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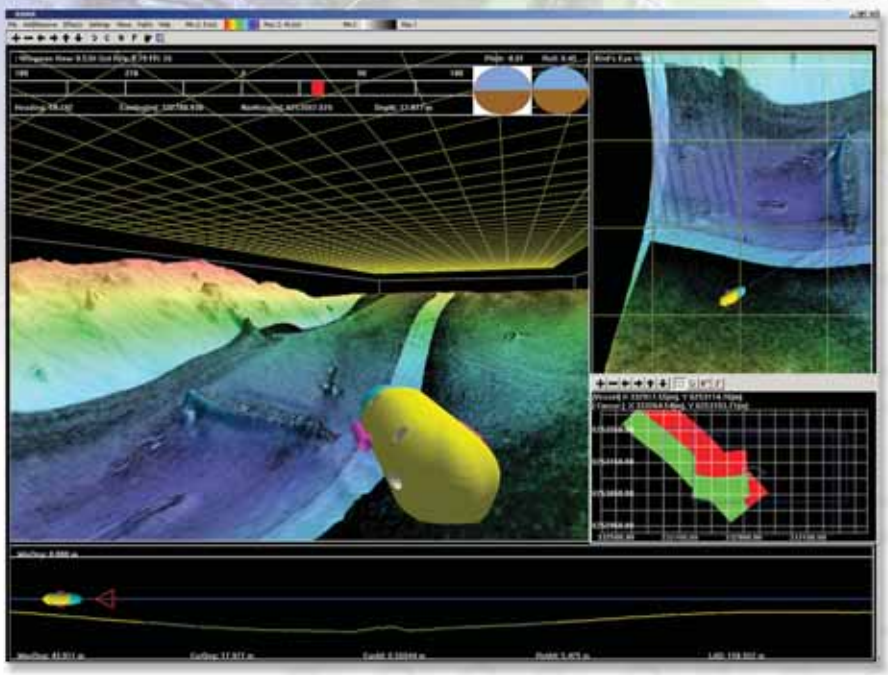
# ROVer's Eye

## Real-time 3-D Seafloor Visualization Software

***ROVer's Eye** is a PC-based real-time 3-D virtual reality package designed to help underwater vehicle operators navigate the seabed terrain and avoid unseen hazards.*

***ROVer's Eye*** renders the sub-sea environment at 30 frames per second using data acquired by on-board sonar sensors during real time operation, or from previously stored data, including terrain overlays, "as-built" features, other known vehicles, and self-ship. Candidate platforms for ***ROVer's Eye*** include **ROVs** and **AUVs**, manned or unmanned submersibles, forward looking scanners / sonars and towed devices.



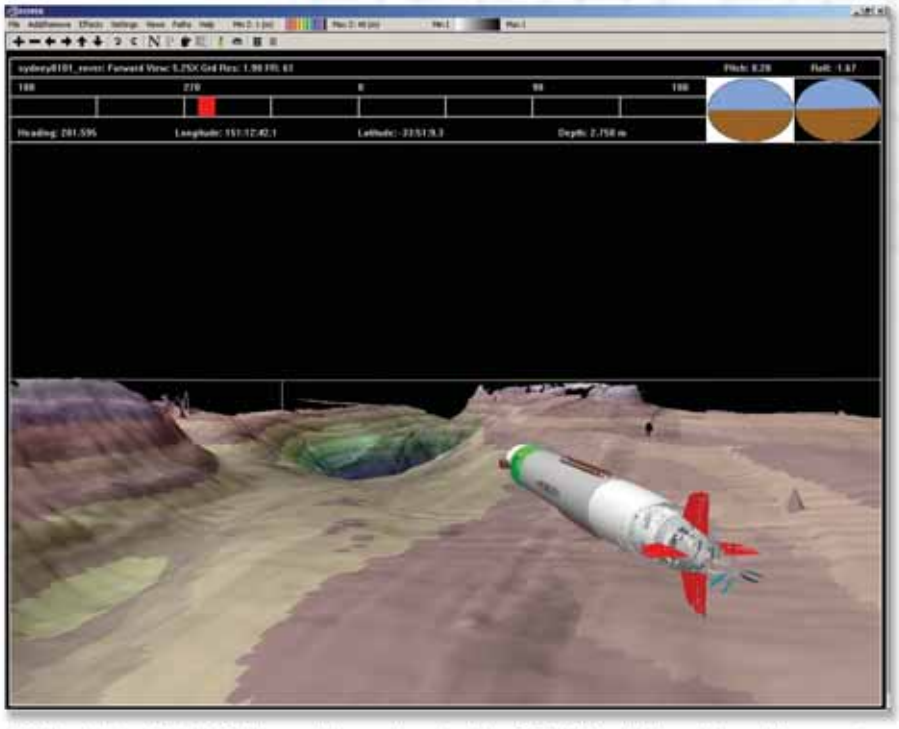
***ROVer's Eye** Main GUI in real-time, showing the ROV in a two-up view of Sydney Harbor, using Klein 5500 sidescan and Seabat 8101 bathy data.*

## Visual Support

- Pre-flight 3-D path planning allows you to design an onscreen visual flight track with known survey coverage.
- Sidescan overlays of the seabed can be added to provide an enhanced image of the ocean floor structure.
- User-definable, steerable views include: Virtual (vehicle independent), Egocentric (relative to vehicle), Bird's Eye (above the vehicle) or Wingman (offset the vehicle).
- Sidescan and forward-looking imagery and bathymetry are processed and displayed on-screen providing realtime 3D virtual illumination of the seabed beneath and forward of the vehicle/sonar.

## Applications

- Applications include terrain visualization, search and recovery, route surveys, obstacle avoidance, oil field inspection and general seabed mapping.
- Perfect as a training tool for ROV/submersible pilots
- Ideal for low light or poor water clarity environments
- Can also be used in real-time with REMUS, Paradigm and other AUVs.



***ROVer's Eye** Main GUI in real-time, showing the REMUS vehicle with real-time position data from Paradigm.*

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## Features and Specifications

## Key Features and Benefits

### Dynamic Real-Time Rendering

- Supports tracking & rendering multiple vehicles over realistic seabed models with real-time model and navigation update.

### Adjustable View

- As the vehicle moves, the view can be adjusted in real time using a joystick, mouse or keyboard control.

- Two-up view allows for split screen simultaneous viewing from two different vantage points (e.g. Bird's Eye and Wingman etc.).

### Data Display

- 30 frames/second update of complex scenes from archival or real-time data.

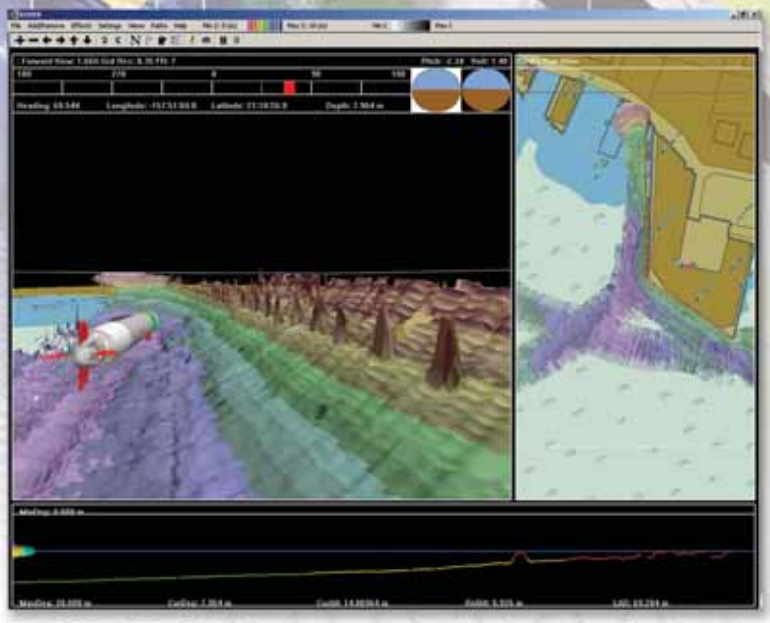
### VR Vehicle Configuration and Orientation

- Pop up vehicle range grid for instantaneous distance to object measurement.

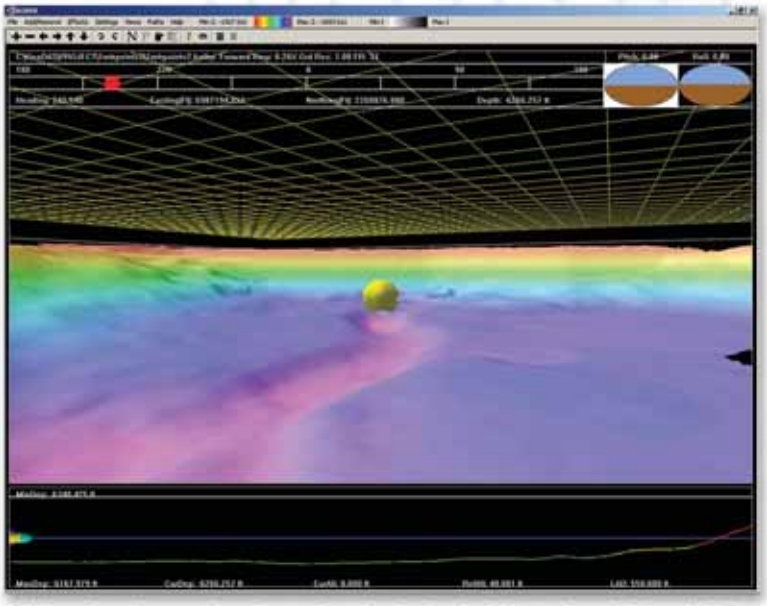
- UTM tick marks for vehicle positioning and waypoint selection.

- User-definable vehicle selection.

- Available as a stand-alone program, or bundled with GeoDAS and a sonar.



*The ROVer's Eye GUI displaying two-up view with chart layering function, and right side displaying top-down overview of survey area.*



*Grid overlay shows where the surface is in relationship to the vehicle, while the look-ahead view at the bottom of the screen shows the vehicle path and features directly below and ahead of the vehicle itself.*

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