

Fourth Generation of Echoscope[®] Sonars

Lighter/Smaller/Less Power Requirements
More Versatile Deployments Possible

Benefits

- Improved situational awareness
- Highest definition of multibeam data output in the world
- Real time decision making
- Increased productivity
- Maintain subsea operations in zero visibility
- Enhanced safety
- Expert 24x7 Technical Support



250m-4000m Depth Rating

The most advanced real time 3D sonar in the world.

The Echoscope^{4G} is the latest of our fourth-generation real-time 3D imaging sonar platform. The Echoscope^{4G} is lighter, smaller and uses less power than our third-generation sonar systems.

The Echoscope^{4G} offers two different models with three different depth ratings with a wide range of flexible applications:

	Frequency	Angular Coverage
Dual Frequency	375,630kHz	50°x50°, 24°x24°
Triple Frequency	240,375,630kHz	90°x44°, 50°x50°, 24°x24°

The Echoscope^{4G} is the world's highest resolution real-time 3D sonar. Built around unique patented technology, it generates a complete 3D model, composed of over 16,000 soundings, from each and every acoustic transmission. This 3D model is entirely refreshed up to 20 times per second with each new transmission.

With sounding densities far in excess of those generated by other sonars, and with the new increased 20Hz ping rate, the Echoscope^{4G} presents unrivaled clarity of dynamic operations and moving objects in video-like data format in all water conditions including zero visibility water conditions. All the Echoscope^{4G} range of sonars take advantage of patented statistical rendering techniques to further enhance the clarity of the image, presenting the user with an intuitive and easy-to-interpret image.

When monitoring underwater activities, even when the target and the Echoscope are moving independently of each other, the 3D imagery remains clear and accurate, giving the viewer an instant three-dimensional understanding of the underwater environment and object being imaged.

In mapping and inspection tasks, the ping geometry of the Echoscope^{4G} will allow a target to be visualized many times in a single pass, allowing a target to be viewed from many different angles. This allows complex subsea structures to be mapped with fewer shadows and a level of confidence and detail far beyond anything that can be achieved using alternative methods.

Whether deployed on inland waterway work or large scale offshore projects, the Echoscope^{4G} real-time 3D sonar will provide clear, high definition imagery of the underwater environment.

New Features

- Lighter/Smaller/Reduced Power/Less Power Requirements
- Increased Ping Rate Now 20Hz
- Reduced Minimum Range Now 0.5m
- Reduced range resolution to 2 cm
- Supports industry standard 100mb ethernet capability
- Programmable TVG
- Standard 100Mb Ethernet for ROV/AUV applications

Technical Specifications		
Performance (by Model)	Dual Frequency	Triple Frequency
Frequency	375 and 630kHz software switchable	240,375 and 630kHz software selectable
Number of beams	128 x 128 (16,384 total)	128 x 128 (16,384 total)
Maximum range*	120m (394ft) at 375kHz 80m (262ft) at 630kHz	From 150m (492ft) at 240kHz 120m (394ft) at 375kHz 80m (262ft) at 630kHz
Minimum range*	0.5m (1.64ft)	0.5m (1.64ft)
Range resolution	3cm (1.2in)*	3cm (1.2in)*
Update rate (ping rate)	Up to 20 Hz software selectable	Up to 20 Hz software selectable
Angular coverage	50°x50°, 24°x24°	90°x44°, 50°x50°, 24°x24°
Beam spacing	375kHz: 0.39°x0.39° 630kHz: 0.19°x0.19°	240kHz: 0.70°x0.34° 375kHz: 0.39°x0.39° 630kHz: 0.19°x0.19°
*The actual working range will depend on the target's size, reflectivity, and the level of detail required for the application		
Physical		
Dimensions (h x w x d) (excluding connectors and handles)	328mm x 300mm x 145mm (12.9in x 11.8in x 5.7in)	328mm x 300mm x 156mm (12.9in x 11.8in x 6.1in)
Dimensions (h x w x d) (including Echoscope [®] Protective Cover)	338mm x 311mm x 147mm (13.3in x 12.2in x 5.8in)	366mm x 311mm x 158mm (14.4in x 12.2in x 6.2in)
Weight in Air	20.6 kg (45.5 lbs)	21 kg (46.3 lbs)
Weight in Water	10.9 kg (24 lbs)	10.9 kg (24 lbs)
Power Consumption	3 - 6A at 24Vdc <i>And, up to, 10A inrush for less than 20 ms may occur on start up</i>	3 - 6A at 24Vdc <i>And, up to, 10A inrush for less than 20 μs may occur on start up</i>
Depth Rating	250m (820ft), 600m (1,968ft), 3,000m (9,842ft), with 4,000m (13,123ft) option*	250m (820ft), 600m (1,968ft), 3,000m (9,840ft), with 4,000m (13,123ft) option*
Interfaces		
Sonar head to PSU	Power: 24V DC Control: RS232 Serial Cable Data: 100Mb Industry Standard Ethernet Single cable for power, data, and control	Power: 24V DC Control: RS232 Serial Cable Data: 100Mb Industry Standard Ethernet Single cable for power, data, and control
*Depending on operating mode		
**Available upon request		

Echoscope[®] Features

- High definition 3D sonar image generated in real-time
- Mosaicking capability
- Displays complex moving structures accurately
- Accurate even in turbid water
- Accurate geo-referenced data
- Versatile DTM output options
- Very easy to use even by non sonar experts such as crane operators and law enforcement officers

Echoscope^{4G}[®] Protective Cover Included

The Echoscope^{4G} sonar is supplied with a replaceable encapsulating cover for the sonar head, protecting the hard-anodized aluminium housing from light impact, scratching and marine fouling. The protective cover can be removed for general cleaning of the unit and removal of any marine fouling from the cover. Made from Derlin™, the cover is a lightweight, easy to install protection accessory.

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