EM®2042 DR600 Multibeam Echo Sounder

KONGSBERG

Precision below the surface

EM2042 DR600 - Precision Mapping for Underwater Platforms -

Presenting the EM2042 DR600, an advanced multibeam echo sounder specifically designed for seabed mapping at depths of up to 600 meters. This device offers outstanding accuracy, durability, and versatility for both crewed and uncrewed underwater vehicles, whether propelled or towed.

Whether you are performing detailed seafloor surveys or navigating intricate underwater terrains, the EM2042 DR600 guarantees unparalleled data quality, dependability, and long-term support.

Key Components and Configuration

•Transmitter (TX): Options include 0.4° or 0.7° beamwidth at 400 kHz.

•Receiver (RX): Can be set up as single or dual 0.7° RX arrays.

•Connectivity: A single subsea cable connects the TX and RX to the topside processing unit, facilitating easier installation and operation.

•Robustness: Crafted to withstand the most rigorous environmental conditions using pressure-resistant titanium housings and robust subsea-qualified electronics.

The EM2042 DR600 is distinguished by its unique dual RX configuration that utilizes just one TX array, allowing for up to 4096 soundings per swath. For setups needing wider receiver separation, a specialized dual TX/RX configuration is also available.

Advanced Capabilities

Multi-Transmitter Technology: Integrates three sectors for dynamic focusing on both transmitting and receiving paths, with stabilization for roll, pitch, and true 3-sector yaw.

Lightweight & Efficient: Transducers are 40% lighter than earlier versions and feature next-generation electronics, leading to a significant reduction in power usage.

Designed for Depths. Fine-Tuned for Precision: EM2042 DR600

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KEY FEATURES (default deliveries)

- High resolution multi-frequency bathymetry and seabed backscatter
- Depth rated to 600 m pressure-resistant titanium housings and subsea-qualified electronics.
- Pitch , Roll and Multitransmitter Yaw stabilization
- Dual Swath for an enhanced sounding density (single RX)
- Water column backscatter logging
- Engineered to surpass IHO Exclusive Order / LINZ Special Standard and others
- Seamless integration with SIS- and 3rd party software

OPTIONS

- EM® HighFrequency mode
- Enhanced EM® MultiFrequency Backscatter mode
- QuadSwath™ (Single RX)
- Extra detections
- Dual RX
- Dual TX
- Hydrographic Workstation (HWS) maritime certified for SIS
- Easy upgrade for EM2040 users

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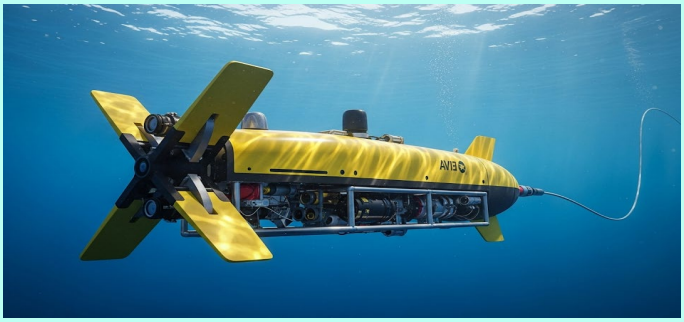
Expanded frequency range – Now with a new band

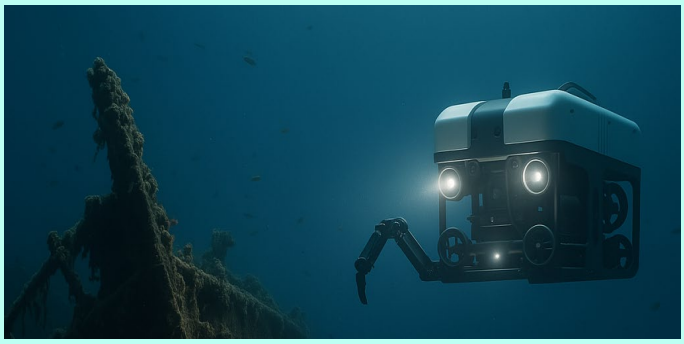
EM2042 DR600 features a wideband frequency range from 150 kHz to 700 kHz, offering different modes for various applications:

- 300 kHz: Ideal for most mapping tasks, balancing range and resolution
- 400 kHz: Optimized for inspection work
- 600 kHz and 700 kHz: Enhances small objects detection and 3D mapping
- 200 kHz: Extends the range down to 600 meters
- A new 150 kHz band complements EM® MultiFrequency mode, improving seabed classification in a single pass

New Feature – Ready for QuadSwath™

The EM 2042 DR600 is ready to deliver up to 4 swaths per ping cycle, ensuring that the most demanding sounding density requirements are met, and improving the definition of seafloor features in high-speed surveys.





Technical specifications

Frequency range	150 – 700 kHz
Ping rate	Up to 50 Hz
Number of soundings	Up to 1024 per swath 4096 for Single RX QuadSwath or Dual RX Dual Swath
Swath coverage	Up to 170° (single RX) / 220° (dual RX)
Depth range	0.5 m to max 600 m below transducers
Depth rating	600 m
Beam stabilisation	Roll (± 15°), pitch (± 10°), yaw (± 10°)
Pulse form	CW / FM (CHIRP modulation)
Bandwidth	>120 kHz
Shortest pulse length	14 µs
Depth accuracy	Up to 5.5 mm
Power requirements	Min 93 W
Software compatibility	Kongsberg SIS, QPS, CARIS, EIVA, Beamworx, PDS, Hypack, SonarWiz and others

Beamwidth							Physical dimensions (excluding connectors, and extra hardware)		
	150 kHz	200 kHz	300 kHz	400 kHz	600 kHz	700 kHz	Dimensions (W x D x H)	Weight (in air)	Weight (in water)
TX 04	1°	0.7°	0.5°	0.4°	0.25°	0.225°	691 x 120 x 150 mm	27.0 kg	17.5 kg
TX 07	2°	1.5°	1°	0.7°	0.5°	0.45°	372 x 120 x 150 mm	16.5 kg	11.0 kg
RX 07	2°	1.5°	1°	0.7°	0.5°	0.45°	364 x 134 x 136 mm	15.0 kg	11.0 kg
Processing Unit (2U for 19” rack)							482.5 x 424 x 88.6 mm	10.5 kg	
Portable Processing Unit (IP67)							370 x 390 x 101 mm	9.5 kg	
OEM Processing Unit (USV)							329.4 x 220.2 x 71 mm	3.1 kg	