

A breakthrough in reliable underwater security.

DDS Design

Kongsberg Mesotech's outstanding technical ability and decades of experience have combined to produce the DDS 9000 system: a major advance in the evolution of multibeam sonars. The DDS 9000 employs bandwidths much wider than earlier versions, giving improved range performance. With the addition of pulse compression (chirp), DDS 9000 series sonar heads detect targets at longer ranges due to improved signal-to-noise ratios. DDS 9000 systems employ "state of the technology" advanced materials and design for optimal performance.

Proper functioning of DDS is assured through BIST, the built-in self test function programmed into each system. Sensors in every DDS 9000 series sonar head compensate for changes in pitch, roll, or bearing, ensuring the most accurate target position possible.

Requirements for shipborne diver detection systems today specify horizontal coverage of either 200° or 360°. The DDS 9000 covers a horizontal arc of 200°, while the DDS 9001 provides full 360° coverage.

DDS Deployment Flexibility

Diver detection sonar has evolved from its early application as a shipborne system to its use today in a variety of missions. These additional roles include fixed systems for port security and mobile systems where manoeuvrability is important. Systems with multi-mission capability must be easily interchangeable from one type of deployment to another, light enough to be deployed by a small crew, and able to be fully set up in less than one hour.

The DDS 9000 and DDS 9001 meet all of these multi-mission capability requirements. Either system can be lowered by a winch cable, tripod mounted in a fixed position, or in mobile and temporary deployments. With sonar heads weighing less than 200 pounds (90 kg), the DDS 9000 and DDS 9001 can be easily deployed by a small crew in less than one hour.

All DDS heads are equipped with pitch and roll sensors as well as an azimuth (bearing) sensor, enabling their use in portside or shipborne applications. DDS systems can be easily integrated into larger C2/C4ISR systems to provide greater situational awareness.

DDS Reliability

DDS systems experience minimal downtime and a very low rate of false alarms. Updated electronics based on the renowned SM 2000™ system have been extensively tested to ensure reliable operation. All metals and devices used in construction of the DDS 9000 series are carefully selected for their corrosion-resistant properties. Automatic track classification and filtering keep the false alarm rate to a minimum.

With over thirty SM 2000 systems deployed in the diver detection field, Kongsberg Mesotech has demonstrated the effectiveness and reliability of our systems worldwide. Systems are in use with the US Navy, US Coast Guard Service, and other military and government agencies.

DDS Operator Interface

MS9000TT™ software updates, including features such as a series of pull-down menus to set operating parameters for the sonar processor give this system an exciting new look and feel. A graphical user interface (GUI), familiar to users of many other Kongsberg sonar systems, has been adapted for this software.



The Tactical Processor and Tactical Display operate using Defender II™ software. Defender II provides:

- Unattended operation with automatic alerts, reducing manpower and training requirements
- Tracking of multiple sonar targets for maximum effectiveness
- Automatic track classification to evaluate the threat level



DDS 9001 with Sonar Processor, Interface, and Displays

- Geo-coded track data for coordinated threat response
- Merging of tracks to reduce tracks lost due to evasive manoeuvres
- The ability to designate the locations of assets as a filter in evaluating threats

- Exclusion zones to eliminate high noise areas, reducing false alarms
- Chart overlays aid in situational awareness and maintaining operator alertness

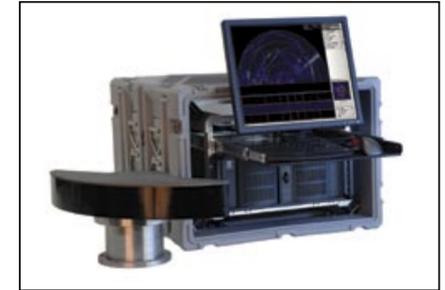
The data from multiple Tactical Processors can be linked to a single display or multistatic displays. OEM versions are available to qualified systems integrators.

System Support

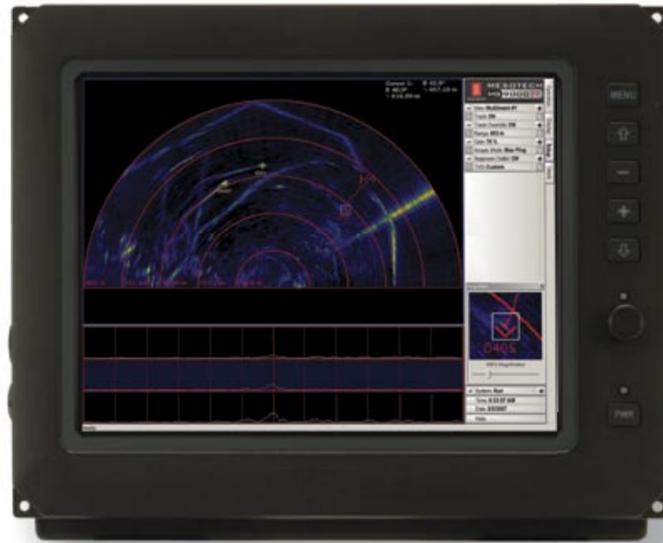
Kongsberg Mesotech, as part of the global Kongsberg family, is dedicated to providing its customers with worldwide long-term parts availability and support, 24 hours a day, 7 days a week, year-round. And Kongsberg Mesotech stands behind every system it produces with a solid product guarantee.



Support 24



Clockwise from top left: Rugged rack mount cases provide protection for transportation and field operations; tripod mechanisms are quickly and easily deployed for short-term or longer-term surveillance; launch and recovery systems (LARS) provide solid support for temporary deployment from piers or ships; mobile configurations are ideal for surveillance in drug interdiction or temporary high security situations.



Sonar Processor Display with MS9000TT



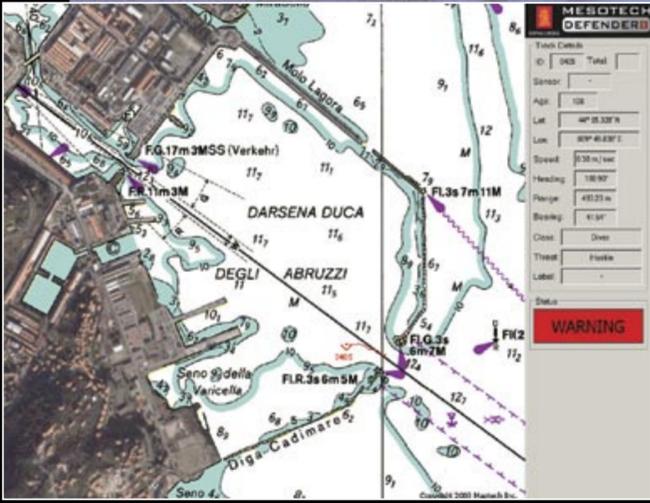
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The Role of Sonar

The applications for diver detection sonar have expanded from early use by the military for the protection of major assets. Today, active sonar is utilized in a range of military, government, law enforcement, and industrial applications. Despite the challenges posed by environmental conditions, active high-frequency sonar remains the method of choice for diver detection systems.

Value

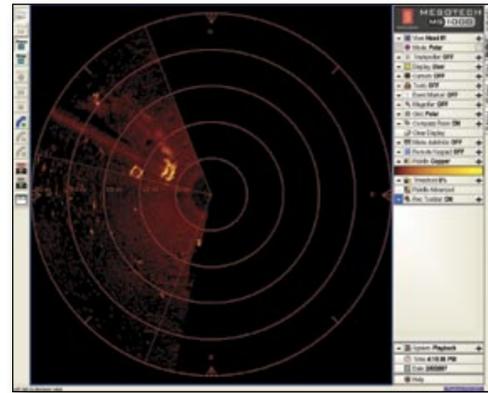
The DDS 9000 is the first COTS diver detection system to break through the Department of Homeland Security's low cost goal of *less than \$100,000 per 1,000 feet* of protected shoreline. The DDS 9000 Series provides increased functionality, is easier to use, and is one third the weight of competitive 360° systems. DDS 9000 systems provide additional value through their versatility, being easily re-configured for new missions.



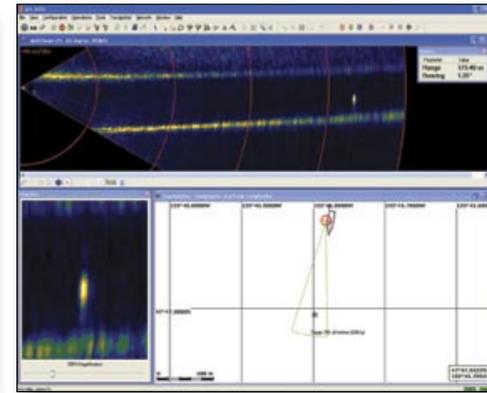
Tactical Display with Defender II

Kongsberg Mesotech Imaging

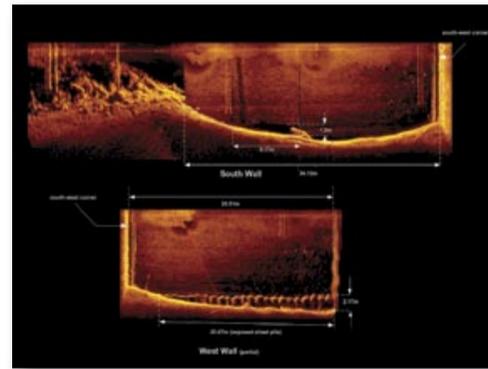
Search & Recovery



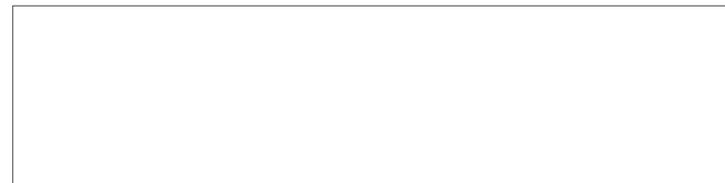
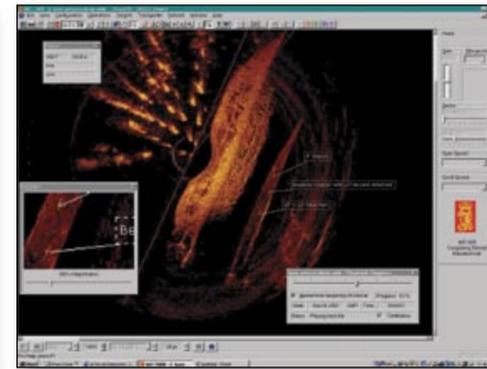
Mine Counter Measures



Pier Inspection



Hull Inspection



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KONGSBERG

The DDS 9000™ Series Diver Detection Sonar

The evolution of underwater security.



WE MAXIMIZE MARINE PERFORMANCE BY PROVIDING
THE FULL PICTURE

WORLD CLASS...
 through people,
 technology
 and dedication

Flap and business keylines fpo; not to be printed.