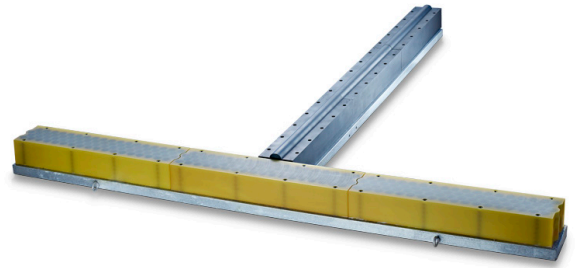


Teledyne RESON

HydroSweep MD/50

Shallow to Medium Depth Multibeam Echosounder



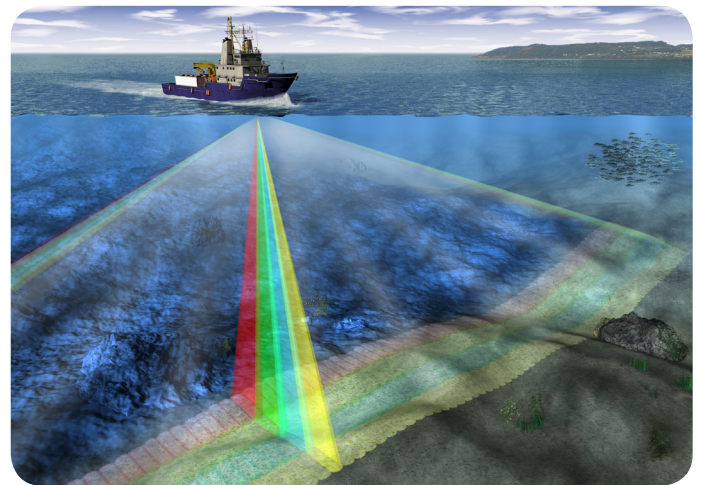
The **HydroSweep MD/50** is a high resolution multibeam echosounder ideally suited for seabed mapping in mid and shallow water based on a sonar frequency range between 52 kHz to 62 kHz. Beside bathymetric depth information from 5 m to more than 2000 m, sidescan data and backscatter data for seabed classification can be acquired.

The beam width for HydroSweep MD/50 can be arranged as combination of 0.5° or 1° along track and 0.75° or 1.5° across track.

Effects of severe ship motion to survey data are compensated by active beam steering as well as additional multi-ping ensonification. The HydroSweep MD/50 applies 4x multi-pings, which means that four swaths are transmitted simultaneously per ping slightly tilted along track. This results in gapless surveying at higher ship's speed.

Acoustic footprints can be arranged in either „equal-angle“ or „equal-distant“ pattern.

A High Order Beamforming bottom detection algorithm is used to achieve up to 960 soundings per single ping with the best possible accuracy in order to meet IHO SP44 accuracy standards.



PRODUCT BENEFITS

- Depth range more than 2000 m
- 4x multi-ping operation
- 320 receive beams per ping
- 960 soundings per ping
- Backscatter and sidescan data recording
- Water column analysis

HydroSweep MD/50 SYSTEM SPECIFICATIONS

Product Variants	0.5 x 0.75	0.5 x 1.5	1 x 0.75	1 x 1.5
Transmission beam width TX	0.5°	0.5°	1°	1°
TX transducer array dimensions*	2400 x 153 x 193	2400 x 153 x 193	1200 x 153 x 193	1200 x 153 x 193
Reception beam width RX	0.75°	1.5°	0.75°	1.5°
RX transducer array dimensions*	193 x 2100 x 193	193 x 1050 x 193	193 x 2100 x 193	193 x 1050 x 193
Max. depth range	2000 m	2000 m	2000 m	2000 m
Transmission power (TX)	16 kW	16 kW	8 kW	8 kW

* Along x across x height, relative to ship's direction, in mm

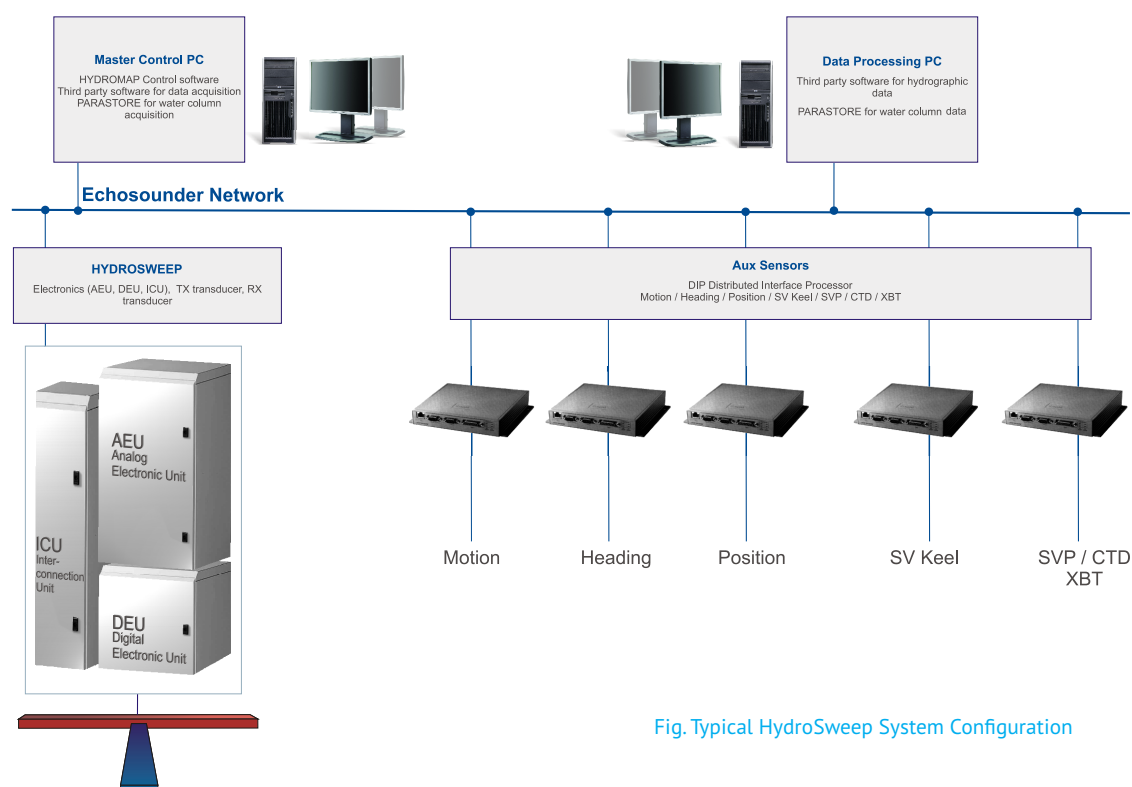


Fig. Typical HydroSweep System Configuration

Depth Range 5 – 2000 m depending on local bottom and environmental conditions

Operating Frequency 52 to 62 kHz
Frequency modulation (Chirp)

Multi-Ping and Ping Rate 4x multi-ping
Max. 40 Hz ping rate (at 4x multi ping)

Bathymetric Resolution 0.5° or 1° along track
0.75° or 1.5° or across track

Number of Beams 960 soundings per single ping via High Order Beamforming
320 receive beams per single ping

Motion Correction Roll ±15° stabilised
Pitch ±10° stabilised
Yaw ±5° stabilised by active multi-ping

Acquired Data: Bathymetry, sidescan and backscatter 10,000 values per single ping

Resolution and Accuracy Max. range resolution 6 cm
Max. output sample rate 12 kHz
Bottom depth accuracy (RMS), average across the swath sector better than ±[0.4m, 0.2% of water depth]

Water Column Recording Max. 6 cm vertical resolution
For up to 320 beams