bedrock

Bedrock Ocean Exploration
Commercial Specifications

sales@bedrockocean.com

Bedrock is a vertically-integrated company building and operating autonomous underwater vehicles (AUVs) optimized for nearshore geophysical surveys. Developed with industry-leading sensors, this second generation vehicle enables Bedrock to offer low logistics survey services and deliver high-quality geophysical datasets capable of meeting the most stringent data quality standards.

Physical Attributes
- Rated Depth: 300m
- Length: 2.4m
- Weight in Air: 60 kg

Speed
- Survey: 3 knots

Battery
- 3 KWh Custom Lithium-ion swappable battery

Sensors

Inertial Navigation System
- Exail Phins 9 Compact
- 0.02 %DT CEP-50 DVL-Aided

DVL
- Nortek DVL500 Compact
- Nortek DVL1000 Compact

GNSS
- U-blox: ZED-F9P-02B
- L1/L2

Forward Looking Sonar
- NORBIT OEM FLS-42
- Frequency: 400kHz
- 90° @ 50m Range
- Terrain Following

Pressure Sensor
- AML Oceanographic
- 0.05 dbar Accuracy

On Board SV&T
- AML Oceanographic

Communications & Tracking
- Iridium / Wifi / ISM Radios
- ACOMM

CTD
- SonTek Castaway deployed from follow vessel

Backup Recovery
- Self Powered Acoustic Tracker

Configuration 1 | MBES + SSS + MAG

Designed for **high pass** reconnaissance-level bathymetric surveys with simultaneous collection of backscatter, magnetometer and side-scan data.

MBES

- NORBIT OEM MBES-42 WBMS
- Frequency: 400kHz
- 130° x 512 beams
- 2° along track, 1° across track
- Datasets: Bathymetry, Backscatter
- Raw format: S7K

SSS

- Starfish 454 OEM
- Frequency: 450 kHz Chirp
- Contact detection at 30cm
- Raw format: XTF

MAG

- Ocean Floor Geophysics Magnetometer
- Self compensating
- 3-axis 0.5 nT mag
- 20 Hz sampling rate
- Raw format: CSV

Configuration 2 | SBP + SSS + MAG

Optimized for **low pass** surveys to collect sub-bottom profiler, magnetometer and high-resolution side-scan data for use cases such as UXO and cable inspection surveys.

SBP

- NORBIT OEM SBP-42
- Parametric
- Primary frequency: 200kHz
- Secondary frequency: 5-20kHz, 3° opening
- Raw format: SGY

SSS

- Starfish 992 OEM
- Frequency: 1MHz Chirp
- Contact detection at 30cm or less
- Raw format: XTF

MAG

- Ocean Floor Geophysics Magnetometer
- Self compensating
- 3-axis 0.5 nT mag
- 20 Hz sampling rate
- Raw format: CSV