

TECHNOLOGY

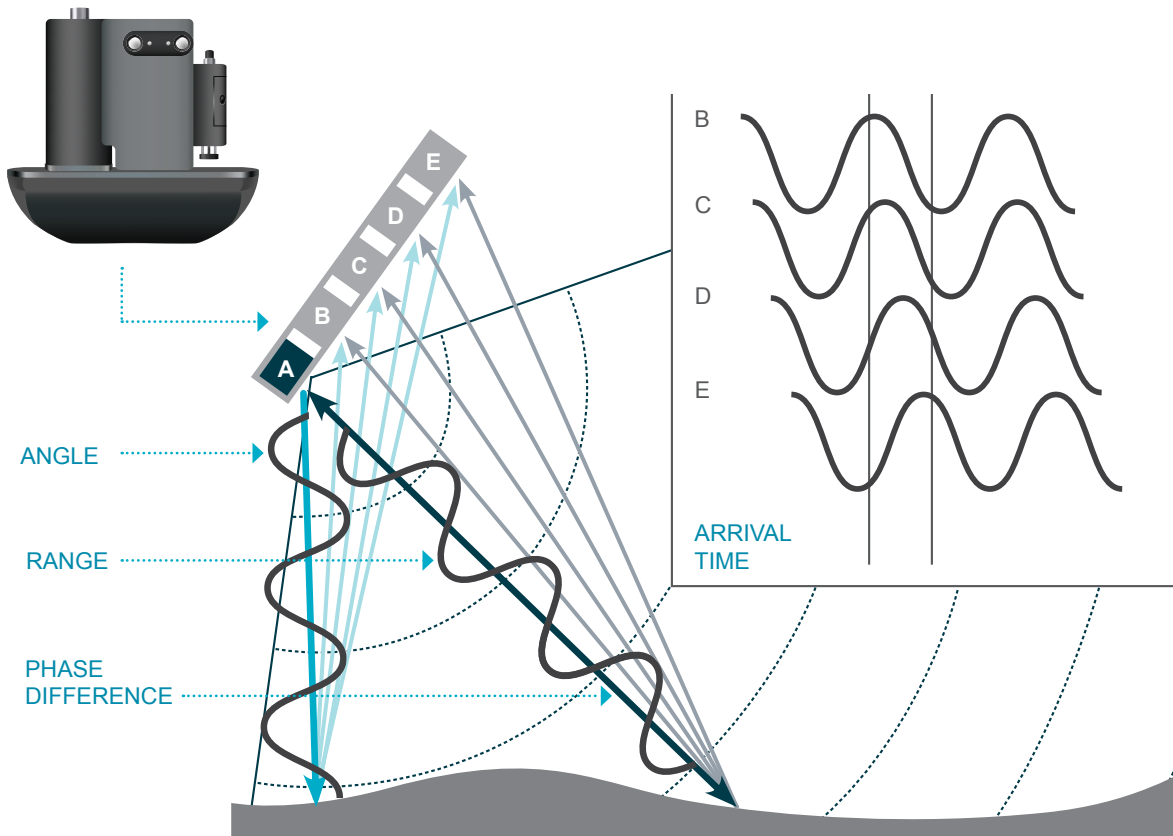
The GeoSwath Plus is a Phase Measuring Bathymetric Sonar System. It simultaneously acquires swath bathymetry and side scan data. Its dual transducer configuration has a field of view of over 240°. The usable depth information is limited only by the strength of the signal scattered back from the seafloor, thus achieving a swath coverage of up to 12 times water depth.

Each transducer array is comprised of five ceramic staves; one to transmit and four to receive. After transmission one of the receive staves registers the amplitude of the signal scattered from the seafloor and uses this to produce true digital side scan data. The phase of the sonar signal on the four receive staves is used to determine the angle of arrival of the sonar signal. The range is determined from the two-way travel time. This range and angle gives a depth measurement. Many thousands of range-angle pairs are collected for each ping, giving the very high data density seen in GeoSwath Plus raw data. The phase measuring algorithm determines the direction of the returning sound with an angle resolution

of a fraction of a degree (c. 0.03°). The range (found from the timing) is measured to millimetre accuracy. Over 40 amplitude, range and angle samples are collected per metre slant range. This performance allows the sonar system to exceed the accuracy required by the latest IHO standards for bathymetric surveying.

- Ultra high resolution swath bathymetry
- IHO SP-44, special order
- Co-registered geo-referenced side scan
- Frequency versions: 125, 250, 500 kHz
- Up to 12 times water depth coverage
- 240° view angle
- Dual transducer set-up with versatile mounting options
- Full software solution included: data acquisition, processing, presentation
- Interfaces to all customary peripheral sensors
- Interfaces to all customary software packages.

DUAL TRANSDUCER HEAD



Phase Measuring Bathymetric Sonar Technology