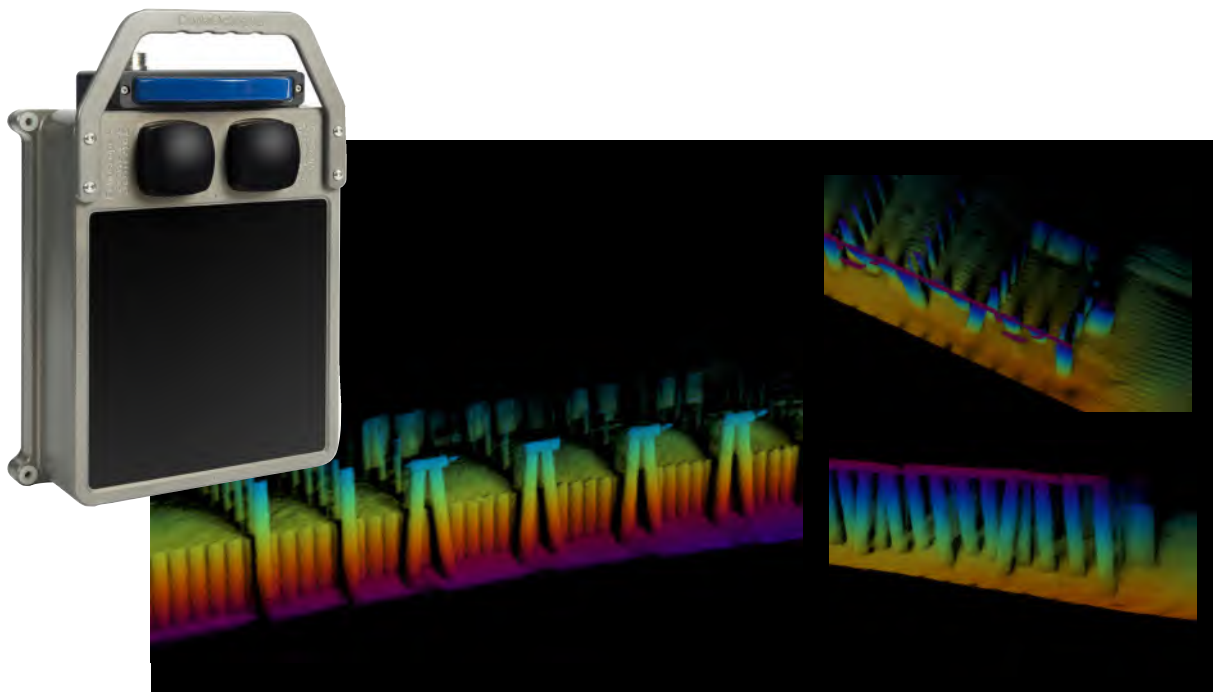


Coda Octopus Catalog

A Complete Guide to All Coda Octopus Solutions

INNOVATORS AND PATENT HOLDER OF THE
**World's Only 4D, 5D and
6D Volumetric Real Time Sonar**



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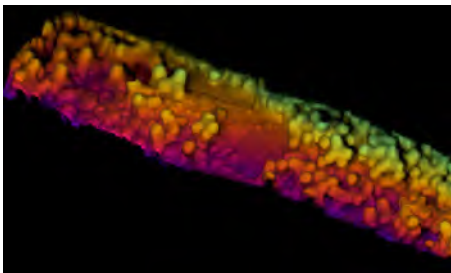
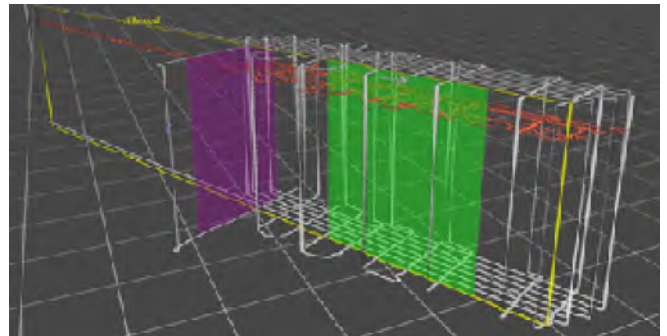
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Our Company

Coda Octopus are considered leading real time visualization experts who are known for delivering intuitive underwater technology and solutions that transform underwater capability, which drive efficiency, safety and innovative underwater.

For over twenty-six years, Coda Octopus has been a leading designer, developer and supplier of innovative products and services to the global maritime and subsea market.

From the beginning, we have been the established front-runners in the emerging marine geophysical survey market, and introduced the GEO range of software and hardware acquisition products, the first software package to digitize sidescan sonar data. This range has enjoyed a position as an industry standard since that time. We pride ourselves at always upgrading solutions to take advantage of state-of-the-art technology and know how, such as artificial intelligence.



We also innovated in the adjacent market of marine positioning, vital for all survey applications and introduced to the market our MOTION range of positioning and attitude solutions. Our F180® series created a new one-box concept, tightly integrating GPS position and attitude sensors in a single system as an alternative to the more complex and less accurate separate sensor offerings of the time. This range has remained an industry standard supported by leading survey companies and solution providers and benefits from continuous investment so our customers always have the latest available functionality, best performance and accuracy. We have recently launched our successor products, the F280 series® which is an advancement on our F180® series.

We then delivered a transformational technical innovation with the ground-breaking introduction of our patented flagship product the Echoscope®, which is still the world's only real-time 3D imaging sonar, allowing users to visualize their underwater environment live, in 3D, and in all water visibility conditions. The Echoscope technology sits at the heart of our 3D product range, which now encompasses an expanded range of sonars for varying market and application requirements. In addition, we have four leading 3D visualization and processing software applications and a growing range of complimentary and fully integrated hardware accessories. With the advancement of technology, we have again advanced our real time 3D sonar solutions to 5D and 6D capability, allowing instead of thousands, millions of acoustic data points to be captured and processed in real time.

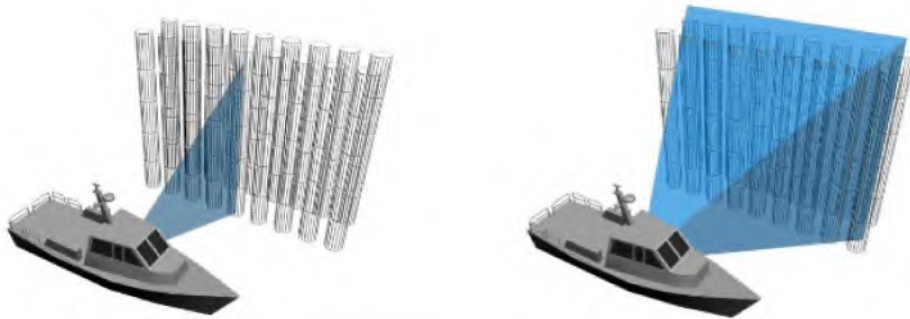
3D Family

Real-Time 3D Volumetric Sonars



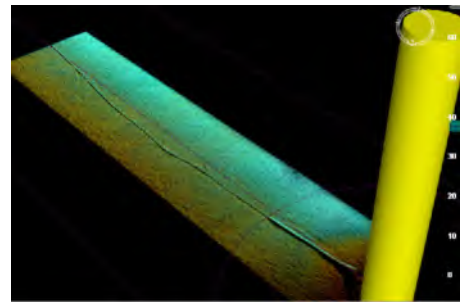
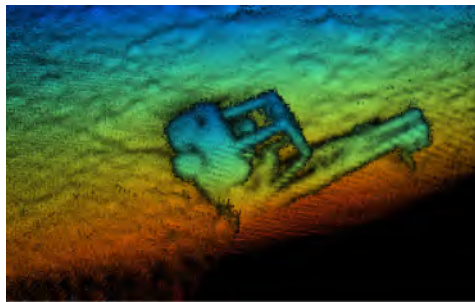
The Echoscope technology sits at the heart of the world's first and highest resolution real time 3D volumetric sonar. It provides complete scene awareness with no physical movement, and the ability to see moving targets and assets effortlessly with fully geo referenced positional data. Built around unique patented technology, it is the only sonar that can visualize underwater operations live as they occur in 3D.

The Echoscope uses its volumetric imaging capability to dramatically reduce shadows, and to provide unsurpassed angular coverage of dynamic objects on complex and detailed scenes resulting in exceptionally dense and statistically coherent images.



Standard Multibeam vs. Echoscope

When monitoring underwater activity, 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 during operations. Viewing the subsea scene in real-time using patented 3D rendering techniques allows for immediate decision making during underwater positioning projects, while maintaining a measurable dataset for mapping purposes.

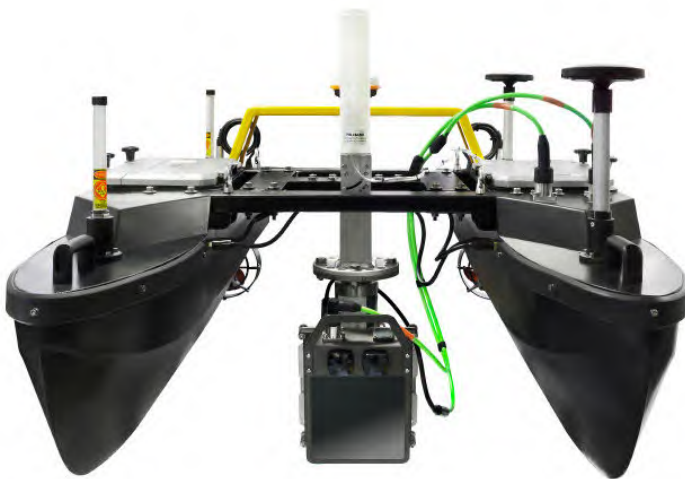


Echoscope^{4G}® Series



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

The Echoscope^{4G} Series 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 systems. It deploys our 4G performance pack to include our new beamformer that supports industry standard 100mb Ethernet capability, increased ping rate to 20Hz, and reduced range resolution to 2cm.



New Features

- Lighter/Smaller/ Reduced Power/ Lower Cost
- Latest 4th Generation Processing Engine
- Increased Ping Rate Now 20Hz
- Reduced Minimum Range Now 0.5m
- Programmable TVG
- Standard 100Mb Ethernet for ROV/AUV Applications

New System Specifically for USV Applications

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 gives 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.

Echoscope^{4G}® Range

Our lightest sonars to date, the new Echoscope^{4G}® Series takes advantage of the new reduced form factor relating to size, weight, and power requirements. The new series enables customers to access the latest performance features including increased ping rate and reduced minimum range.



Echoscope^{4G}®

The Echoscope^{4G}® is the latest of our fourth-generation (“4G”) real-time 3D imaging sonar platform. The Echoscope^{4G} is smaller, lighter and uses less power than our third-generation systems. Our 4G sonars have improved functionality including increased ping rate of 20Hz and reduced range resolution to 2cm. They also support industry standard 100mb ethernet capability.

Echoscope^{4G}® Surface

The Echoscope^{4G} Surface benefits from the smaller, lighter and less power requirement form factor. This sonar is rated at 20m water depth and is ideal for shallow water applications with good water conditions. We do not recommend our Surface variant for water conditions which are very challenging such as fast flowing or cavitation in the water, and or suspended sediment. Where the water conditions are very challenging (such as we describe in the preceding sentence), we recommend our standard Echoscope^{4G}® which provides the user with greater dynamic range and more options for adjusting settings in these water conditions. This is because, the Echoscope^{4G}® Surface variant provides less ability to adjust the settings where such environmental challenges exist.



Echoscope^{4G}® C500

The Echoscope^{4G} C500 builds on the advantages of our Compact range by offering an even lighter, smaller and easier-to-integrate system with ROVs and AUVs. It deploys our 4G performance pack to include our new beamformer that supports industry standard 100mb Ethernet capability, increased ping rate to 20Hz, and reduced range resolution to 2cm.

Echoscope^{4G}® C500 Surface

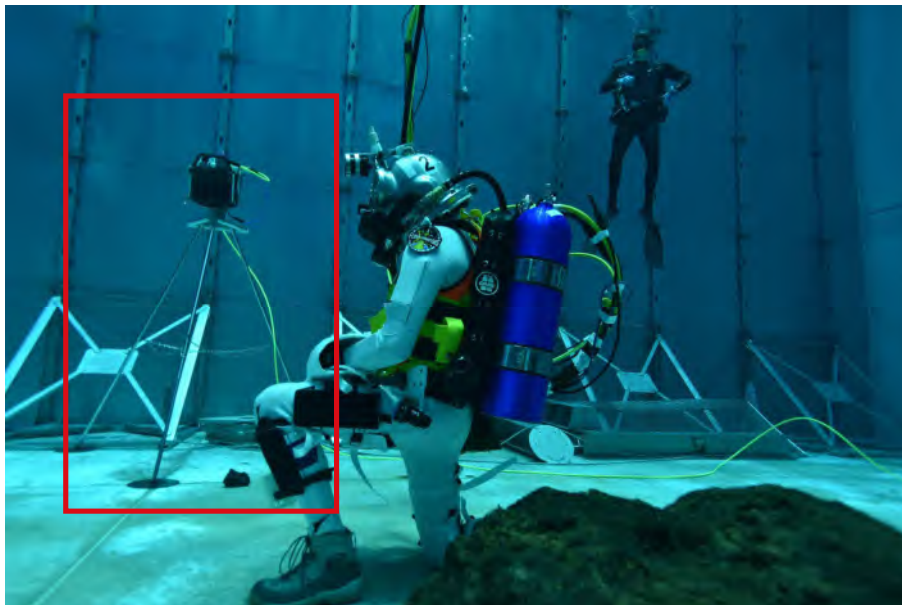
The new Echoscope^{4G}® C500 Surface is the latest Surface variant of our 4th generation real-time 3D imaging sonar platform. Designed specifically with small USV use in mind, the Echoscope^{4G} C500 Surface builds on the advantages of our Compact range by offering the lightest, smallest and easiest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



	Echoscope ^{4G} ®	Echoscope ^{4G} ® Surface	Echoscope ^{4G} ® C500	Echoscope ^{4G} ® C500 Surface
Frequency	315/375/550/ 630 kHz 240 kHz option	315/375/550/ 630 kHz 240 kHz option	315/375/550/ 630 kHz 240 kHz option	315/375/550/ 630 kHz 240 kHz option
Number of Beams	128 x 128 (16,384 total)	128 x 128 (16,384 total)	128 x 128 (16,384 total)	128 x 128 (16,384 total)
Angular Coverage	50° x 50°, 24° x 24° (standard) 90° x 44° (XD)	50° x 50°, 24° x 24° (standard) 90° x 44° (XD)	50° x 50°, 24° x 24° (standard) 90° x 44° (XD)	50° x 50°, 24° x 24° (standard) 90° x 44° (XD)
Depth Rating	250-4,000m 820-13,123ft	20m 65ft	250-3,000m 1,968-9,842ft	40m 131ft
Dimensions	328 x 300 x 145mm 12.9 x 11.8 x 5.7in	320 x 293 x 124mm 12.6 x 11.5 x 4.8in	232 x 300 x 147mm 9.1 x 11.8 x 5.8in	232 x 300 x 124mm 9.1 x 11.8 x 4.9in
Weight in Air	20.6kg/ 45.5lbs	11.5kg/ 25.4lbs	14.9kg/ 32.8lbs	9.4kg/ 20.7lbs

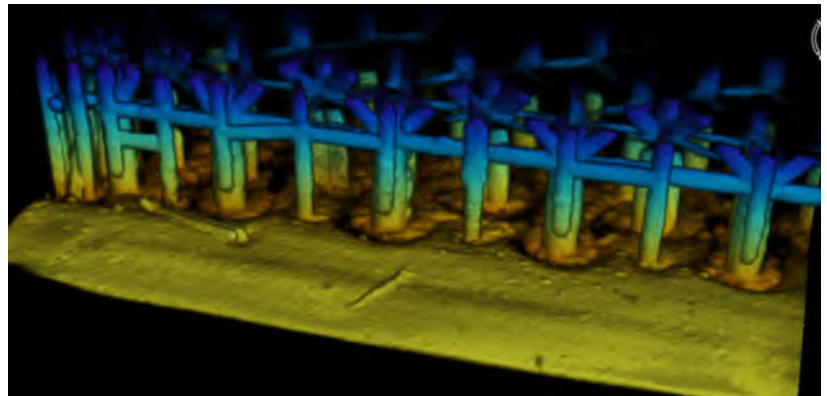
Echoscope® C500 Inspector System

The Echoscope® C500 Inspector System is a modular, mobile platform designed to make sonar deployment simple and fast. The Inspector comprises a lightweight mechanical carrier frame supporting the ISAR Rotator and the C500 sonar. The carrier frame can be suspended from a single lifting point or mounted on a tripod to allow placement on the seabed. A single integrated sensor cable (ISC) connects the ISAR and C500 sonar to the 3D CONNECT integrated topside unit for power, control and data. A laptop running USE software completes the suite providing real-time 3D visualisation including directional control of the sonar via the ISAR rotator. The C500 Inspector system can provide relative positioning and tracking capability for scene awareness and diver 3D point tracking. The C500 Inspector system can also be used to create relative models of the underwater scene prior to dive operations to facilitate a safe, context rich environment for the diver.



Brand New Release From Coda Octopus

Echoscope PIPE® (Parallel Intelligent Processing Engine) The World's Only 5D and 6D Sonar



Single Sensor Generating Multiple Parallel Processing of 4D Outputs

The 5D and 6D Echoscope® PIPE sonars embed the Company's new powerful and innovative advanced signal processing engine. This new engine enables parallel signal processing of every, single acoustic ping value within the sonar viewing volume. This breakthrough represents the capturing and processing of up to 40 million data points per sonar ping, as compared to 16,384 data points per ping within the viewing volume in the Company's current 4D sonars in the market. This magnitude of data capturing and processing is unmatched in the Sonar Imaging Market. By comparison, competing technology (multibeam) returns, on average, up to 512 data points per sonar ping and only a narrow slice of data. 5D and 6D capabilities is novel and is the subject of a number of patent pending applications.

Echoscope PIPE®

5D and 6D bring a game-changing capability for underwater applications. It allows multiple uses, in real time, by parallel processing the same sonar data as many different datasets or images using different configuration parameters such as range and frequency.

Echoscope PIPE® is a combination of hardware, firmware and software features. All PIPE sonars embed our new processing engine (a hardware change). All other features are delivered by software. Echoscope PIPE® features are:



Product Type/ Product Code	Description
OPTION A: Echoscope® PIPE CORE	PIPE CORE Hardware includes our new Processing Engine and is the required hardware for all Echoscope® PIPE capability. Brief Summary: • New Image Processing • Greater Dynamic Range than previous generation of our sonars; • Adaptive Frequency and Field of View Tuning; • New Fan Imaging
OPTION B: Echoscope® PIPE Sequencer	PIPE Sequencer Hardware includes our new Processing Engine and is the required hardware for all of Echoscope® PIPE capability. Brief Summary: • All PIPE CORE features described above. Plus: • Up to 10 Sequential Ping Types • Multi-Range Equidistant Pings • Adaptive Frequency and Field of View Tuning;
OPTION C: Echoscope® PIPE Full Time Series (PIPE FTS)	PIPE FTS Hardware includes our new Processing Engine and is the required hardware for all of Echoscope® PIPE capability. Brief Summary: • All PIPE CORE and PIPE Sequencer features described above. Plus: • Real-Time Ultra-High-Density 3D Imaging of moving objects; • >30 pings per second (dependent on maximum range) • Multiple data types: previous generation Echoscope® data, Partial Time Series Data or Full Time Series Data with 20-30mm sample spacing • Up to 40m 3D Beam Points available Per Ping; • Greater Dynamic Range with Floating Point Beamforming and Filtering
OPTION D: Echoscope® PIPE MULTI AND RAW (6D)	PIPE MULTI Hardware includes our new Processing Engine and is the required hardware for all of Echoscope® PIPE capability. Brief Summary: • All PIPE CORE, Sequencer and FTS features described above. Plus: • Raw Data Time Series Recording • Multiple Parallel Beamformed Outputs (for separate users/applications) • Automated Task Sequencer for Parallel and Sequential Beamformed Outputs • PIPE Offline processing to generate unlimited data outputs from Raw DATA • Smart PING Manager for Frequency, FOV & Filtering fully adaptive in real time (on the fly)

Echoscope PIPE® Range of Sonars

	Compact C500 Series	Full-Size System
Surface Up to 20m (65ft) depth rating	Echoscope PIPE® C500 Surface (Dual or Triple Frequency)   Dual Frequency Triple Frequency	Echoscope PIPE® Surface (Dual or Triple Frequency)   Dual Frequency Triple Frequency
Deep Water From 250m (820 ft) to 4,000m (13,123ft) depth rating	Echoscope PIPE® C500 (Dual or Triple Frequency)   Dual Frequency Triple Frequency	Echoscope PIPE® (Dual or Triple Frequency)   Dual Frequency Triple Frequency Echoscope PIPE® XL (Dual or Triple Frequency)   Dual Frequency Triple Frequency

Echoscope PIPE[®] Specification

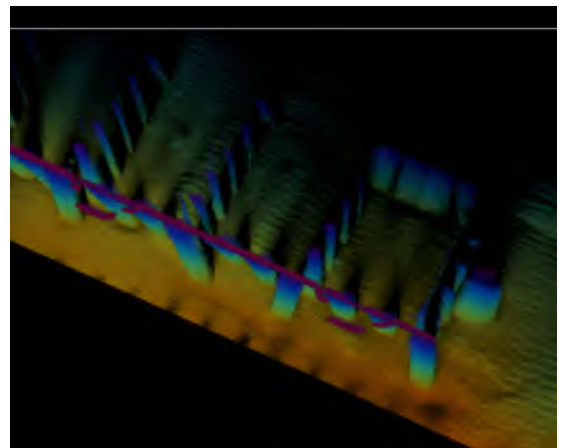
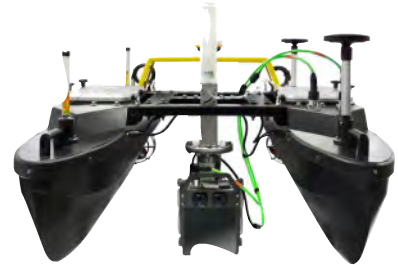
	Echoscope PIPE [®]	Echoscope PIPE [®] Surface	Echoscope PIPE [®] C500	Echoscope PIPE [®] C500 Surface
Frequency	315/375/550/ 630 kHz 240 kHz option	315/375/550/ 630 kHz 240 kHz option	315/375/550/ 630 kHz 240 kHz option	315/375/550/ 630 kHz 240 kHz option
Number of Data Points	128 x 128 x 2500 (40 Million total)	128 x 128 x 2500 (40 Million total)	128 x 64 x 2500 (20.5 Million total)	128 x 64 x 2500 (20.5 Million total)
Angular Coverage	220kHz - 280kHz: 102°x51° - 71°x35° 315kHz - 425kHz: 61°x61° - 43°x43° 550kHz - 700kHz: 33°x33° - 25°x25°	220kHz - 280kHz: 102°x51° - 71°x35° 315kHz - 425kHz: 61°x61° - 43°x43° 550kHz - 700kHz: 33°x33° - 25°x25°	220kHz - 280kHz: 102°x51° - 71°x35° 315kHz - 425kHz: 61°x61° - 43°x43° 550kHz - 700kHz: 33°x33° - 25°x25°	220kHz - 280kHz: 102°x51° - 71°x35° 315kHz - 425kHz: 61°x61° - 43°x43° 550kHz - 700kHz: 33°x33° - 25°x25°
Depth Rating	250-4,000m 820-13,123ft	20m 65ft	250-3,000m 1,968-9,842ft	40m 131ft
Dimensions	328 x 301 x 151mm 12.9 x 11.83 x 5.94in	321 x 293 x 129mm 12.62 x 11.4 x 5.07in	232 x 301 x 152mm 9.13 x 11.83 x 5.99in	232 x 301 x 129mm 9.13 x 11.83 x 5.07in

Echoscope PIPE[®] XYZ Sonar Series

Some integrators intend to use our sonars without our top end software. For such integrators, we offer you our Echoscope PIPE[®] XYZ Sonar series which allows direct communication with the sonar without our software.

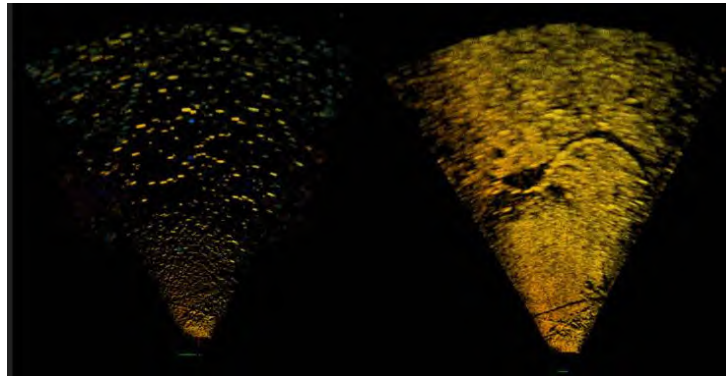
PIPE Data Broadcasting and Communications

The PIPE[®] XYZ sonars allows integrators to communicate directly with the sonar using any operating system (such as linux or windows). Echoscope PIPE[®] Series of Sonar gives system integrators to easily interface the Echoscope[®] PIPE sonar into third-party software. It offers real-time data output of local XYZ data with speed of sound corrections, and direct sonar control via a simple command interface (API), all over an Ethernet interface. Since the data and control API are purely network based, any operating system and most programming language can be used. We also supply simple real-time XYZ preview and control application. The XYZ preview functionality is intended to help Third party integrators check that their own XYZ rendering is correct, together with providing a test control application. The previewer allows some basic controls for the rendering of the XYZ point cloud data. The Echoscope[®] PIPE XYZ Package excludes any Data Acquisition Capability.



PIPE vs Standard Echoscope

Standard Echoscope® Series



Echoscope PIPE® Series



Differences between our Standard Echoscope and our new PIPE Sonars

Description	Standard Echoscope	PIPE® Sonars
Real Time Capability	Yes, 4D Images	Yes, 4D, 5D and 6D
Angular Cover Dual Frequency	50°x50° and 24°x24°	54°x54° - 47°x47° and 32°x32° - 28°x28°
Adaptive Frequency Capability	No	Yes
Ping Rate	Up to 20Hz	Up to 40Hz
Multiple Real Time 4D Images	No, one single Real Time Image	Capable of Multiple Real Time Images
Number of Data Points per Single Ping	Up to 16,386	Up to 40 million
Range and Intensity Per Beam	128x128x1 Value	128x128x2,500
Multiple Sequential Configuration Files to capture data using different parameters	No Capability	Up to 10 Configuration sets for real time capture and display
Full Time Series Raw Data Capture	No Capability	Capture of Raw Data Capture
Full Time Series Raw Data Offline Processing	No Capability	Capable of Raw Data Offline Processing
Multiple Parallel Beamformed Data Output	No Capability	Capable of Multiple Parallel Beamformed Data Outputs
Smart Ping Manager using Frequency, Field of View, Filtering in Real-Time	No Capability	Capable

Protect your Sonar

Offshore operations can often be conducted in harsh and difficult environments. In order to protect your Echoscope^{4G®} series sonar, Coda Octopus offers a few options:

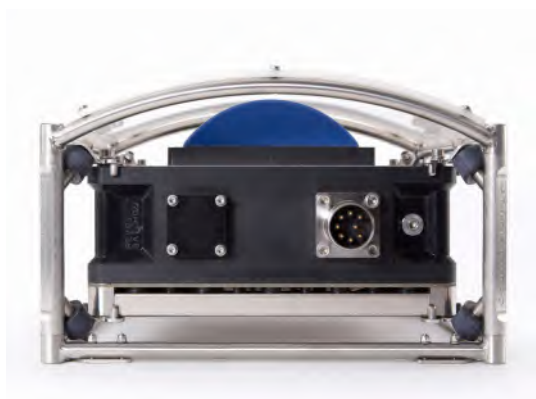
Marine Growth & Anti Corrosion

The Echoscope[®] Protective Cover is an anti scratch and anti corrosion protection shield for the Echoscope^{4G®} series. The cover is 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.



Impact & Anti Vibration

The ruggedized protection cage provides a high-integrity enclosure for the protection of the Echoscope^{4G®} series. It incorporates four shock isolation mounting points for the sonar head and has proven to be effective for the protection of the sonar against damage due to the shock, high frequency vibration, and frontal impact and ensures continued operation in demanding environments.



DAVD (Diver Augmented Vision Display)

End to End Real-Time Diver Management System (DAVD) for defense and commercial diving operations.



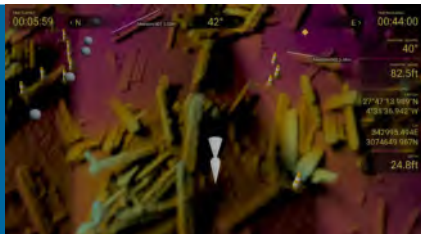
DAVD is a complete end-to-end diver management solution incorporating a uniquely innovative, high-resolution, transparent glass, head-up display (HUD) embedded directly into the visor of the industry standard Kirby Morgan® KM37 and KM97 dive helmets. Our next generation will extend to the full face mask variant.

The DAVD HUD is controlled from the surface by the Dive Supervisor via the DAVD-Control Panel and accompanying Coda Octopus 4G USE® DAVD Edition software. They are able to control all the information displayed to the diver including the ability to send critical messages, detailed step-by-step mission instructions, drawings, images, and even augmented reality videos. The real-time scene can be further augmented with 3D Models, charts, and maps overlaid with real-time 3D imagery from Coda Octopus patented Echoscope® technology of the divers' environment in 1st or 3rd perspective, regardless of the water visibility conditions facing the diver. DAVD is a multi-generation project and the DAVD GEN 1 and 2 products are now an Authorized Navy Use (ANU) product which is currently in use by the Navy.

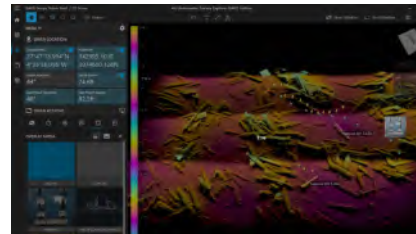
DAVD System



Live Diver View



Live Dive Supervisor View





LOCATION

Provide the Location of the Diver, the Diver Stage and Work Site and any hazards



VISIBILITY

Enhance the Diver experience with real-time Augmented and Mixed Reality scene awareness



COMMUNICATION

Communicate with rapid TEXT messaging for instruction, guidance and acknowledgement



SAFETY

Diver and Supervisor visually synchronized and can coordinate movement, tasks and health status



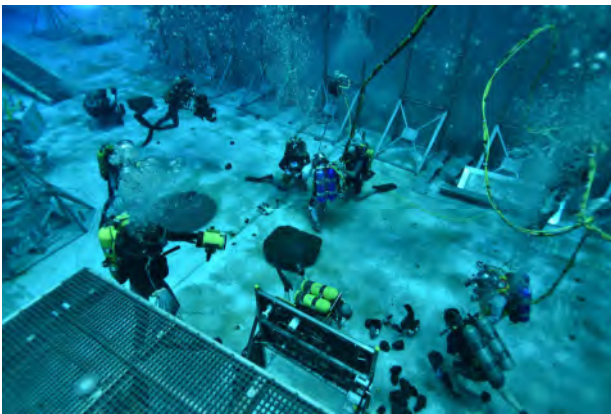
DATA

Diver and Supervisor can share and access all project technical and visual data in real-time



DAVD in Action - NASA NBL Trials

The DAVD is funded by the Office of Naval Research (ONR) through its Future Naval Capabilities (FNC) program, and continues to be managed by NAVSEA 00C3. The system was originally developed under a CRADA agreement with Naval Surface Warfare Center, Panama City Division (NSWC PCD) and our sponsor NAVSEA.



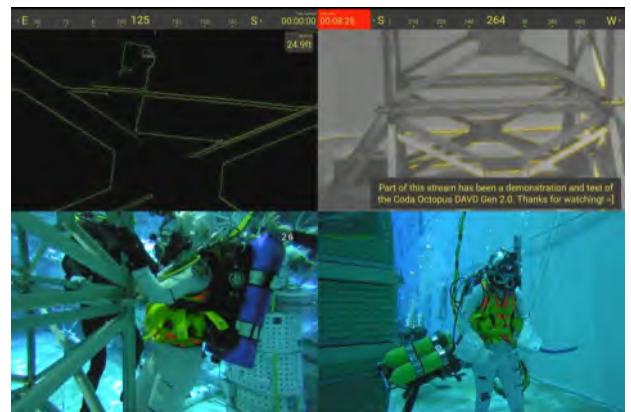
DAVD in action at NAVSEA Trials with NASA



Divers using DAVD to conduct operation



Dive Supervisors monitoring trials



Top: Tasks and messages on diver's HUD

Bottom: Divers conducting tasks

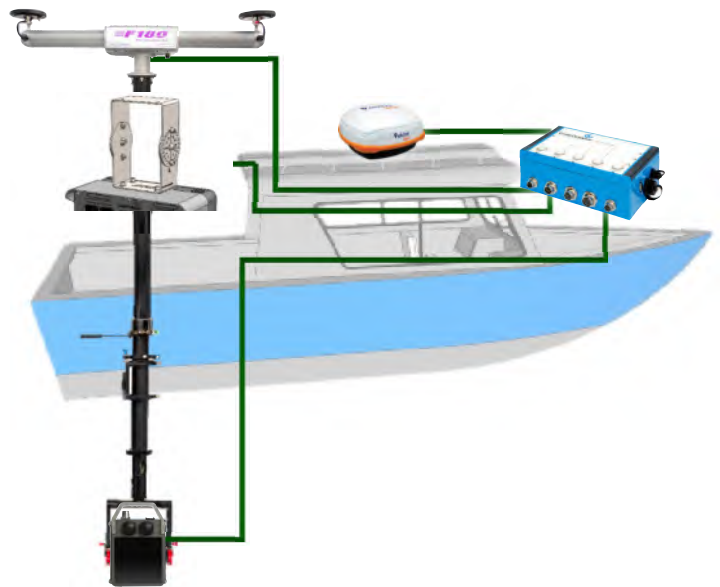
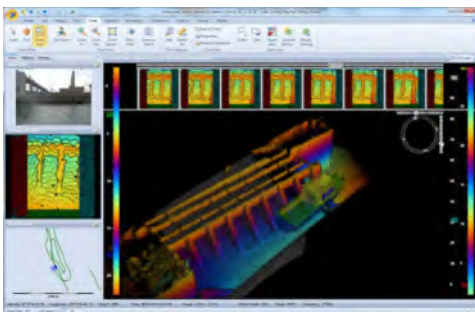
3D Sonar Integration System

CodaOctopus® Underwater Inspection System (“UIS”)

The CodaOctopus® Underwater Inspection System (UIS) is the world’s first fully integrated 3D sonar system for specialized underwater applications such as maritime security, port and harbour maintenance, search and recovery and intruder visualization and classification. The system comes in two variants, and can also be used to rapidly assess storm damage, locate sunken debris and provide baseline maps of critical infrastructure.

UIS^{4G}

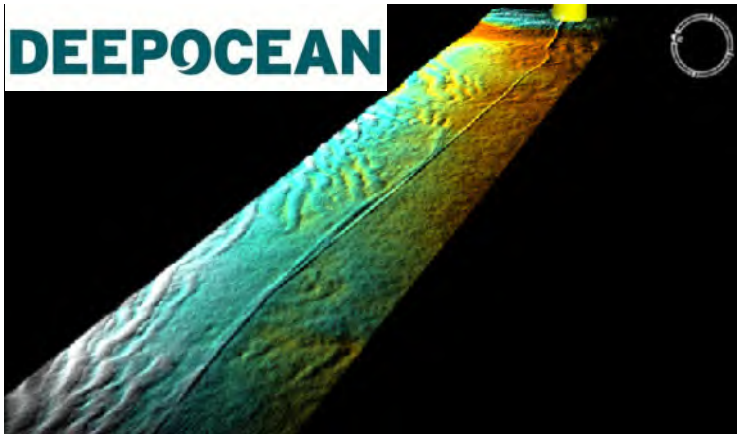
The UIS^{4G} utilizes the recently released 4th generation of real-time 3D sonars, the Echoscope^{4G} Surface. The lighter and smaller form factor of the Surface allows safe single user deployment from a much wider range of small inspection craft including autonomous surface vehicles. At the heart of the UIS^{4G} is the 3D Connect, providing a very compact and comprehensive integration point and power solution for all Echoscope real-time 3D volumetric sonars, single and dual-axis rotators, above water day/night digital camera, included GPS aided inertial navigation system, the F180 series, as well as a range of additional sensors.



UIS

Using Echoscope® real-time 3D volumetric sonar technology to deliver precise, intuitive and instantaneous three-dimensional images, producing detailed GPS referenced underwater scans in real-time. With little training, even operators without a background in hydrography can undertake rapid inspections of harbor walls, bulkheads, piers, bridges, pilings and ship hulls.

Complete with a rugged and easily deployed vessel pole mount, the UIS is being used by law enforcement agencies, military organizations and port security operatives as a means to have fast access to high definition subsea data for decision making purposes.



Race Bank Offshore Wind Farm

Real-Time Monitoring of Cable Survey & Installation



Port of Safi

Breakwater Construction Without Use of Divers

Industry Experience. Proven Results.

For nearly 25 years, Coda Octopus has worked with customers around the world in maritime industries, helping to make their projects simpler, safer, and more efficient. We understand the unique challenges that affect underwater operations, and we are dedicated to creating innovative and intuitive solutions that bring sound, underwater intelligence to otherwise difficult subsea projects. Here are just a few examples of some of our previous customers.



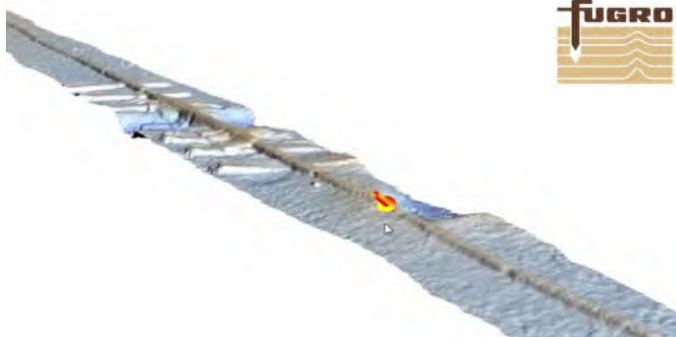
Kuwait

Breakwater Construction in Zero Visibility Conditions



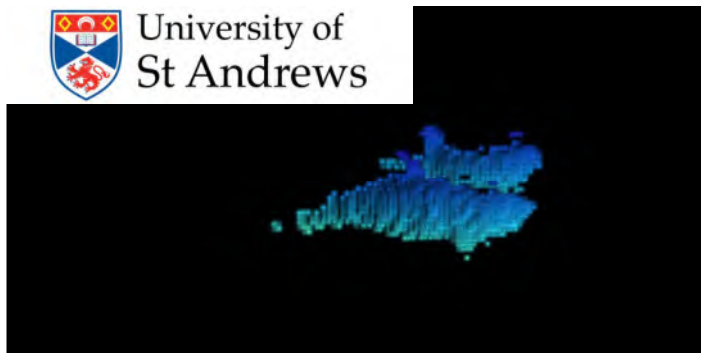
Long Beach California

Rapid, Real-Time Scene Awareness and Threat Identification



30" Coated Concrete Pipeline

ROV Mounted Pipeline Laying and Inspection



University of St. Andrews

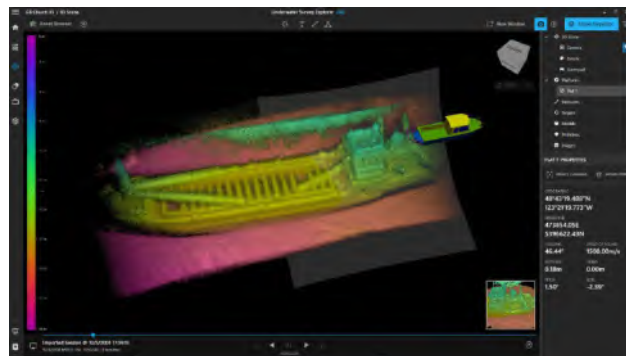
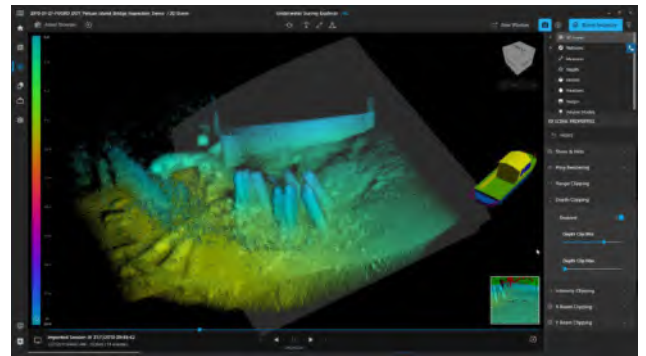
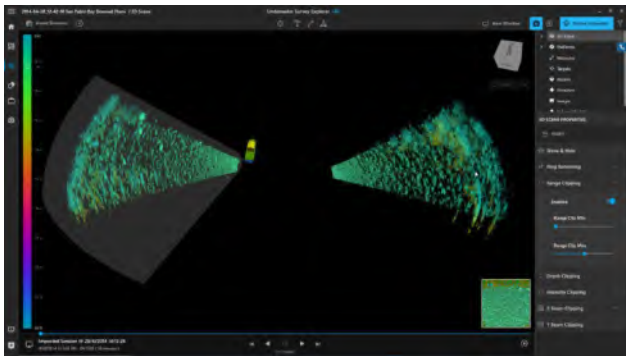
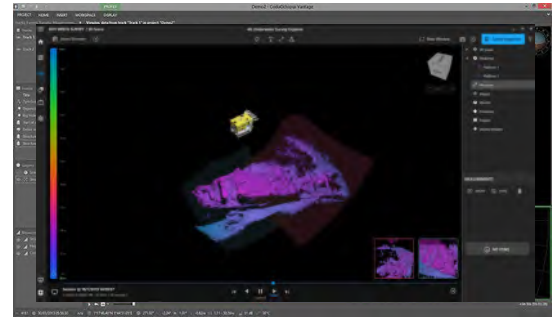
Real-Time Monitoring of Marine Life

NEW Generation of Software

4G USE®

4G USE is our new generation of software for acquiring, visualizing, and processing acoustic data.

4G USE takes advantage of advanced processing capability and is a multiple sensor platform. Our previous generation of software (Underwater Survey Explorer ("USE")) allows one sonar to be set up and used for the acquisition and visualization of sonar data. Our new software, 4G USE, allows multiple sonars and other sensors or accessories to be used for acquiring, visualizing and processing acoustic data. Where multiple sonars are used, this may be used in independent mode - allowing for two different targets to be imaged at the same time or controlled together, where one target is being viewed but where swath/coverage is important (example, pipeline inspection). Where multiple sonars are used, the image can be displayed as a consolidated image or separately.



4G USE is backward compatible with the previous USE, and data acquired in 4G USE can be exported for both replay and processing in the original software.

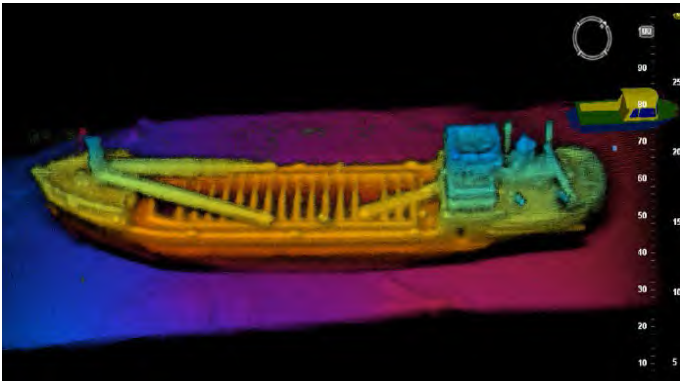
Request a Trial Today

Email sales@codaoctopus.com

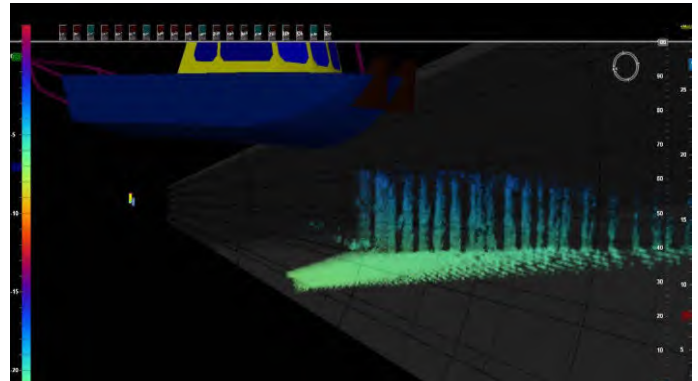
Software

CodaOctopus® Underwater Survey Explorer (“USE”)

For use with the Echoscope range of real-time 3D sonars, CodaOctopus® Underwater Survey Explorer (“USE”) will enable users to view the subsea scene in the highest definition possible and has been developed specifically to provide significant productivity and result processing capabilities. Further enhanced by our Volume Rendering Engine and optional software modules with application specific solutions, each USE edition can be used for a host of subsea projects to increase productivity and enhance underwater visualization. USE comes with Live Mode and Replay Mode standard to every package. Live Mode enables users to view and record real time Echoscope 3D sonar data. Replay Mode allows operators to conduct post-processing and off-line reviews of previously acquired Echoscope 3D sonar data.



Real-Time 3D Image of Shipwreck



Latest version adds automatic Pan & Tilt tracking making operations even simpler

Optional Modules:

USE Real Time XYZ

Designed to enable the output of real-time data from the Echoscope sonar head during AUV survey operations for obstacle avoidance, navigation, etc.

Baseline Comparison

Automatically compares on-line or recorded data from an area with previously recorded data of the same area in order to make immediate comparisons and to identify underwater features that have either been added or removed from the area of interest.

Models

Provides the user with the ability to import user-created computer models. Importing in “.x” format enables computer models to be overlaid onto the Echoscope sonar data to significantly aid on-line and post-survey visualization. Furthermore, the position and orientation of multiple models can be controlled and manipulated on-line via a series of incoming navigation and motion matrix strings.

Change Detection

View two projects at once in USE of the same area recorded over time. Changes are then automatically detected and marked on a split screen display.

Exporting

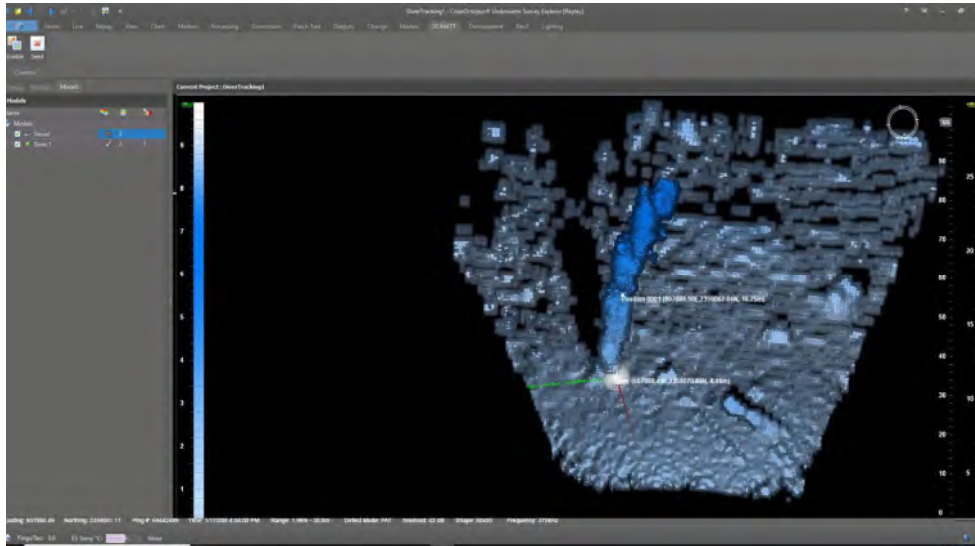
Delivers an improved range of export options from the standard USE Digital Terrain Model (DTM) output capabilities. The Exporting module includes the unique and advanced 3D binning option that delivers the full range of benefits of working with real-time 3D sonar data.

Survey Monitor

Enables multiple users running Survey Monitor to view and to interact with on-line Echoscope sonar data. Each remote Survey Monitor user will have the ability to view Echoscope data in their preferred display and orientation independently from the on-line master operator. This application package is particularly suited for operators who wish to have a master Echoscope sonar operator, while allowing multiple users e.g.. vessel skipper, party chief, senior surveyor, etc. to see on-line data for instant decision making.

Software

CodaOctopus® 3D Multiple Automated Target Tracking (“3D MATT”)



The 3D Multiple Automated Target Tracking (3D MATT) software technology and the initial target tracking application from Coda Octopus is poised to revolutionize a number of subsea tasks by automating the most critical yet monotonous and resource heavy aspects of these operations. 3D MATT is a real-time multiple target tracker using 3D data from our flagship real-time 3D volumetric sonar technology, the Echoscope^{4G} series. The Echoscope^{4G} is the only sonar to visualize moving objects underwater, in 3D and in zero visibility conditions.

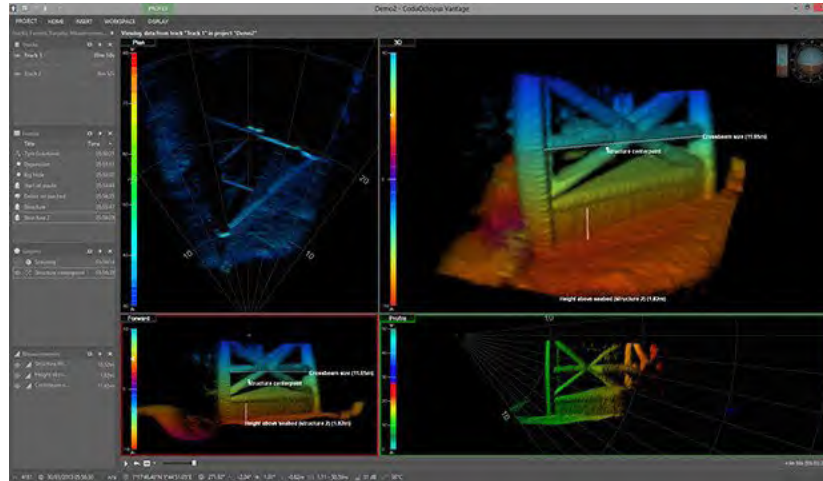
In Offshore Wind Farm operations, 3D MATT will automatically track and record cable touch down points, an essential aspect of the cable laying operation to maintain a prescribed and safe steady tension on the cable as the vessel moves. Previously, an operator would have to manually select each touch down point to ensure it was laid properly. By automating this process, Coda Octopus helps operators remove human error from this process, and helps to free up valuable resources for other tasks such as the unique benefits the Echoscope can bring to these real-time decision making applications including looking ahead of the touch down point for objects and targets in the decision lay corridor and over and under tension of the cable.

The user is also able to define an unknown target for tracking through a set of specifically defined constraints. By allocating the probability extend and approximate dimensions and speed of the target, 3D MATT can accurately track these unidentified targets in real-time and at a rate of 20 pings per second, significantly enhancing real-time positioning applications over traditional acoustic positioning methods.

Our 3D MATT is the subject of a number of patent applications. All Rights Reserved.

Software

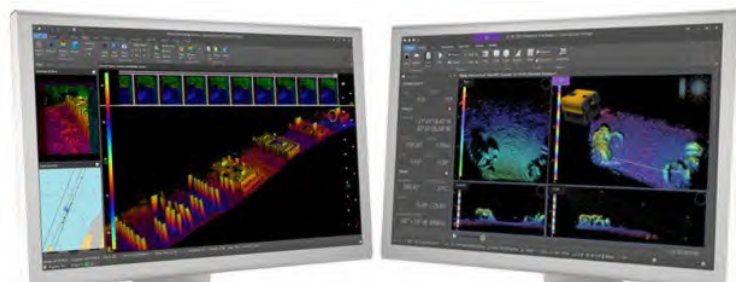
CodaOctopus® Vantage Visualization Module (“VVM”)



CodaOctopus® Vantage offers unique on-line capabilities to various subsea operators, such as ROV Pilots or Crane Operators, over conventional and older scanning or multibeam packages.

With a unique quad-view, the ROV operator has a number of user selectable displays from which to navigate the ROV. Designed with ease of use in mind, Vantage software combines the conventional “plan view,” commonly provided by scanning sonars, with three additional and separate real time perspectives of the subsea environment.

Now, Vantage is used simply as an extra view point, provided on its own screen to separate duties from the survey team. CodaOctopus Underwater Survey Explorer (USE) is used on one screen to operate the sonar, take real-time measurements, and collect data. Vantage can then be used solely as a visualization tool, giving non-surveying personnel a simpler, easy-to-understand view of their underwater operation.

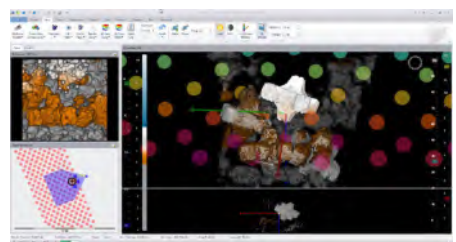
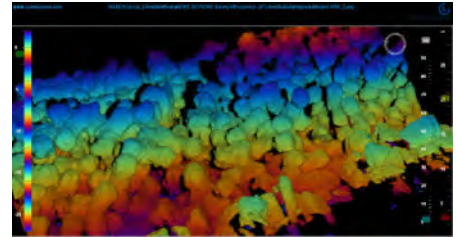


Breakwater Construction Spotlight

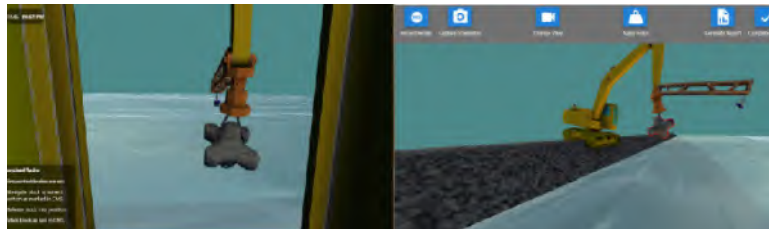
CodaOctopus® Construction Monitoring Software (“CMS”)

The CodaOctopus® Construction Monitoring Software (“CMS”) is a comprehensive software tool that increases production rates and safety of breakwater construction projects by enhancing our real-time 3D volumetric sonar’s usual proficiency to visualize blocks in poor visibility and light. This software includes the ability to simplify block position/orientation, automatically track block position/orientation, and to record position/orientation for easy project management. Combining this with the capability of the Echoscope to perform detailed pre- and post-lay surveys results in the Echoscope and CMS combination providing unrivalled breakwater construction capabilities.

The software includes advanced features which enable different types and sizes of blocks to be automatically tracked from the real-time 3D Echoscope data. A 3D model of the berm design can be imported into the software for increased accuracy of placement and ease and speed of operation. The advanced features extend across the project enabling pre-lay survey of the berm and as-laid blocks, assisting real-time block placement and recording the as laid position of each block for end-to-end management of the project.



CodaOctopus® Construction Monitoring Software Virtual Trainer (“CMS VT”)



The CodaOctopus® Construction Monitoring Virtual Trainer (CMS Virtual Trainer) is the latest advancement in our breakwater construction operation solutions offering. The CMS VT is built on our new Echoscope Simulation Engine that allows the generation of real-time virtual 3D Volumetric data based on both pre-defined background scenes and dynamically moving targets. The core benefit of focus of this CMS VT tool which we provide to our customers is to ensure that all personnel involved in a breakwater block placement and positioning are sufficiently trained prior to arrival and continuously when on the breakwater site without the need for costly and time-consuming physical installations. CMS VT is pre-loaded with a series of training lessons that cover all common aspects of block placement and for each available type of block. The CMS VT syllabus is also fully extensible including the ability for Coda Octopus to create custom lesson plans using the customer’s real-world site data. CMS includes the ability to simplify block position/placement, to track block position/orientation automatically, and to record position/orientation for easy project management. Combining this with the capability of the Echoscope^{4G} to perform detailed pre- and post-lay surveys results in the Echoscope^{4G} and CMS combination providing unrivalled breakwater construction capabilities.

Breakwater Construction Spotlight

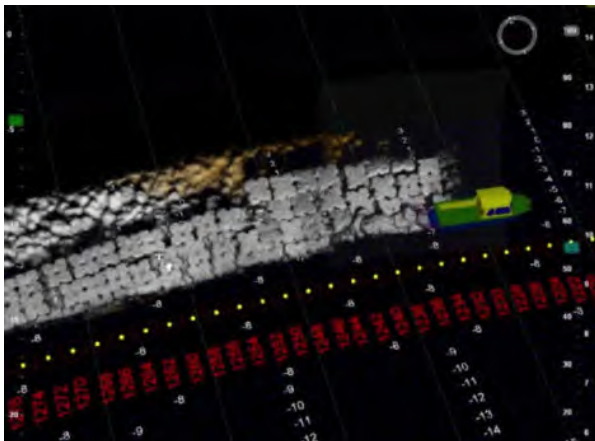
New for 2020: Echoscope® Air

For Placements Above the Waterline using the same Coda Octopus underwater software



Designed with our users in mind, the Echoscope® Air focusses on the critical shallow water, short range construction market applications where imaging and placing objects above the waterline can be as critical as underwater, adding to placement accuracy and efficiency for operators and project construction teams. It gives users an extra level of scene awareness to ensure inspection and monitoring tasks are completed safely and efficiently with the same real-time 3D data and multi-aspect imaging as enjoyed uniquely by our Echoscope® users. Providing the same real-time volumetric 3D data as the Echoscope allows seamless use of our powerful real-time and post-processing software applications (Underwater Survey Explorer and CMS) which have been invaluable in the construction industry for well over a decade.

The Echoscope Air can visualize the movement and track blocks above the waterline for the first time. The Air is fully integrated within CMS and is directly interchangeable for the Echoscope. The transition for placement of blocks from below the waterline to above the waterline is seamless and intuitive for even the most inexperienced crane operator.



Power Supplies



3D Productivity Station (“3DPS”)

The 3D Productivity Station (3DPS) is a plug-and-play top-end PC solution for use with the Echoscope and USE topside software combination. It is a custom designed, 19” rack-mountable PC with integrated power supplies for both the Echoscope and F180 series of systems. It has very high specifications for both the processor and graphics card, which is important for integrating Echoscope data with ancillary sensors and for rendering data on screen.

3D Connect (Integration Unit)

The 3D Connect is a new, compact and intuitive integration platform for the seamless integration of the entire Echoscope 3D sonar range. The 3D Connect allows users to further simplify deployment of the Echoscope range, increasing project efficiency by saving surveyors time with an intuitive, easy-to-use solution. It enables a single connection point for all Coda Octopus sonars, single and dual-axis rotators, above water cameras and GPS and MOTION sensors.



3D Time Lock Power Supply Unit (“3D PSU”)

The 3D PSU provides time synchronised power supply units for the Echoscope. With synchronization accuracy of 1 millisecond, the Echoscope system will be synchronized with the time source for the duration of the survey. It requires only a standard NMEA ZDA string over RS-232 and a 1PPS (pulse per second) signal as inputs. Easy-to-read LEDs on the power supply housing display the status of both inputs and the synchronization status.

Integrated Sensor Cable (ISC)

Simplify your deployment with the use of the ISC. This cable allows both the sonar and the rotator to be powered and controlled from one single cable. It improves deployment efficiency, reduces customer costs, and reduces overall quantity of the cable inventory.



Rotators

Integrated Pan & Tilt^{5G} (“IPT^{5G}”)

The Integrated Pan & Tilt^{5G} (IPT^{5G}) is our latest generation dual axis rotator, in a smaller, more compact, and lighter form factor. Based on customer feed back and improvements to the previous generation of technology, the IPT^{5G} offers enhanced performance and versatility in offshore operations. Now with automated IPT tracking within Version 8 of the CodaOctopus® Underwater Survey Explorer (USE) software application, the IPT^{5G} automatically maintains a designated fixed point within the center of the real-time 3D data display screen as the vessel or ROV then moves around it.

	IPT (3G)	IPT (5G)
Height	380mm (14.9")	335mm (13.2")
Width	350mm (13.8")	310mm (12.2")
Weight	28.7kg (63.1lbs)	24.5kg (53.9 lbs)



3D Integrated Single Axis Rotator (“ISAR”)



The 3D Integrated Single Axis Rotator (ISAR) also operates as an integrated solution within the USE software application. The software integration of the rotator unit with the Echoscope eliminates the need for multiple patch testing during mapping and inspection tasks. All angular and positional offsets are calculated within the software for accurate and simple operation.

Moving from a 90° - 270° tilt angular range and operable to depths of 500 or 3000m, the ISAR expands the viewing range for Echoscope sonars. It can be produced in aluminium or stainless steel, and can also be supplied with a stand-alone application for control of the unit out-with Coda Octopus software.

Quick Release Bucket



The Quick Release Bucket can be supplied as a complete system with the ISAR or the IPT. The QR Bucket makes mounting an Echoscope real-time 3D sonar a one-person job, by allowing the operator to easily slide the sonar into place and secure it at a single connection point.

MOTION Family

New Generation of Motion Products F280® Series System



The F280® Series of GNSS-aided (inertial) attitude and positioning systems are high quality, robust packages for the marine hydrographic and laser survey market. This self-contained system comes with all relevant software pre-loaded on it for fast and easy deployment.

Defined to meet the exacting requirements of the multibeam survey market, the F280 series systems are easy to install, easy to use and produce very accurate positioning, heading and MOTION data in the most dynamic offshore conditions. The light yet rugged F280 product series is a reliable and cost-effective solution on marine survey vessels of all sizes.

Benefits

- Precision position, heading, heave, pitch and roll in a single compact unit
- NEW: All systems are dual antenna GPS-, GLONASS- and BeiDou- capable for position and heading seeding
- NEW: Improved heading lock stabilization
- Maximum performance and accuracy under conditions of poor GNSS reception
- Adherence to International Hydrographic Organization (IHO) survey standards
- F280 series directly supported in leading Hydrographic Survey applications
- Reduced installation time
- Applicable for slow or non-moving platforms through use of Pre-calibrated Housing
- Easy to use Web Interface
- Highly Competitive Price
- Waterproof to IP67 rating (when power and antenna connectors are mated)

F280 Series Systems	
F280	Single Frequency GNSS system with SBAS and DGPS GNSS corrections capabilities (30cm positional accuracy)
F285	As F280 with addition of multi frequency GNSS receiver and RTK corrections activation to allow a maximum positional accuracy of 1 cm
F290	As F285 with addition of built-in Atlas™ corrections receiver and Atlas™ Global Correction Service License (L-Band). (Yearly Subscription required.)

MOTION Family

Difference between F280® Series and F180® Series

Mechanical Comparisons

	F280 Series	F180 Series
Dimensions	127mm x 155mm x 113mm (5in x 6.1in x 4.4in)	120mm x234mm x80mm (4.73in x 9.2in x 3.15in)
Weight	2.2kg (4.9lbs)	2.5kg (5.5lbs)
Power	9-36Vdc, 15 Watts	9-18Vdc, 25 Watts
Housing	Splash Proof (IP67 Rated)	Indoor Use

Dynamic Performance Comparisons

	F280 Series	F180 Series
Positional Accuracy (RMS)	(F280) 0.30m with DGPS correction (all models) 0.30m with SBAS correction (all models) 1.20m no correction (all models) (F285) 0.008m + 1ppm with L1/L2 RTK Correction (F290 Integrated) 0.04m with Atlas™ Global Correction Service	(F180) 0.30m with DGPS correction (all models) 0.80m with SBAS correction (all models) 1.20m no correction (all models) (F185/F185+/F190/F190+) 0.01m with L1/L2 RTK correction (F190/F190+ with External Receiver/Antenna) 0.04m with Atlas™ Global Correction Service
True Heading (1σ)	0.04° (2m baseline) 0.02° (5m baseline)	0.05° (2m baseline) 0.025° (4m baseline)

Interface Comparisons

	F280 Series	F180 Series
Ethernet 100Mbit	Full control and configuration, high speed data output (COMPAC)	Full control and configuration, high speed data output (MCOM) with direct output to QINSy and HYPACK
Serial Port 1	User-configurable for position, heading and attitude strings. Choose from: TSS1, TSSHHRP, EM1000, EM3000, COMPAC, GGA, GSA, GST, GSV, GKG, HDT, PASHR, PRDID, PTCF, RMC, ROT, VTG, UTC, ZDA, PPS and SPD. Can output any combinations of strings and at up to 100Hz	User-configurable for position, heading and attitude strings. Choose from: TSS1, TSSHHRP, EM1000, EM3000, MCOM, GGA, GKG, GST, HDT, PASHR, PRDID, RMC, ROT, VTG, UTC, ZDA. But cannot mix ASCII and Binary message on same Serial Port
Additional Serial Ports	Serial Port 2 and Serial Port 3 as Serial Port 1 Total of 3 Serial Ports	Serial Port 2 as Serial Port 1 Total of 2 Serial Ports

Feature Comparisons

	F280 Series	F180 Series
SBAS Corrections	WAAS/ Americas EGNOS/ Europe GAGAN/ India MSAS/ Japan	WAAS/ Americas EGNOS/ Europe MSAS/ Japan
Atlas™ Global Correction Service	ONLY Annual subscription of Atlas™ GNSS Global Correction Service is required3 Note: H10 Onshore available 1 Month/ 3 Month/ 1 Year H10 Offshore available 1 Week/ 1 Month/ 3 Month/ 1 Year	Additional Hardware (Atlas Smart Link) is needed to receive Atlas™ GNSS Global Correction Service
Heading Initialization	Less than 5-10 seconds to get Heading Solution	Heading initialization about 30-45 seconds best case.

Feature Comparisons (cont'd)

	F280 Series	F180 Series
GNSS Capabilities	Multi-Frequency GNSS GPS/Galileo/GLONASS/BeiDou/QZSS/IRNSS and Atlas *IRNSS(NavIC) (available in future FW)	Multi Frequency GNSS GPS/GLONASS
Remote Level Arms (RLA)	Up to 3 different RLAs, User configurable to provide Positional and Attitude output	ONLY 1 RLA, User configurable to provide Positional and Attitude output
iHeave	Real-Time and iHeave (Delayed Heave) solution directly on the F280	Real-Time available on F180 but iHeave solution only by using Post Processing Tools
Configurable Software	In-Built Web Interface for control, setup and status monitoring. Compatible with all major browsers. System Status Information can be also viewed on a Mobile device.	Coda Motion Control Software needed. Windows® 8.1/10 both 32 and 64-bit
Ready to Use	No wait time needed from cold start. F280 system is temperature compensated	15 minutes of wait time is recommended from cold start
Vessel Setup	Can store up to 10 different vessel setup information for survey using the on-board memory of the F280 system	1 vessel setup information stored on F180 unit, additional configurations loaded through Coda Motion Control Software
Switching between Vessel Setups	Just 3 clicks to switch between different vessel setups. (Select the vessel profile needed; Click Set as Default*/Use Now) *Set as Default feature, enables system to store the current Vessel Setup to be used after power cycle.	N/A
Ease of Configuration	No restart needed when changing just the F280 output information. For example, changes to output strings over Serial Ports	Reset needed for any change to the Vessel Setup
Attitude Output	Attitude can be output from IMU or Vessel Frame of reference and multiple RLAs	Attitude output from IMU or Vessel frame of reference with a single RLA
System Status	Up to 14 different status of the System can be determined just by the LEDs	
GNSS Firmware Update	Can be updated using DGPS Serial Port	Need to be returned to Factory
Firmware and Software	Field upgradable	Field upgradable or Return to factory
Survey Data	Can store up to 30 days of full-rate inertial data in the On-board memory of the system for post-processing and analysis	
Diagnostics	Single RAW file from system provides all the details needed including the Vessel setup	N/A
Events and Alarm	9 different user configurable events and alarms	N/A
IP Address	Fully user configurable, including use of DHCP for dynamic addressing	Static Addressing Only

MOTION Family

GNSS Aided Inertial Positioning and Attitude Systems

The MOTION family is a range of GPS-aided precision attitude and positioning systems and post processing software for all types of marine survey and positioning work. It offers a number of variants conveniently located in different flexible packages to make your deployment simpler and more efficient.

F180°

The F180 series is a range of GPS aided attitude and positioning systems that provide high quality and precise reference data for a number of marine applications including multibeam surveys and dynamic positioning projects.

With dedicated MOTION software, each model within the F180 series can be mobilized and calibrated in a very short space of time. With an advanced inertial engine, the F180 series is extremely stable and can maintain its high precision of motion output data even following tight vessel turn lines.



F180R

An extension of the F180 series, the F180R separates the Inertial Measurement Unit (IMU) from the GPS receivers. The IMU is hosted in a remote waterproof pod so it can be mounted beside the subsea multibeam transducer head or splash zone of the multibeam pole mount. The advantage of operating in this mode means that small vibrations or movements in the multibeam's over-the-side pole mount will be picked up by the Remote IMU and used in the blended solution along with GPS data.

F175

Built on F180 technology, the F175 extends the capabilities of a marine surveyor with an existing survey-grade GNSS receiver by blending this position data with the inertial engine inside the F175 unit. The result is an output solution that supplies highly accurate and smoothed variables such as heave, pitch, roll, heading, and position.



MOTION Family

F180 Lightweight Pre-Calibrated Housing

The F180 Lightweight Pre-Calibrated Housing (Pre-Cal) is designed for customers who require a simpler, faster, more flexible solution for marine positioning. This waterproof housing for the F180 and F180R series of GNSS aided inertial positioning devices fully integrates with CodaOctopus® MOTION Control to provide precise IMU to Antenna alignment without the need for calibration.



This latest model is 25% smaller, more than 20% lighter, and competitively priced, allowing customers to integrate their system faster and in more flexible ways than before. A new feature in this design is the fully independent weatherproof enclosure for the F180 one-box, allowing the F180 to be removed from the Pre-Cal for alternative mounting or for security. The new Pre-Cal uses the same common flange plate as the previous model, making it easy for existing users to upgrade to the latest system.

F180 Series Systems	
F180	Entry Level 1 System with DGPS capability (30cm positional accuracy) and SBAS (0.8m positional accuracy).
F185	As F180 with addition of dual-frequency GPS on primary receiver to allow a maximum positional accuracy of 1cm with RTK corrections.
F185+	As F185 with addition of dual-frequency GPS on secondary receiver for faster heading lock.
F190	As F185 with addition of Atlas™ Global Correction Service via AtlasLink™ GNSS Smart Antenna. (L-Band)
F190+	As F185+ with addition of Atlas™ Global Correction Service via AtlasLink™ GNSS Smart Antenna. (L-Band)

F175 Series Systems	
F175-S	Connect with C-Nav 3050, Leica GS50, Marinestar/Omnistar 4305HP, NavCom SF-3050, NovAtel OEM3, OEM4, OEMV and OEM6, Topcon GB-500, Generic NMEA
F175-H	Connect with Hemisphere VS330 dual antenna receiver
F175-O	Connect with C-Nav 3050, Leica GS50, Marinestar/Omnistar 4305HP, NavCom SF-3050, NovAtel OEM3, OEM4, OEMV and OEM6, Topcon GB-500, Generic NMEA, Trimble (361-461, 855-555H), 5700, AgGPS132/332 and BX982), Hemisphere VS-330
F175-T1	Connect with Trimble® single antenna receivers: SPS351, SPS851, SPS855, 5700, 5800, Ag132, Ag332.
F175-T2	Connect with Trimble® dual antenna receivers: SPS361, SPS461, SPS855 & SPS555H combination, BX982

GEO Family

Geophysical Data Acquisition & Interpretation Solutions

The GEO family includes integrated hardware acquisition devices with feature rich post-processing software for all levels of geophysical work that have been market leaders for over 20 years.

DA Series® Acquisition Devices

DA4G

The DA4G Series of acquisition systems provide high quality, robust, and reliable data acquisition from the latest digital and analog sidescan sonar and sub-bottom profiler sensors. These purpose-built, turn-key systems incorporate the very latest hardware specifications and are designed and delivered to meet the demanding nature of offshore survey.

- Compatible with all leading sidescan sonars and sub-bottom profilers in digital or analog formats
- State of the art, workstation class hardware platform
- Up to 4 analog input channels
- Dual independent simultaneous triggering
- Magnetometer Input
- Includes GeoSurvey software that is fully compatible with the new range of Survey Engine range of processing software.



DA4G-USB

The DA4G-USB is the latest in the DA4G Series of acquisition systems. This new streamlined system takes the industry leading digital acquisition and conversion components from the DA4G and presents them in a robust and smaller package for analog and digital acquisition.

This small form-factor platform with generic USB-to-PC interface facilitates the use of existing PC hardware for geophysical data acquisition. The DA4G-USB also runs our complete GeoSurvey software for either single sensor acquisition (sidescan or sub-bottom profiler) or dual sensor acquisition (DA4G-USB 1000 or 2000).

- Simply plug in to PC or Laptop for simple set up
- Compatible with all leading sidescan sonars and sub-bottom profilers in digital or analog formats



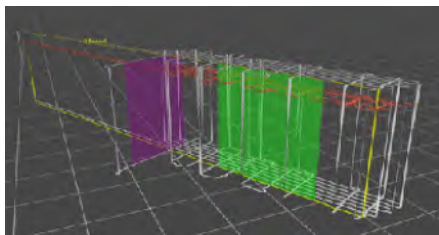
Survey Engine® Interpretation Software Suite

Survey Engine® Sidescan+

Sidescan+ is the Survey Engine® software module for processing and interpreting sidescan sonar data. Based around a flexible database, Sidescan+ gives fast access to all survey information, even from the largest datasets, offering exceptional time saving advantages when processing and interpreting sonar data.

Sidscan+ integrates fully with Seismic+ so that both seismic and sidescan datasets can be used in the same project. Sidescan sonar processing functionality can be greatly expanded by using Mosaic+ - a powerful module for creating high resolution mosaics and interpreting features on the mosaic quickly and easily.



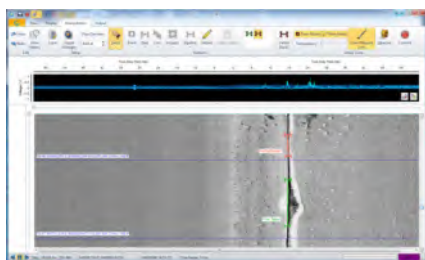
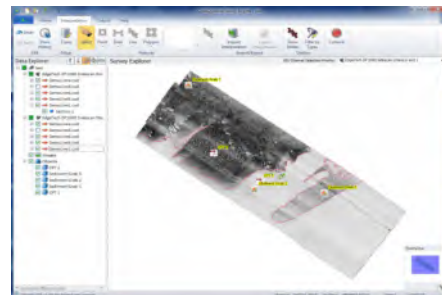


Survey Engine® Seismic+

Seismic+ is a 'next generation' 2D seismic data processing, interpretation and reporting application for the marine survey industry. Seismic+ integrates fully with Sidescan+, Mosaic+, and Pipeline+ so that both sidescan and seismic data sets can be processed, interpreted, and reported in the same project.

Survey Engine® Mosaic+

Mosaic+ is the most productive, integrated sidescan mosaicking solution for the marine survey industry. Coupled with an extremely intuitive user interface and full integration with the existing Survey Engine applications, Mosaic+ allows users to produce the highest quality mosaics and feature interpretations in shorter timescales.



Survey Engine® Pipeline+

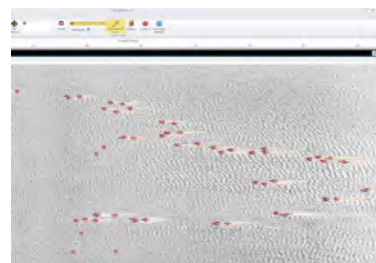
Pipeline+ is a targeted interpretation toolkit for interpreting sidescan sonar records from a pipeline inspection survey. It includes full pipeline free span length and height calculations with the ability to define the extents of the interpretation corridor.

Automating Geophysical Survey Tasks

Survey Engine® Automatic Object Detection Package (“SEADP”)

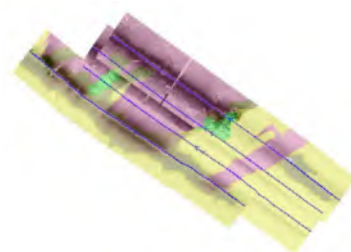
SEADP automatically detects boulders on the sea bed, and generates a comprehensive report on each detected boulder. In addition to the detection of each boulder using AI, the SEADP automatically computes the boulder position, length and height to further automate the vital analysis of the seabed condition, saving time and cost.

5,000 boulders in over **5km** of data detected in **5 minutes**



Survey Engine® Seabed Classification

Our latest advancement for the geophysical industry, Seabed Classification is integrated within our industry proven Survey Engine to provide automated seabed classification. This module uses artificial intelligence (AI) based methods to detect and classify seabeds in both type and geographic extent from sidescan sonar data. The extent boundaries are instantly visible to the user for validation and QC and can then be exported for use in chart and map generation, direct import to the users chosen GIS platform, or for further processing in Survey Engine.





Services & Support

Our range of systems and software is backed by a round-the-clock technical support service every day of the year. Our dedicated and experienced support staff ensure that expertise is on hand to help you overcome any issue as quickly as possible.

CodaOctopus® TEAM represents our commitment to the highest degree of client service and support. Incorporating real-time round-the-clock technical assistance, product training and a highly efficient maintenance and repair service, TEAM was created to meet and exceed our clients' service and support expectations.

In addition to our dedicated Support staff, we also offer:

Field Operations Support

Our Business Solutions Advisors (BSA) are a team of dedicated and highly experienced hydrographic surveyors that can provide service as required. A BSA can be hired to install real-time 3D volumetric sonars, provide comprehensive training to future operators, or perform the operation itself for as long as the customer requires. From pre-operational planning to a project's completion, this team of expert operators are available to make your subsea tasks simpler.

Transducer Development

As part of our extensive 3D sonar development expertise, our products have in-house design and production capabilities for acoustic transducers. We support the full lifecycle of transducer development including an on-site acoustic test tank for test and qualification of transducer performance.

OEM and Custom Products

In addition to our in-house production facilities of our own products, Coda Octopus can also work with customers on customized solutions to support their specific needs. Our Research and Development, Production, and Sales teams work diligently to deliver bespoke solutions for our customers who require them. For more information, please email sales@codaoctopus.com to speak with one of our dedicated representatives.

Hydrostatic Pressure Testing

We offer in-house hydrostatic testing for underwater equipment at our main facility in Edinburgh. We have two chambers rated to 400-bar and 330-bar respectively. Supporting services include live display and recording of pressure data and on-site capability to terminate cables to client specification for testing purposes. Our software development team can address any bespoke test software requirements for specialist monitoring and reporting.

Comprehensive Product Service and Repair

At Coda Octopus, we offer service and repair for the complete lifecycle of your product. For our products that need periodic service and calibration, our dedicated experts conduct routine inspections and health checks from our Edinburgh offices. We also service damaged or malfunctioning products, where our certified technicians thoroughly investigate problems, produce detailed reports to be agreed upon with the customer before work is carried out, and only use authorized parts to make repairs and get systems fully functioning as quickly as possible.

Options for Utilizing a Coda Octopus Solution

At Coda Octopus, we are here to serve our customers and to ensure their subsea projects are accomplished as simply, safely and efficiently as possible. Therefore, we offer flexible payment options for our customers.

These options include:

Purchase

The world's only real-time volumetric sonar is available directly for purchase. We can work with our customers to create flexible payment plans for all of our equipment, allowing them to maximize operational budgets while accessing our patented technology more rapidly.

Rental

Rental of our real-time 3D solutions delivers more than just equipment. As the inventors of this patented technology, we have unrivalled knowledge and experience to ensure the most efficient deployment to support your project. Our equipment rental service provides access to our patented real-time 3D sonar solutions including software, hardware, and all accessories, short-term Survey Engine licenses (all modules), and F185 with pre-calibrated housings.

Annual Subscription

For our customers who have subsea projects with varying requirements throughout the year, our subscription model offers maximum flexibility. License either two, four, or six sonar systems for one year and receive:

- Up to 5 software licenses per system with all major upgrades included
- Technical Support
- Product exchange between sonars, rotators, power supplies* and cables* when requirements change

*3D Connect and Standard PSU only

** 20m and 50m cables only

Taking Delivery of Equipment

We make the installation and operation of our equipment simple for even non-sonar experts. With our new self-installation system, it is easier than ever to deploy our fully integrated solutions and begin capturing data. Each color coded case corresponds to an item on your system map, illustrating how to easily set up your equipment.

Coda Octopus Product Integration System Color Coding Key

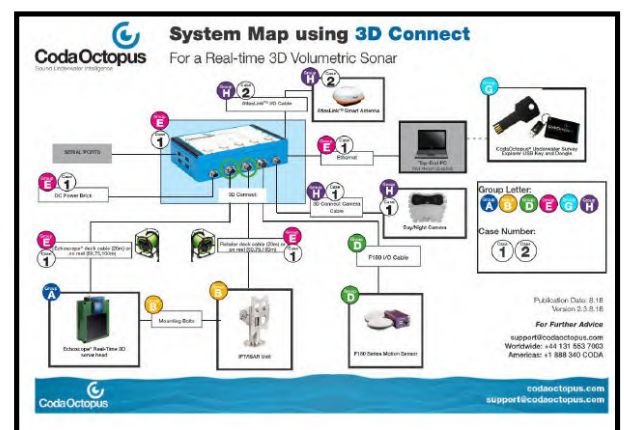
This is the Coda Octopus product integration system. The Color Coding Key classifies products according to their product group. The packages for each product to their marked with the appropriate classification. You can then use the System Map to find all corresponding equipment for easy installation and integration. On the left side of the table, the equipment you have purchased will be marked. You may not have purchased equipment from every group on this list.

Included?	Label	Product Group
	A	Sonar Group Cases
	B	Rotator Group Cases
	C	ROV Group Cases: VIM, SPSS, etc.
	D	MOTION Group Cases
	E	3D Connect, 3DPS, PSU
	F	GEO Group Cases - DA4G, DA4G USB
	G	Software USB, Dongles, & Additional Documentation
	H	Custom

Color Coding Key + Marked Pellicase & Packing List + System Map

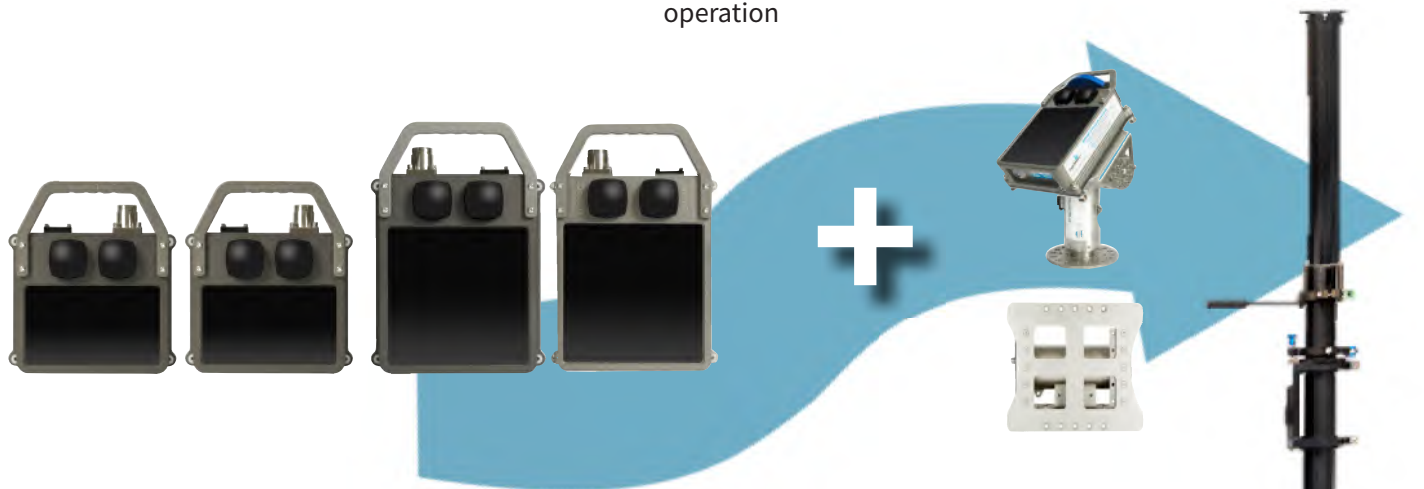
Publication Date: 8.18
Version: 3.3.8.18

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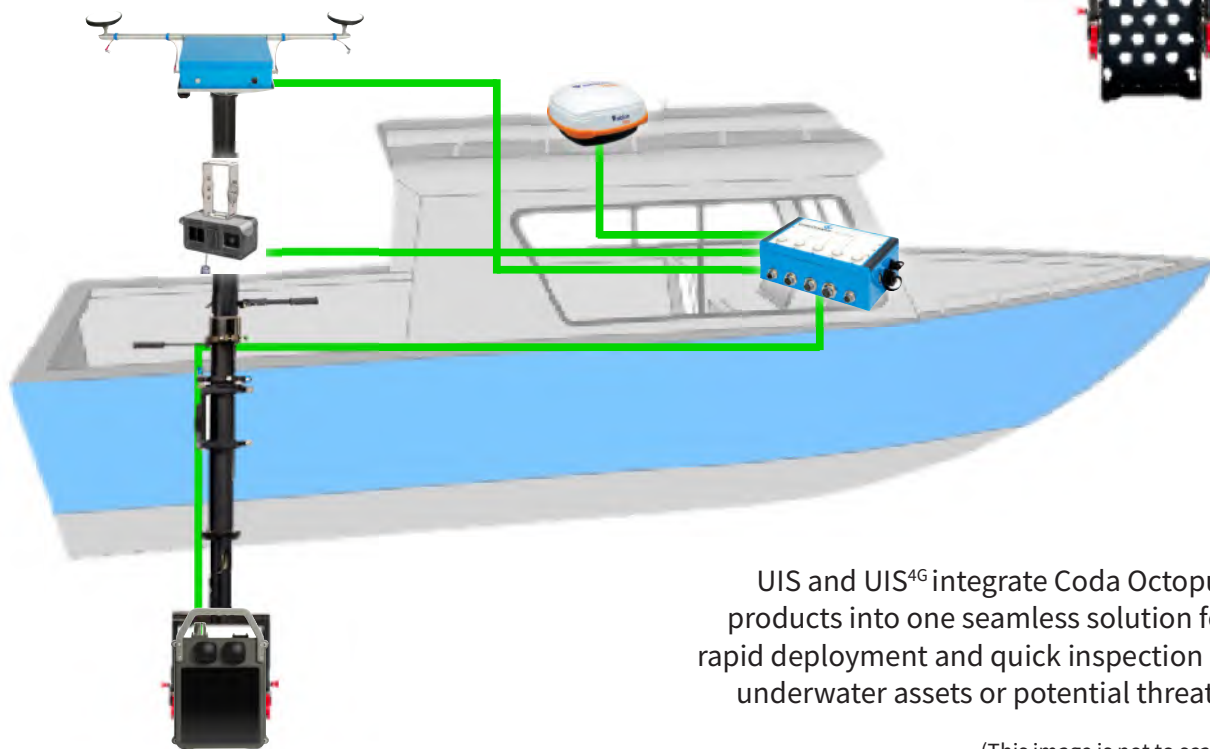
Coda Octopus Products

Based on your application, our dedicated sales team will select the ideal real-time 3D sonar and mounting option for your operation



Putting it All Together

UIS^{4G}



UIS and UIS^{4G} integrate Coda Octopus products into one seamless solution for rapid deployment and quick inspection of underwater assets or potential threats.

(This image is not to scale)

Integration Guide

Then, based on your deployment requirements, you will choose one of the flexible power supply units below.



3D Connect

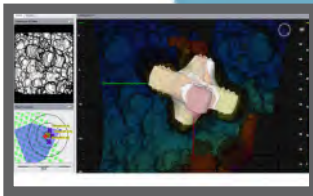


PSU

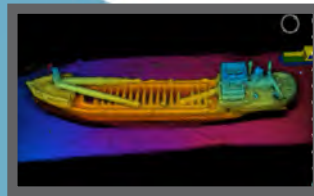


3DPS

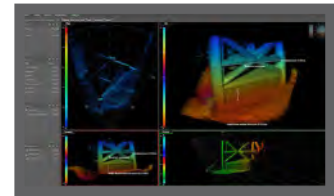
Select a software based on your application:



For Breakwater Projects
CMS



For Most Applications
USE

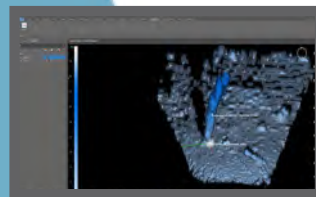


For ROV Operations
VVM

CodaOctopus®
CMS VT



CodaOctopus®
3D MATT



Select a positioning and motion device:



F170 Series



F180 Series



F180R



Pre-Calibrated
Housing

And any other additional systems and accessories to further enhance your project's efficiency:



Day/Night Camera



AtlasLink™ GNSS
Corrections



VIM



Field
Engineer

Contact Us

For more information on any of our versatile, subsea solutions,
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