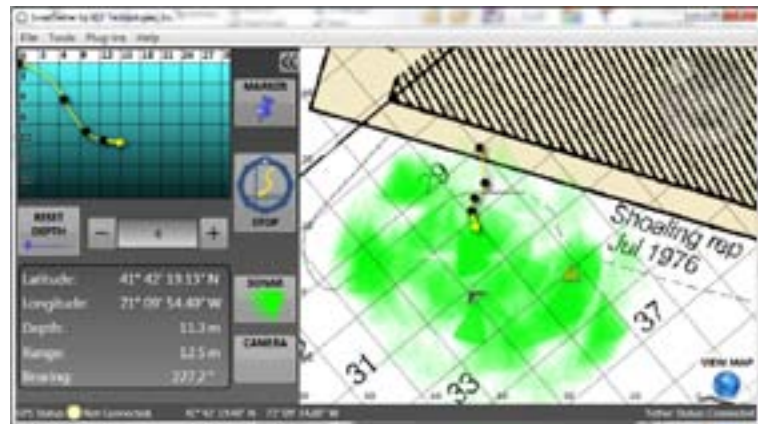


 **Smart  
Tether**  
**DiverNav**

# Smart Tether DiverNav

Smart Tether DiverNav is a proven navigation and positioning system, with our goal of providing a powerful, robust, easy-to-use positioning system.



## View Manipulation Front-panel Fine Zoom Control:

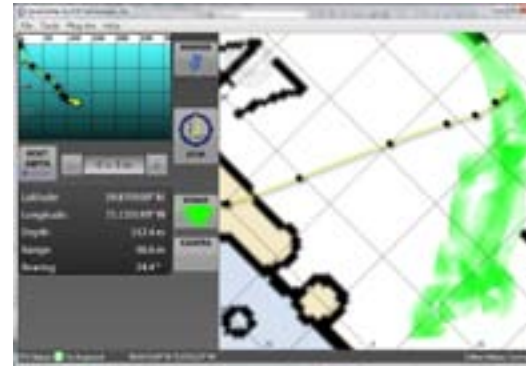
- Front-panel rotation control
- Intelligent click-and-drag panning maximizes screen use while ensuring tether stays on screen.
- All view control available on-the-fly



## Resizable window with hide-able toolbar to maximize screen space

## Simple menu format and navigation

- Tether model with efficient filtering and error-checking
- Scaling on graphs keeps tether in clear view at all times
- GPS "Lock" function to eliminate drift
- Geomagnetic model for increased accuracy anywhere on the globe



## Simple User Interface

The DiverNav system provides superb user control of various display and analysis features, simple menus and operation, exceptional graphics and data processing, and a rapid position refresh rate.

## Raster image and rich Google Earth Objects including:

- Field-of-view coverage
- Editable/linkable markers
- Basepoint path
- Endpoint path



## Tether Modeling Algorithm

- Tether model with efficient filtering and error-checking
- Scaling on graphs keeps tether in clear view at all times
- GPS "Lock" function to eliminate drift
- Geomagnetic model for increased accuracy anywhere on the globe

Smart Tether DiverNav systems provide a full compliment of features to enhance productivity, efficiency and SAFETY. The following are some of the key features:

## Scan Tools

When using a handheld sonar device or a camera for surveying, the field of view using the Smart Tether DiverNav is adjustable and the area scanned is recordable. These features allow confidence and efficiency in completing the job. This is especially beneficial in surveying a set area or are conducting salvage type missions.



## Markers

Creating waypoints with the Smart Tether DiverNav helps in establishing survey areas. The ability to mark off particular objects for review or removal during the scanning process allows streamlining of efforts.

## Efficiency

## Update Rate and Markers

- Update Rate Up to 30Hz
- Numerous marker icons
- Individually edit or delete markers.

## Data Output

All DiverNav positioning data can be exported to different hardware or software via serial connection, either through a physical port or a third party virtual port software. Data is exported as a NMEA GPGGA string.

- .kml file for Google Earth interaction
- .csv file for advanced data post-processing

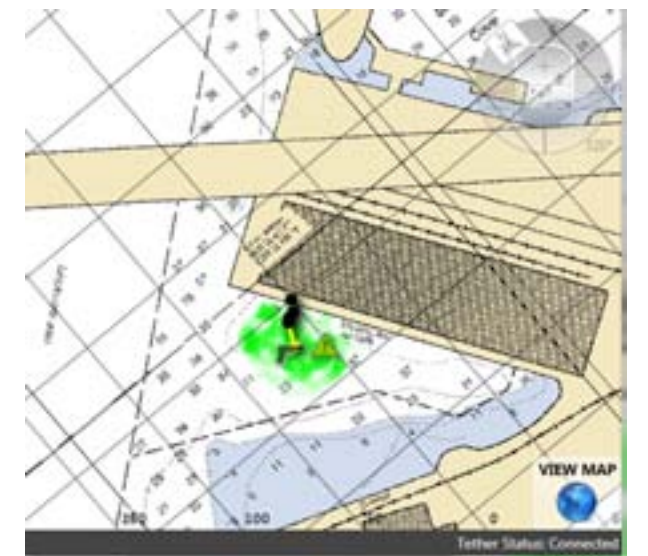


## Productivity

## Safety

## Base Maps

this feature allows a nautical chart or other image to be placed in the background of the Smart Tether DiverNav window, making it possible to continually geo-reference the divers position and tether shape in real time.



# "pure magic"

*"When I first got it, it was like pure magic. You didn't understand how it works... it's a complicated system but it's very easy to use. It's one of those where, it's like a car you don't have to know how the car runs, you just need to know where the breaks, the lights, the gas pedal are."*

**— Craig Thorngren  
Submerged Recovery &  
Inspection Services**

By using the Smart Tether, divers and topside support personnel gain access to many valuable capabilities:

- Real-time GPS positioning of the diver including latitude, longitude, depth, range and bearing
- Real-time heading information for the diver
- Time-stamped position record to compare to video or other data recorded during a dive
- Search pattern / area scanning
- Target marking and reacquisition
- Geo-referencing capabilities



## Product Specifications

### System:

- **standard Configuration Contains:**  
70 meter tether with 6 sensor nodes, heading node, top side box, USB cable, USB GPS, and AC wall adapter.
- **position update rate:** greater than 5 Hz
- **position error:** less than 3 meters, depending on deployment configuration
- **power requirement:** 110-240 AC, 50-60 Hz
- **power usage:** 2.5 Watts

### Tether:

- **buoyancy in fresh water:** negative
- **diameter:** 5mm (0.19 in)
- **working strength:** 1780N (400 lbs)
- **connectors:** 4 pin wet mateable male at top side, female at diver end
- **sensor node diameter:** 21.5 mm (0.85 in)
- **sensor node length:** 152mm (6 in)
- **sensor depth:** max 290 meters (950 ft)  
saturation: 118 meters (388 ft)



**Smart  
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