MANTA®
A Seismic Shift in OBN Efficiency

Fully Autonomous Multicomponent Seabed Seismic System

Compact Ocean Bottom Seismic (OBS) single node technology for acquiring seismic data up to 3000 meters of water depth. Versatility in survey designs allows for dense source grid, full-azimuth and long offset surveys in the most challenging and obstructed environments from shallow transition zones to deep water. Operationally efficient, highly automated system allows for deployment from a permanent installation or a vessel of opportunity anywhere in the world.

The Manta

Long-endurance, modular node combines contemporary micro-components with recent advances in rechargeable power-dense battery technology. 4-C multicomponent sensor incorporates three omni-directional geophones and a hydrophone. Integrated inclinometer continually records the orientation of the node once it is positioned on the seafloor.

MANTA GENERAL SPECIFICATIONS

Physical
Weight in air:	18.3 kg
Weight in water:	10 kg
Dimensions:	350 mm wide x 350 mm depth
Height:	130 mm

Operational/Environment
Max operating depth:	3000 m
Operating temperature:	-5°C to 40°C
Battery duration:	75+ days
Battery recharge time:	12.5% / hour

Sensor
Hydrophone:	High Tech Industries HTI-96–Min
Geophone:	Omnidirectional, 14Hz, with 0.7 damping
Inclinometer:	3 Axis MEMS calibrated horizontal axes, range +/- 90 deg @ 1 deg, +/- 0.5 deg

Data Recording System
Channels recorded:	4
Sample rates:	1 ms, 2 ms
μSD card:	64 GB, 120 days, 2 ms sampling
ADC resolution:	24-bit
Anti-aliasing filter:	Linear or Minimum phase

Time Synchronization
GPS derived Rubidium IEEE 1588 Grandmaster reference	
Sync latency:	+/- 100ns, Jitter +/- 15ns

Clock Stability (OCXO)
Clock drift:	2E-8
Residual error after correction:	Less than 1 ms

Rev. MAY-2017