Coda Octopus
Sound Underwater Intelligence

/Echoscope[4G®] C500 SURFACE

Surface Deployed Sonar

Fourth Generation of Echoscope® Sonars

Lighter/Smaller/Less Power Requirements
More Versatile Deployments Possible
Shallow Water Depth Rating
Designed for small USV installation

40m Depth Rating

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

The Echoscope[4G®] C-Series. Compact real-time 3D sonar for performance and economy

The new Echoscope[4G®] C500 Surface is the latest Surface variant of our 4th generation real-time 3D imaging sonar platform. Designed specifically with small USV use in mind, the Echoscope[4G] C500 Surface builds on the advantages of our Compact range by offering the lightest, smallest and easiest to integrate real-time 3D sonar on the market today.

The 4G platform is delivered in a smaller, lighter housing which will for the first time give customers with smaller USVs the opportunity to integrate a real-time 3D imaging and mapping sonar. With the sonar's unique capability to generate real-time 3D images around complex structures, this will enable inshore security inspection, asset integrity mapping and search and rescue operations to be quickly and effectively undertaken from the smallest of available platforms.

In common with all of our real-time 3D sonars, the C500 Surface generates a complete 3D model composed of over 8,000 soundings from each and every acoustic transmission. This 3D model is entirely refreshed up to 20 times per second with each new transmission.

The Echoscope[4G] C500 offers two different models 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°

With sounding densities far in excess of those generated by other sonars, combined with the new increased 20Hz ping rate, the C500 presents unrivalled clarity of dynamic operations and moving objects in video-like data format in all water conditions including low visibility water conditions. All the Echoscope[4G] range 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.

In mapping and inspection tasks, the ping geometry of the C500 will allow a target to be visualized many times in a single pass, with each view taken from a different angle. This allows complex subsea structures to be mapped with a level of confidence and detail for beyond anything than can be achieved using alternative methods.

Whether deployed on inland waterway works or large scale offshore projects, the Echoscope[4G] C500 Surface real-time 3D sonar will provide clear imagery of the underwater environment.

New Features

- Lighter/Smaller/Reduced Power Requirements
- Increased ping rate now 20Hz
- Reduced minimum range now 0.5m
- Programmable TVG
- Standard 100mb Ethernet for ROV/AUV applications

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Technical Specifications		
Performance (by Model)	**Dual Frequency**	**Triple Frequency**
Frequency	375 and 630kHz	240/375 and 630kHz
Number of beams	128 x 64 (8,192 total)	128 x 64 (8,192 total)
Maximum range**	120m (394ft) at 375kHz 80m (262 ft) at 630kHz	150m (492ft) at 240kHz 120m (394ft) at 375kHz 80m (262 ft) 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°x0.78° 630kHz: 0.19°x0.38°	240kHz: 0.70°x0.69° 375kHz: 0.39°x0.78° 630kHz: 0.19°x0.38°
*Software selectable **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)	232mm x 301mm x 126mm (9.1in x 11.8in x 5.0in)	265mm x 301mm x 137mm (10.4in x 11.8in x 5.4in)
Dimensions (h x w x d) (including Echoscope® Protective Cover)	242mm x 311mm x 129mm (9.5in x 12.2in x 5.1in)	270mm x 311mm x 160mm (10.6in x 12.2in x 6.3in)
Weight in Air	10.8kg (23.8 lbs)	11.2kg (24.7 lbs)
Weight in Water	3.25 kg (7.2 lbs)	3.6kg (7.9 lbs)
Power Consumption	2-6A at 24Vdc	2-6A at 24Vdc
Depth Rating	40m (131ft) *Failure to keep within this depth rating can irretrievably damage the unit.*	40m (131ft) *Failure to keep within this depth rating can irretrievably damage the unit.*
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

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

Echoscope4G® Protective Cover Included

The Echoscope4G C500 Surface 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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