



STEREO CAMERA

Discovery Stereo

A compact stereo camera solution for real-time 3D modelling in general survey and vertical inspection applications.

Designed with synchronized high power LED strobes to deliver crisp high resolution stereo images for accurate 3D pointcloud generation. The system captures both high-dynamic range raw data for post-processing, and streams a 4K video stream and 3D depth maps for vehicle piloting and quality control. Software API and DDS standardization for simplified vehicle integrations.



At A Glance

An overview of the main benefits to using the Discovery Stereo for your project.

 High Resolution Crisp Images
for Robust 3D Modelling

 Integration with 3D Software - EIVA VSLAM
& Reality Capture

 4K Low Latency Video Stream

 Real-time 3D Pointclouds and Image
Enhancement

Specifications

Feature	Discovery Stereo
Camera	Resolution - 2816x2816 (8.1MP) Colour sensor 20 FPS (1:1), 30 FPS (16:9)
Field of View	75°x75° - Fixed Focus
Video Latency*	1080p: 100ms 4K: 120ms *Minimum video latency values, dependent on system settings
Accuracy*	Linear Accuracy: 0.3mm/meter Local Accuracy: $\pm 0.5\text{mm}$ *Validated on a reference unit by Bureau Veritas North America Inc. under Certificate of Inspection No. COIN2134USA24
Operating Range	0.1m to 5.0m
Lighting	Up to 250,000 lumens with 4x Nova Mini Up to 125,000 lumens with 2x Nova Mini Control: On, Strobe (3.5ms max), Off
Depth Rating	300m or 4000m
Calibration	Factory calibrated, no in-field calibration required



**BUREAU
VERITAS**

Feature	Discovery Stereo
Onboard Processing	Image undistortion, colour & lighting correction Point Cloud: Real-time (1024x1024), Topside (2816x2816)
Data Outputs*	Raw Images (12-bit .TIFF), Processed Images (8-bit .JPG), Video (H.264, MP4), IMU Data (CSV) *Depth maps and Point Cloud available through API
3rd Party Integrations	3D Software: EIVA VSLAM, Reality Capture, 3D Zephyr, CloudCompare
Power	Input: 24 VDC (21-28V) Idle: 16W Operating: 22W to 170W
Interface	Gbit or 10/100 ethernet Windows & Linux GUI DDS Support Software Control API
Time Synchronization	PPS, PTP, NTP
Data Storage	2 TB SSD



POWERED BY EIVA NAVISUITE

Voyis VSLAM

VSLAM is a visual acquisition software for the Voyis' Discovery Stereo camera that provides the operator with in-process data quality feedback on the survey operation collection process. Leveraging the EIVA NaviSuite platform, 3D data is generated in real-time and seamlessly integrated with client's wider survey and inspection operations.

Empowering Survey Visualization with Real-time 3D Modeling

Enabling Autonomy

Empowering safe asset inspection by providing real-time localization & 3D data for obstacle avoidance and dynamic path planning.

Complete Survey Data QC

Data is processed in real-time, directly validating coverage and image quality for photogrammetry prior to survey completion.

Expedited Data Delivery

Initial 3D model generated with VSLAM in real-time without the need of 3rd party software.

Situational Awareness

Visualization of the ROV relative to the 3D environment to enable augmented piloting and consistent vehicle trajectory.

Inspection Decision Making

Defects can be detected in the real-time 3D model, enabling the operator to collect more detail on areas of interest.

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