



Hi-Target Introduced the Upgraded Dual Frequency Echo Sounder

Learn How HD-MAX Dual Frequency Echo Sounder Simplify Your Hydrography Work.

“The previous edition of HD-MAX is our classical echo sounder serving many users around the world. Among the positive feedback from users, there are mounting calls for adding low-frequency on HD-MAX. We listened and moved on, but we kept holding the product inside without release until we are sure that the performance can satisfy the users and project supervisors, in return for their trust. Now is the right time.”

The model keeps the same name as before, HD-MAX. However, the performances and values in challenging scenarios make it different from the previous single-frequency one.

“It is not simply adding low-frequency components and related algorithms to make it workable. We did not stop at version 1 but continued improving the stability and reliability, while also expanding its compatibility. The new HD-MAX can operate with a wide range of frequencies available, varying from 100kHz to 750kHz at the high-frequency channel and 10kHz to 50kHz on the low-frequency channel as long as it is supported by a certain transducer.”

The HD-MAX dual frequency echo sounder brings extraordinary benefits to the users in these three kinds of scenarios: sediment measurement for dredging projects, a hydrographic survey in high sediment content rivers, and seafloor bathymetry.

Sediment Measurement and Dredging

Surveying and figuring out the thickness and distribution of sediments are always necessary for the pre-dredging work. As we understand that the main power of the lower frequency signal will not return to the very surface of the seabed until it reaches the harder layer beneath the bottom surface, as the high-frequency signal does. Therefore, by analyzing the differences in depth from different signals, the thickness of sediments can be calculated. There's a path to create the sediment distribution map with thickness in different colors with the user's own analyzing software.

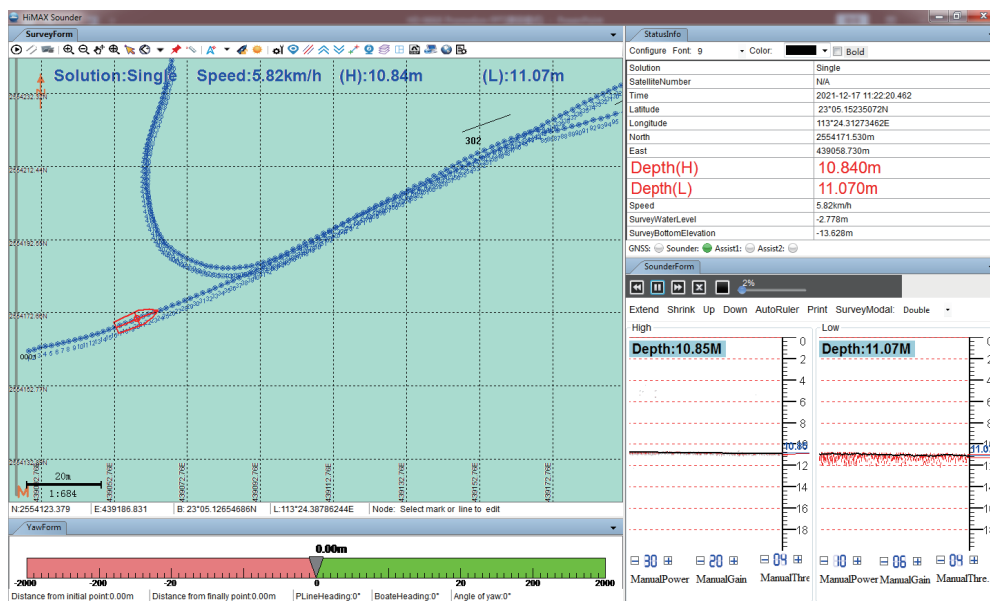


FIG1

Measurement in High Sediment Content

Although the depth result given by low-frequency signals is not as accurate as the one from high frequency, the penetrating advantage of longer wavelength shows its irreplaceable value to surveyors when facing the bathymetry project in the high sediment rivers. With the help of the low-frequency signal and the optimized algorithm, the new HD-MAX proves its reliability at the typical site, the Yellow River, which is famous for its high sediment content around the world.



FIG2

Seafloor Bathymetry

Many hydrographic projects happen inland and offshore while depth won't be a headache most of the time. However, some projects have to be held on the deeper site like Lake Baikal and other similar lakes and reservoirs, or even on the open sea area, where the depth varies from 600 to 2000 meters or even much deeper. Tracking the bottom firmly and offering a relatively reliable depth is crucial to the users.

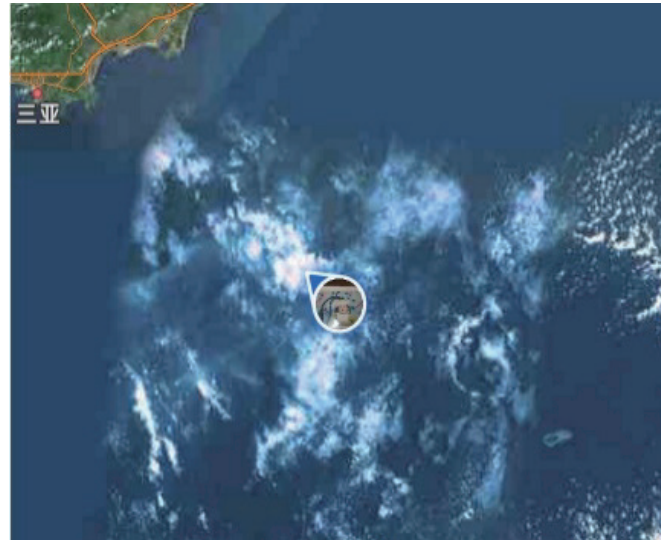


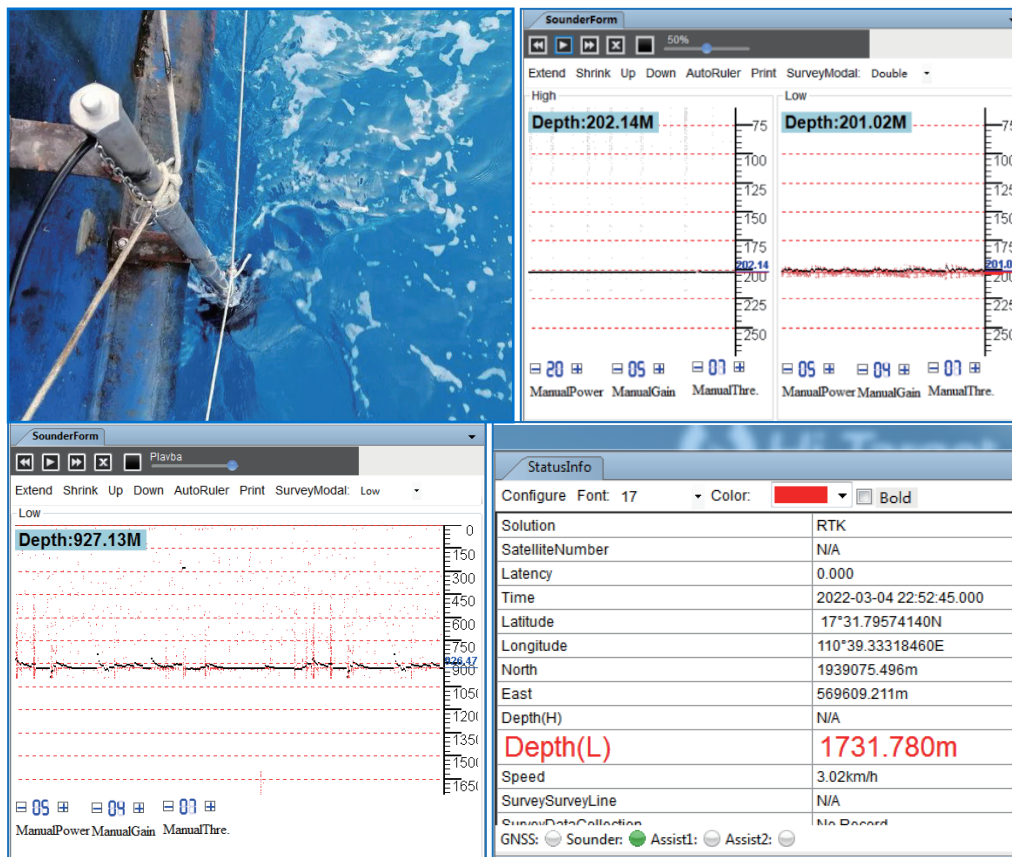
FIG3

Case of the South China Sea

Take the South China Sea as an example. As the western part of the Pacific Ocean, it is the biggest and deepest sea along the Chinese border. The average depth is 1212 meters while the deepest part can reach 5559 meters. The continental slope is at depths of 100 to 3,200 meters. The slope surface is undulating and the environment is complex. The normal echo sounder can only measure within a 300-meter range. It is apparently not an ideal choice for the marine ship sailing in the deep sea.

Before the real site test, we can only calculate the maximum measuring range in theory. So we arranged a marine ship and decided to take the echo sounder into the deep ocean, the South China sea. We hoped to check whether the actual result can reach the value in theory, around 2000 meters.

As the ship sailed away from the dock and headed into the deep ocean, the depth changed very little. Gradually it became deeper and deeper, from around 20 to 200 meters. Then, on the second day, the depth became around 900 meters. Only the low-frequency signal gave back the depth value in that scenario. As the ship headed forward, the depth value changed rapidly from 1700 to 1900. The continental slope was right under the ship.



The depth gets deeper as the echo sounder leaves for the ocean (FIG4)

The results testified to the performance of the new HD-MAX echo sounder in seafloor measurement.

“It means that the new echo sounder can ideally work from shallow to the deep. Our users can better organize and save their budget as the new HD-MAX echosounder can serve in more scenarios.”

Product Overview

HD-MAX dual-frequency echo sounder applies widely to sediment measurement for dredging, bathymetry in high sediment content water, and other depth measurement projects in shallow, deep, or much deeper water. The full-featured HiMAX Sounder hydrographic software integrates bathymetry, navigation, and post-processing. Moreover, equipped with a 17" large screen and industrial computer platform, HD-MAX offers a set of reliable solutions for hydrographic offices around the world with a robust dual-frequency transducer and a user-friendly survey pole.



More information at <https://en.hi-target.com.cn/become-our-partner/>

About Hi-Target

Established in 1999, Hi-Target is the first professional high-precision surveying and mapping instrument brand to be successfully listed in China. Hi-Target provides a wide range of surveying equipment including GNSS Receivers, CORS Stations, Total Station, 3D Laser Scanners, GIS Data Collectors, UAV/UAS, and Hydrographic Products to offer complete solutions for various industries. As the leading brand in the geospatial industry, Hi-Target invests heavily to bring the latest positioning technology and innovation.

For over 20 years, Hi-Target has had approximately 3,300 employees worldwide, with a network of 28 subsidiaries, 28 branches, and more than 200 partners in over 60 countries to service and support our customers.

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