ATLAS HYDROGRAPHIC

atlas HYDROSWEEPDS

...a sound decision

ATLAS Hydrographic's deep sea multi beam ATLAS HYDROSWEEP DS stands for excellent reliability, high accuracy and efficient survey operation down to full ocean depth. Its flexible design enables versatile application in marine science from water column profiling, through bathymetric mapping to seabed classification

DEEP SEA MULTI BEAM ECHOSOUNDER

The **ATLAS HYDROSWEEP DS** facilitates new fields of applications for hydrographic data. With the system, across ocean pre-surveys for cable layers, detailed scientific investigations, surveillance at continental slopes, rifts and ridges for disaster management or the search for indications of natural resources can be performed at a formerly unrivalled rate of effort with an unmatched data quality.

We introduce frequency modulated (chirped) pulses for an improved signal-to-noise ratio. The multi ping capability multiplies along-track seafloor coverage, even at higher survey speeds.

Beside these advantages the customer benefits from lower investments for the full ocean depth multi beam echosounder **HYDROSWEEP DS**. Compared to other systems, the acoustic transducer array is approximately 30% smaller. System installation expenses are lower, the required space for the system on the ship is smaller and the installation can be performed more flexible and more secure within a reduced dock time.

The rugged product attributes of the **HYDROSWEEP DS** have been demonstrated on a large number of survey operations. Exposed to challenging conditions e.g. in arctic ice regions, the transducers showed outstanding robustness and delivered stable and reliable results.

FEATURES

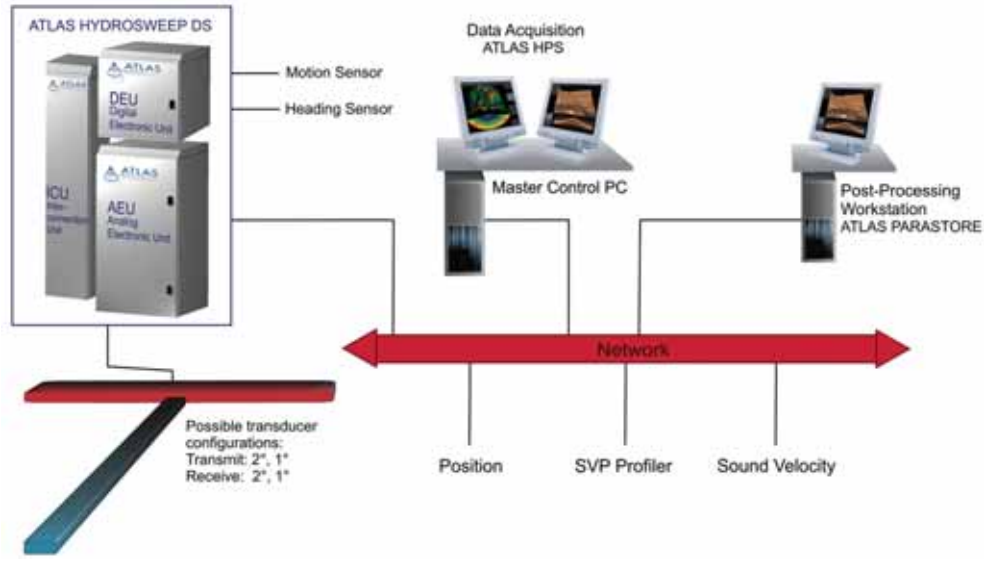
- ☐ Full ocean depth 11 000 m
- ☐ Coverage up to 7.5 times water depth
- ☐ Multi ping operation
- ☐ Customised hard-beam characteristics
- ☐ Exceptional resolution and accuracy due to High Order Beamforming technology
- ☐ Exceeds IHO SP44 Order 1 requirements
- ☐ Bite and remote maintenance infrastructure

ADVANCED

- ☐ Side scan and backscatter data
- ☐ Water column analysis
- ☐ Chirped pulse technology
- ☐ Marine mammal protection
- ☐ Acoustic sound velocity measurements
- ☐ Sub bottom profiling (option)

SPECIFICATIONS AND PERFORMANCE DATA

atlas HYDROSWEEPDS



OPERATING FREQUENCY
15.5 kHz

FULL OCEAN DEPTH RANGE
10 m – 11 000 m

TRANSMISSION BEAM RESOLUTION
2° or 1°, along-ship

RECEPTION BEAM RESOLUTION
2° or 1°, with 141 classical hard beams, across-ship
< 0.5°, with 345 refined HOB-beams

BATHYMETRIC SWATH WIDTH
Up to 5.5 times water depth

SIDE SCAN SWATH WIDTH
Up to 7.5 times water depth

MAXIMUM PING RATE
25 Hz

MULTI PING OPERATION (OPTION)
Two simultaneous pings

MOTION STABILISATION
Roll, pitch and yaw

FULL MOTION CORRECTION
Roll, pitch, yaw and heave

RECEPTION BEAM SPACING MODES
Equal footprint or equal angle (user selectable)

PULSE CHARACTERISTICS
Pulse lengths: 0.5 – 30 ms (depending on the water depth and the pulse modulation)
Pulse types: Continuous wave (CW) pulses and chirped pulses with linear frequency shift (user selectable)
Pulse shapes: Rectangular, triangular, Hann, Hamming, Gaussian and user-defined pulse shapes (user selectable)

MAXIMUM TRANSMISSION SOURCE LEVEL
Up to 239 dB (for approx. 2° along-ship hard beam width)
Up to 245 dB (for approx. 1° along-ship hard beam width)

RESOLUTION
Max. range resolution (amplitude and phase): 6.1 cm
Max. output sample rate (amplitude and phase): 12.2 kHz

ACCURACY 2σ
0.5 m ± 0.2% of depth
Across a swath of 4 times the water depth

SIDE SCAN AND BACKSCATTER
> 10 000 values per swath

OBJECT DETECTION CAPABILITY
Exceeds IHO SP44 requirements

SUB BOTTOM PROFILING (OPTION)
The ATLAS HYDROSWEEP DS can be operated as a parametric sub bottom profiler with user-definable secondary frequencies between 3 kHz and 6 kHz

C-MEAN DETERMINATION
Patented method for the automatic determination of the mean water sound velocity, based upon linear regression

ATLAS HYDROGRAPHIC

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