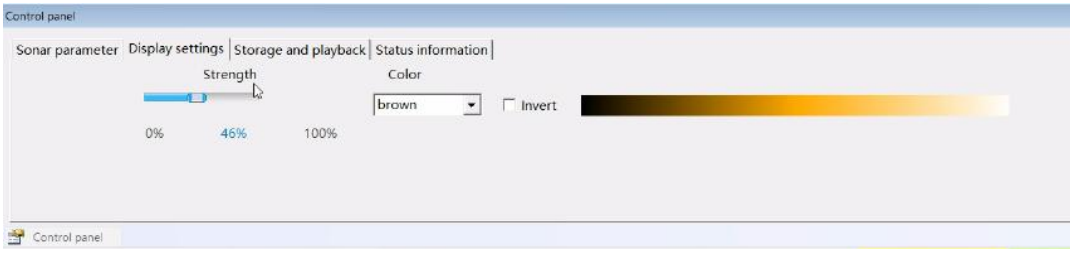
8.1. In the control panel, some settings like the sonar parameter, display settings and so on can be adjusted accordingly



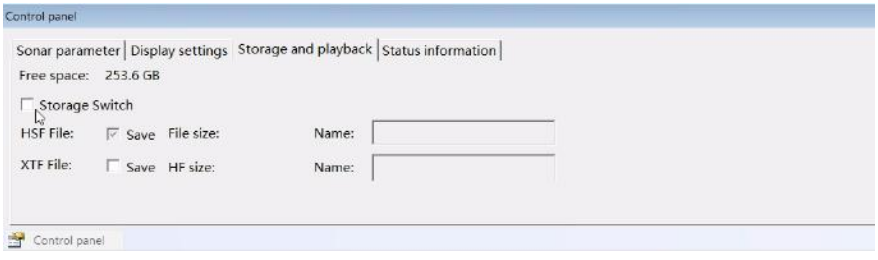
8.2. In the sonar parameter section, the range, pulsewidth, gain, spreading, absorptior could be adjusted accordingly



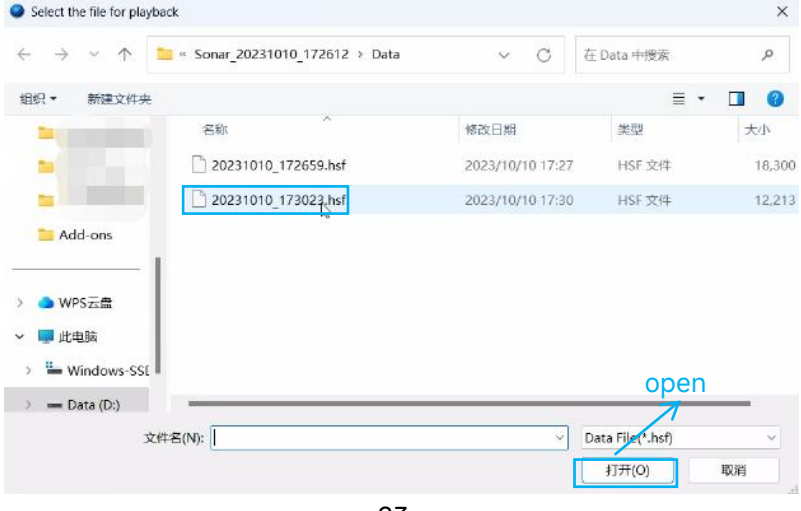
8.3. In the display settings section, adjustments can be made to the color intensity, the color of displayed sonar imaging, and the display method for sonar imaging



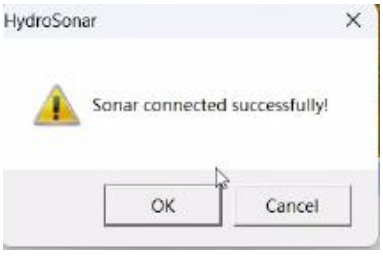
8.4. In the storage and playback section, click the storage switch to start recording the HSF format file, and the file will be saved in the folder automatically when recording is done



8.5. For playback mode, click the stop icon  to stop generating the sonaing imaging,
then click the folder icon  to select the relevant HSF file for playback



8.6. To exit the playback mode, click the connecting icon  to retore the connection with the sonar, once the connection is restored, the connection status prompt will pop up



8.7. In the status information section, some information like temp, humidity and more are viewable

07/Disclaimer

We provide after-sales services to our customers, except for the following situations:

- Collision damages caused by non-manufacturing factors, including but not limited to user faults.
- Damages caused by unauthorized modification, disassembly, or opening of the enclosure that is not in accordance with official instructions or manuals.
- Damages caused by improper installation, improper use or operation not in accordance with official instructions or manuals.
- Damages caused by unauthorized service providers.
- Damages caused by unauthorized modification of circuits and mismatch or misuse of the battery and charger.
- Damages caused by working in harsh water conditions (such as strong acid, strong alkali, strong current, huge waves, etc.).
- Damages caused by product operations in an environment with electromagnetic interference (namely, mining areas or the areas near radio towers, caves, muddy areas, environment with radiation, tunnels, etc.).
- Damages caused by operating the product in an environment that is interfered by other wireless devices (namely, transmitters, video downlinks, Wi-Fi signals, etc.).
- Damages caused by forced diving with aging or damaged components.
- Damages caused by using unauthorized third-party parts that have reliability or compatibility issues.
- Continuous or error-free product operation
- Loss or damage of user data caused by the product
- Any software, no matter it is provided with the product or subsequently installed.
- Failures or damages caused by any third-party products (including products that QYSEA may provide or integrate into QYSEA products at the request of users).
- Any damage caused by non-QYSEA technology or other support (for example, the support for solving the "operation method" problem or incorrect product settings, installation and firmware upgrades).
- Damages caused by operating ROV in sensitive areas (such as military areas, natural resource reserves, marine reserves, marine conservation areas, etc.).
- Damages caused by unpredictable factors (such as water flow, cave collapse, animal swallowing, etc.).
- Products or parts whose identification labels have been changed or removed
- Do not place heavy objects on the product, and handle it with care.

Notice:

This content is subject to change without notice.