



ELAC 
SONAR

A COHORT PLC COMPANY

SB 3050 2G

MEDIUM-DEPTH MULTIBEAM SYSTEM - FOR MAPPING THE CONTINENTAL SLOPE

The SB 3050 2G is the latest generation medium-depth multibeam system from ELAC SONAR, collecting real-time bathymetric data, bottom amplitudes, side scan data and water column imaging (WCI) data in medium water depths. Due to its depth performance, wide coverage and multi-ping operation, SB 3050 2G is the ideal hydrographic sensor for mapping the continental slope.

THE IDEAL HYDROGRAPHIC SENSOR FOR MAPPING THE CONTINENTAL SLOPE

SB 3050 2G operates in the 50 kHz frequency band in water depths ranging from 5 metres below the transducers to approx. 3,000 metres. It has an across-ship swath width of up to 5.5 times of water depth and provides a maximum of 918 beams for each multi-ping. The data are fully compensated for roll, pitch and yaw motion of the vessel. The depth accuracy of the sonar sensor exceeds the IHO (International Hydrographic Organization) requirements.

In order to secure a most reliable and easy system operation, SB 3050 2G provides a full auto mode, enabling a successful quasi-autonomous data acquisition. The full auto mode includes an automatic setting of all relevant system parameters.

In the multi-ping mode, SB 3050 2G transmits and processes two swaths per ping cycle, allowing higher maximum survey speeds without losing 100% bottom coverage. This is especially important for narrow along-ship beam widths. At a fixed survey speed, a doubled data density increases the target detection and classification abilities.

SB 3050 2G has 386 beams in equiangular and multi-ping mode. The swath coverage can be decreased down to 60 degrees, leaving the number of reception beams constant.

SB 3050 2G provides a fully automatic FM mode, utilising frequency-modulated (FM) pulses.

Key features

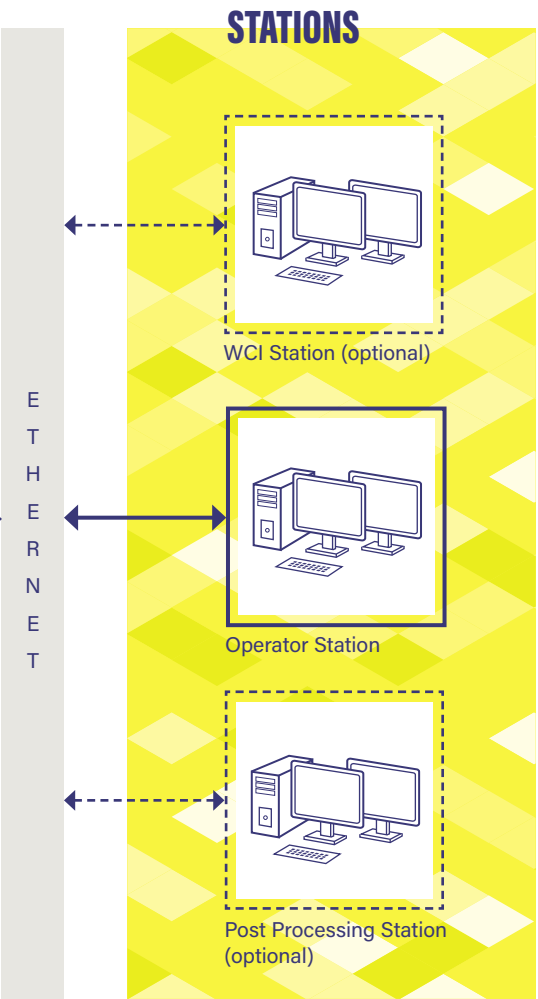
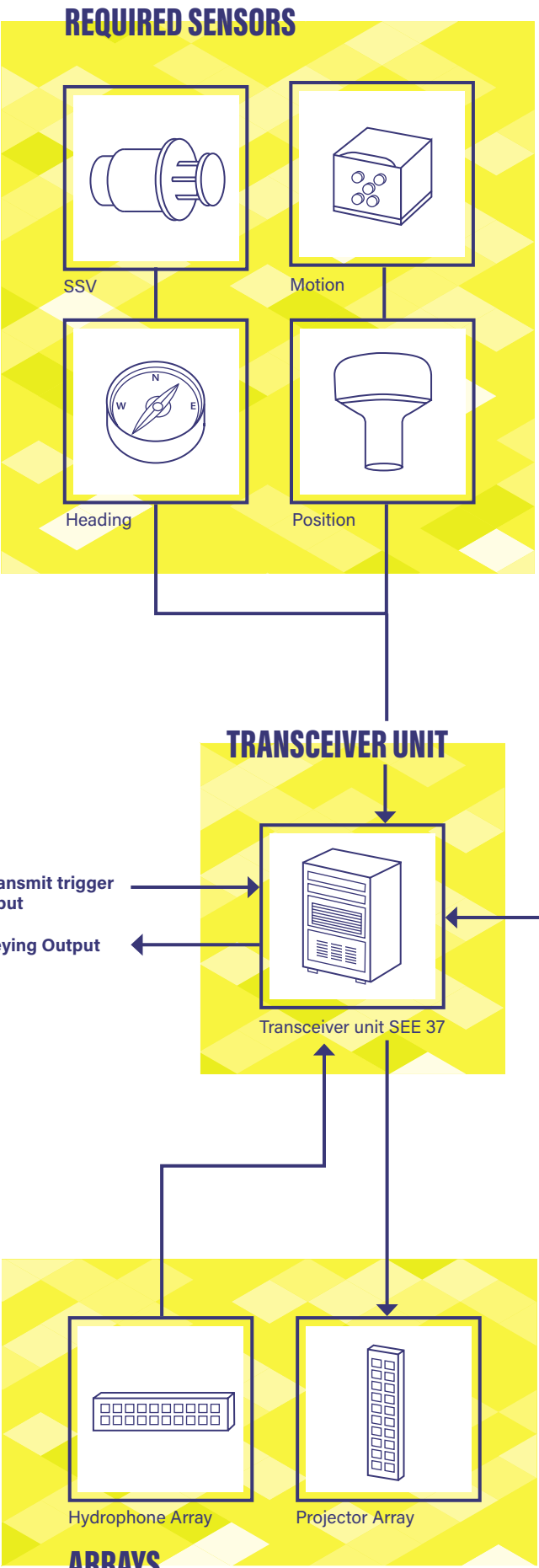
- ✔ up to 3,000 m depth performance
- ✔ up to 4,000 m swath coverage
- ✔ high-resolution water column imaging (WCI)
- ✔ full auto mode for reliable and easy system operation
- ✔ advanced transmission beam steering



Physical specifications

	Height (mm)	Width (mm)	Depth (mm)	Weight (kg)
Hydrophone array* 1° / 2°	125 / 125	380 / 380	1,581 / 792	50 / 25 (without frames and cables)
Projector array* 1° / 1.5° / 3°	150 / 150 / 150	2,284 / 1,691 / 1,098	450 / 450 / 450	66 / 44 / 22 (without frames and cables)
Mobile transducer bracket (including transducers)	286	1,928	789	< 312 (without cables)

* Dimensions may change due to special installation requirements. Please ask for dimensional drawings. The typical tolerance of weights is ±10 %.



TECHNICAL DATA

Performance Data

Operating frequency	50 kHz band
Min. depth	5 m below transducer
Max. depth	approx. 3,000 m (depending upon the own noise of the ship and sea state)
Along-ship beam width	1° / 1.5° / 3°
Across-ship beam width	1° / 2°
Swaths per ping cycle	1 (single-ping) or 2 (multi-ping)
Pulse lengths	0.15 - 40 ms
Max. swath coverage sector	5.5 times of water depth
Max. swath coverage	approx. 4,000 m (depending upon the own noise of the ship and sea state) Full auto mode
Full auto mode	automatic setting of all relevant system parameters
FM mode	fully automatic utilisation of frequency modulated pulses
Reception beam spacing	equidistant or equiangular
Max. number of beams	918 (equidistant, multi-ping) 386 (equiangular, multi-ping)
Max. range sampling rate	10 kHz IQ (in-phase, quadrature)
Depth accuracy (sonar sensor)	in accordance with IHO SP44 special order

Input Interfaces

Power	115 V / 60 Hz single-phase or 230 V / 50 Hz single-phase
Motion	RS232 / RS422
Heading	RS232 / RS422
Position	RS232 / RS422
Surface sound velocity	RS232 / RS422
Sound velocity profile	RS232 / RS422 / USB

Special output interfaces

Centre depth interface	RS232, ASCII format
Bottom slope data interface	RS232, similar to NMEA 0183

Stabilisation / compensation

Roll	± 15°
Pitch	± 10°
Yaw	± 5°