



APPLIED ACOUSTICS

Underwater Technology

An AAE Technologies Group Company

V-NAV

Acoustic Positioning System



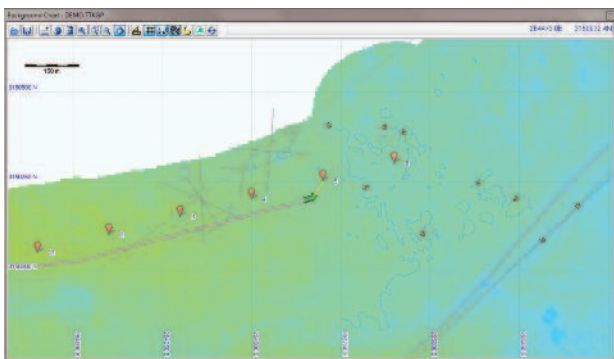
V-Nav is a low-cost, accurate positioning system for multiple static seabed targets.

System features

- : Robust Spread Spectrum signalling
- : High accuracy repeatable solutions
- : Long battery life > 18 months
- : Operational to 600m depth
- : Flexible configuration
- : 7200 Unique identities
- : Rugged compact design
- : USBL compatibility

Positioning Applications

- : Ocean Bottom Seismic Cable hydrophones/geophones
- : Seismic nodes
- : Metocean equipment/instrument strings
- : Debris field tags
- : Acoustic release positioning



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SYSTEM OVERVIEW

V-Nav is a low cost, accurate positioning system capable of positioning up to 7,200 Model 1419 Beacons. The digital Spread Spectrum acoustic protocols provide precise and repeatable range measurements for operational efficiency.

V-Nav calculates the position of static subsea targets, with the online chart display providing both real time accuracy information and navigational aids.

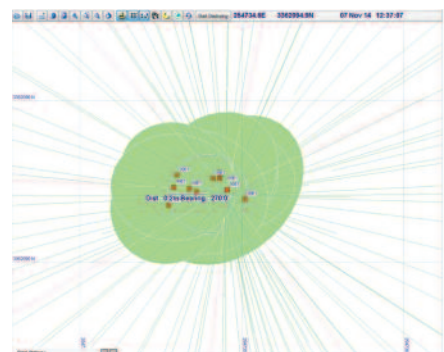
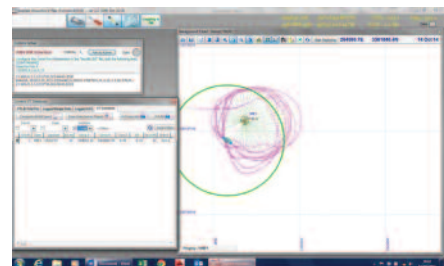
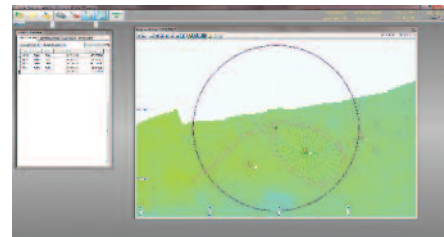
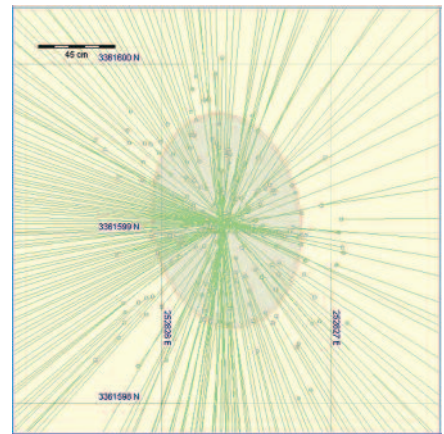
Vessel hardware installation is simplified as no calibration or external motion sensors are required to achieve accurate positioning.

The system is compatible with the full range of Applied Acoustics' beacons providing field flexibility.

CONTROL UNIT, 3510 PAM

At the heart of the system is the proven 3510 PAM with its 3190 dunker. The 3510 PAM command unit is housed in a waterproof rugged enclosure with a clear LCD display and splash proof keypad for on deck operation. It has a clear and intuitive user interface and when used with a suitable laptop PC, has the benefit of a 3 hour battery life that reduces the likelihood of operational disruption.

The 3510 PAM has the added advantage of being the device used to program and test the beacons prior to deployment.



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1400 SERIES BEACON

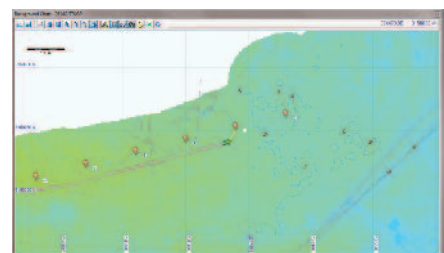
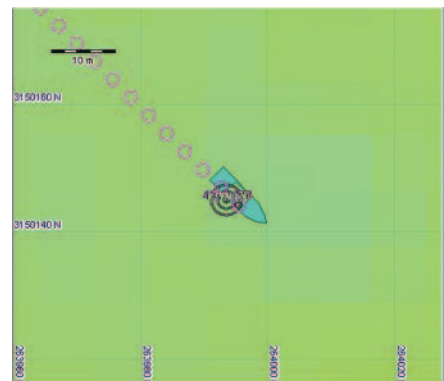
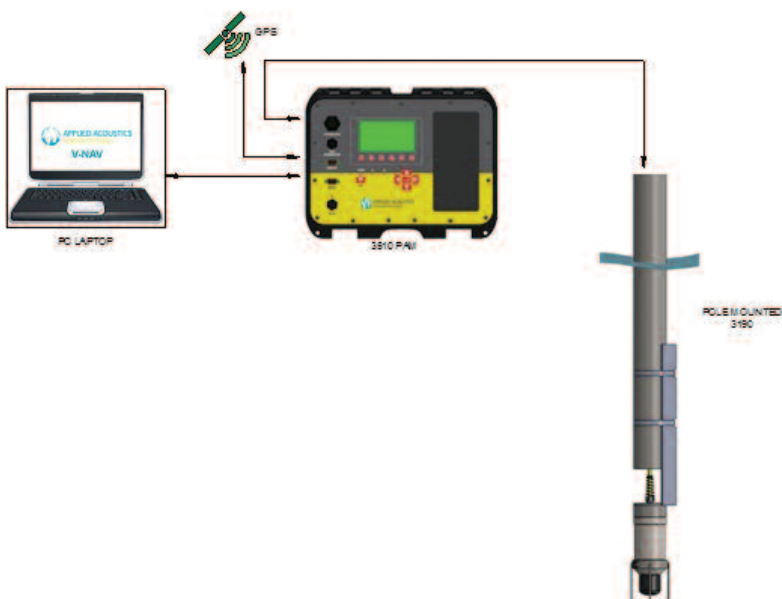
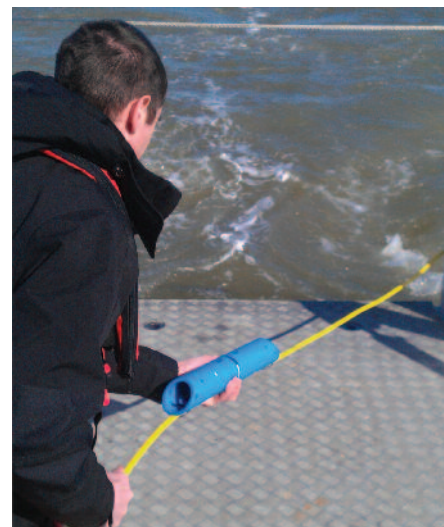
The 1419 Beacon incorporates the latest robust Spread Spectrum signalling technology that improves the stability of operations in difficult environments. The small, lightweight, rugged beacon has been designed specifically to withstand harsh conditions for long endurance operations.

Acoustic on-deck diagnostics and configuration are performed using the 3510 PAM and battery servicing is simplified by the unique click-lock outer housing.

V-NAV SOFTWARE

The V-Nav software allows all three stages of the positioning process to be completed from deployment planning, online acquisition to offline processing. The project based environment allows for various configurations to be utilised.

The software supports standard spheroids, datum shifts as well as custom options. Geo-referenced graphical overlays can be applied as a navigational aid. 'As-Dropped' positions of the 1419 beacons are easily uploaded via the 3510 PAM or a CSV file. Positional reports as well as full database of observations are available for verification.



Technical Specification

3510 PAM PORTABLE CONTROL UNIT

Physical	Case - 390mm x 310mm x 170mm (LxWxH) Weight - 5kg
Temperature	Storage -20°C to +60°C Operation 0°C to +40°C
External power supply	Input 100-240Vac, 50-60Hz Output 24Vdc
Battery life	6 hours test mode, 3 hours V-Nav mode
Release compatibility	AAE 1500 Series Status/Command/Configure/Release

3190 DUNKING TRANSDUCER

Robust transducer with integral cable and transducer protection cage.

Dimensions	100mm (dia) x 280mm (L) excluding cable gland
Weight	8.5kg
Cable length	30m standard (up to 100m can be specified)
Depth rating	50m

1400 SERIES BEACON

Dimensions	63mm (dia) x 410mm (L)
Weight	1.5kg air/1.0kg water
Depth rating	600m
SPL	184dB typical
Beam pattern	+/-90°
Battery life	>18 months, subject to environmental conditions
Channels	7200 unique Spread Spectrum AAE identities