



# Triton AUV-Suite

*Integrated Software for Processing AUV Data*

Triton's AUV-Suite™ software provides a full spectrum of tools for the processing, analysis, and display of AUV-collected sidescan, SAS, multibeam, and high-resolution seismic sonar data. The suite includes a comprehensive set of Triton software modules operating in an integrated geo-coded environment for rapid, accurate processing and fusion of AUV multi-sensor data. AUV-Suite is in use today in defense, hydrographic, search and survey, and academic applications to process data from a wide variety of vehicle/sensor packages. AUV-Suite has been recommended by U.S. Navy COMINELWARCOM, "...for use on any shipboard U.S. UUV system."

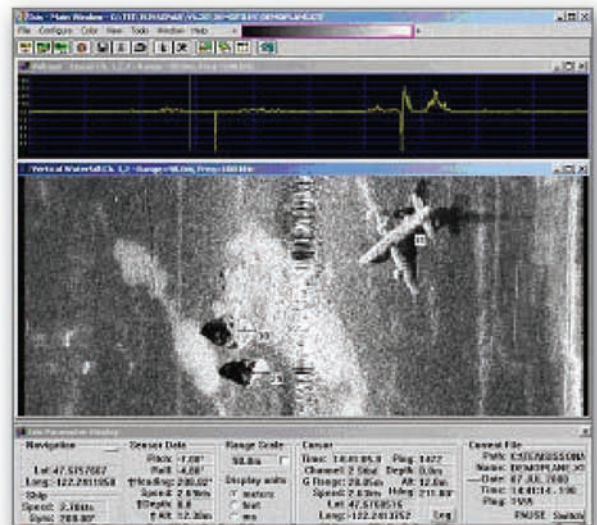
The AUV-Suite package includes the Triton Isis® Sonar, Triton TargetPro™, and Triton Map™ modules for processing sidescan sonar data. For vehicles carrying multibeam and sub-bottom profiler sonars the Triton BathyPro™, Triton SB-Interpreter™ modules are optionally available.

## Triton Isis Sonar

*Playback and processing of sidescan data with mosaic creation*

Isis offers a wide variety of options to ensure that data collected with the vehicle can be effectively and quickly processed. Windows for monitoring raw sensor include a waterfall display of sonar imagery, a signal voltage display for each incoming ping, and a parameter display for navigation, motion sensor, etc. Numerous tools are also available for correcting and analyzing data and generating reports. Bottom-tracking, time-varying gain adjustments, and slant-range correction may all be applied to the imagery during replay. Events, scale-lines and notes can be associated with the imagery.

During replay, objects of interest can be acquired in the sonar image waterfall for off-line or immediate analysis. Target acquisition can be performed manually with the TargetPro module or with the aid of third-party automated detection modules. High-quality, geo-referenced sidescan image mosaics can be created as the sonar data files are replayed in Isis.

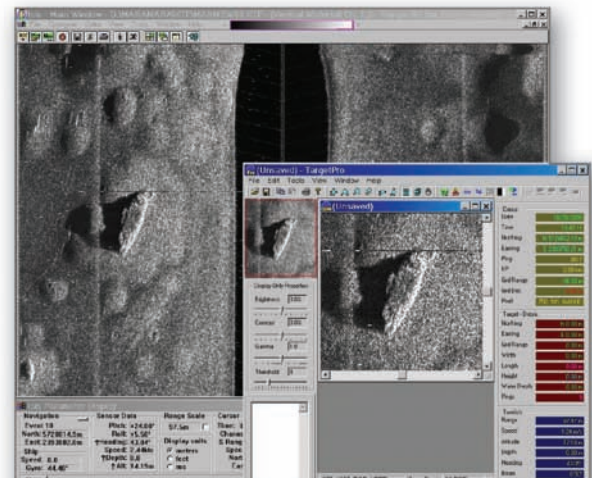


## Triton Target Pro

*Target Acquisition and Analysis*

TargetPro allows users of standard sidescan sonars as well as synthetic aperture sonars (SAS) to acquire, analyze, and catalog seafloor targets.. The current version of TargetPro supports manual target acquisition from the SAS or normal sidescan waterfall display.

Whether targets have been acquired manually or automatically, TargetPro provides the operator with a full set of analysis tools including: geographic correction of target snippet images, image processing and enhancement (contrast, histogram, sharpening, etc.), automatic identification of feature outlines, and auto measurement considering sonar echo and shadow.

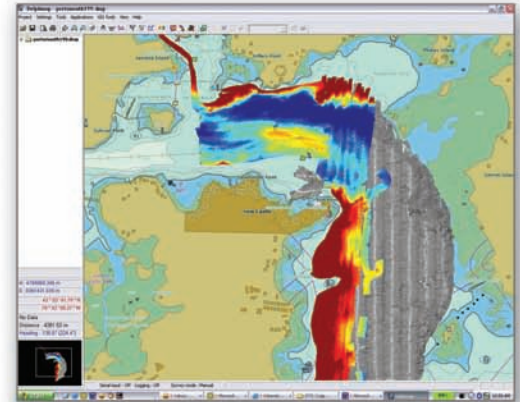




## Triton Map

### *Geo-Referenced Data Display and Analysis*

The geo-referenced display and analysis of sidescan and, optionally, multi-beam data in AUV-Suite is accomplished with the Triton Map module. Triton Map is a multi-layer, GIS-based mapping package that interfaces with the Isis Sonar and BathyPro applications to display geo-referenced sidescan mosaics and bathy DTMs, contours, and soundings. Sidescan and bathymetric data collected with the AUV can be displayed in correct relation to other geo-coded information such as historical target locations, satellite imagery, coastline maps, and electronic navigation charts as required.

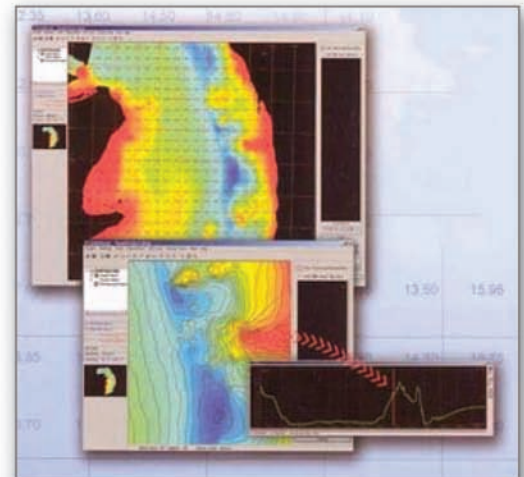


## BathyPro

### *Bathymetric Data Processing*

For AUV configurations incorporating sensors that collect bathymetric data, the processing of these data is accomplished with Triton's BathyPro module. This program allows interactive or automated processing of bathymetry data files, to produce geo-coded bathymetric DTMs, contours, and soundings.

Processing of navigation and attitude data is controlled with user specified threshold limits. A wide selection of automated binning and grid creation algorithms are available. Tide and sound velocity corrections are easily applied. Output products are available in ASCII, GeoTIFF, and DXF format.

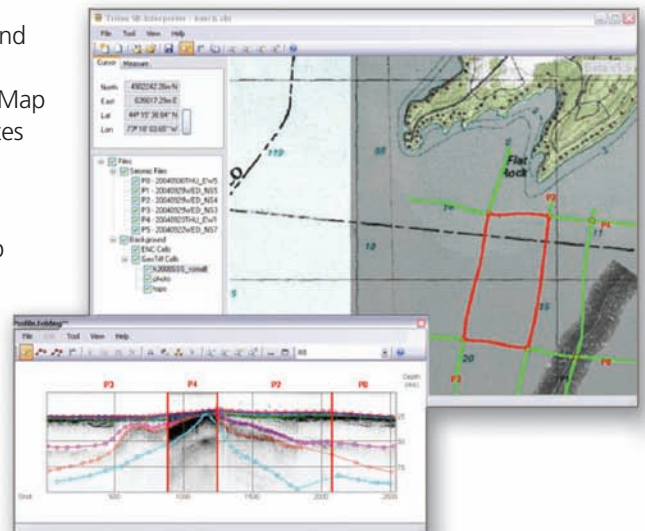


## SB-Interpreter

### *Processing, Analysis, and Interpretation of Subbottom Data*

For AUV configurations incorporating sub-bottom profilers, the review and processing of these data is accomplished with the Triton SB-Interpreter module. This advanced module consists of two primary components: a Map View and Profile Views. A cursor link between the two windows correlates surface data with subsurface data.

Processing capabilities include filtering / correction of profile data, either globally or on a per-line basis. Line crossings are shown in both the Map and Profile views. Reflector surfaces may be digitized, edited, and exported according to user-specified parameters. The Map View supports display of survey tracks with GeoTIFF and S-57 electronic chart background images.



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