



MARINE SOLUTIONS
GUIDE

GNSS COMPASS SOLUTIONS

Hemisphere's all-in-one Vector™ GNSS compass solutions provide precise heading and positioning for hydrographic surveying vessels, fishing vessels, leisure boats, and other general marine navigation applications.

The rugged and reliable design of these compasses are ideal solutions to replace traditional gyrocompasses, at a fraction of the cost. Combining Hemisphere's single and multi-frequency technologies and multi-path resistant antennas, the Vector compasses bring a collection of robust features including heave, pitch, roll, output as well as NMEA 0183 and NMEA 2000 support.

Hemisphere's integrated technologies and hardware supply marine applications in three market segments:

Professional: Dredging and survey projects requiring up to 2 to 10 cm positioning accuracy and up to 0.01° (or better) heading accuracy.

Commercial: Dredging projects and commercial navigation that necessitate sub-meter positioning accuracy and up to 0.5° heading accuracy.

Recreational: Yachting and other general maritime applications which need 1° to 2° heading accuracy and 1 to 2 m accuracy for positioning.



VECTOR™ V200 GNSS SMART ANTENNA



Experience superior navigation from the accurate heading and positioning performance available with the Vector™ V200 GNSS compass. The multi-GNSS Vector™ V200 supports GPS, GLONASS, BeiDou, Galileo, and QZSS.

The Vector™ V200 offers an incredible combination of simple installation, small form factor, and amazing performance. The compass – measuring only 35 cm in length – mounts easily to a flat surface or pole. The stability and maintenance-free design of the Vector™ V200 provides simple integration into autopilots, chart plotters, and AIS systems.

VECTOR™ V123 & V133 GNSS SMART ANTENNAS



The Vector™ V123/133 is Hemisphere GNSS' all-in-one single-frequency, multi-GNSS smart antenna which supports submeter-level position and up to 0.4° (RMS) heading accuracy. This rugged design is sealed for the harshest environments and is a great solution for professional marine and other challenging applications.

The V123/V133 combines simple installation with consistent and precise heading accuracy and decimeter positioning.

VECTOR™ V500 GNSS SMART ANTENNA



The Vector™ V500 is Hemisphere GNSS' all-in-one multi-frequency, multi-GNSS smart antenna which provides RTK-level position and precise heading. Built on the foundation of Hemisphere's Lyra, Cygnus, and Aquila core technologies; this rugged design is sealed for the harshest environments and is a great solution for professional marine and other challenging applications.

The all-in-one V500 combines simple installation with consistent and precise heading accuracy and RTK positioning.

VECTOR™ VS1000 GNSS RECEIVER



The Vector™ VS1000 is Hemisphere GNSS' premiere multi-GNSS, multi-frequency receiver designed specifically for the professional marine market. Providing precise heading, Athena RTK positioning, and full Atlas Global Correction Service capability, its rugged design can withstand the harshest of environments. The VS1000 is built on the foundation of Hemisphere's Lyra, Cygnus, and Aquila core technologies.

The VS1000 supports antenna separations up to 10 meters, offering heading accuracy to 0.01 degrees RMS in addition to RTK position accuracy and full support for Hemisphere GNSS' Atlas worldwide L-band corrections.



R632

GNSS RECEIVER

The R632 GNSS receiver is a full-solution product in an incredibly compact and powerful package, offering the ability to easily upgrade to an astounding 0.01° accurate heading. Built on the foundation of Hemisphere's Lyra, Cygnus, and Aquila core technologies. The R632 offers amazing new interference rejection and multipath mitigation. The result is an exceptional combination of performance, communications, and connectivity.

The R632's standard configuration offers multiple methods of connectivity and an impressive array of wireless communications. Through Hemisphere's Atlas correction network, the R632 offers worldwide stand-alone positioning to 4 cm.

The R632 is an incredible solution for almost any application requiring professional-level position and heading performance.



VECTOR™ VS-i8

INERTIAL NAVIGATION SYSTEM

The Hemisphere VS-i8 is a high accuracy, high precision, Inertial Navigation System (INS) product. Featuring Honeywell® proprietary sensor fusion technology, the VS-i8 leverages a powerful multi-frequency, multi-constellation, RTK-ready navigation and positioning solution for a wide variety of GNSS platforms and applications.

The VS-i8 combines Hemisphere's Athena RTK positioning engine, full Atlas L-band capability, and proven Honeywell IMU technology to deliver accurate time-stamped position, velocity, angular rate, linear acceleration, roll, pitch, and heading information. Featuring a lightweight compact size, the performance of the VS-i8 is ideal for marine, UAV, robotics, mapping, GIS, LiDAR, mobile mapping, and applications requiring high performance in a small package.



V200

- Single-Frequency, Multi-GNSS
- GPS, GLONASS, BeiDou, Galileo, and QZSS
- SBAS-Capable
- 511 Channels
- 10 Hz Update Rate (20 Hz Optional)
- 0.75° Heading Accuracy



V123/133

- Single-Frequency, Multi-GNSS
- GPS, GLONASS, BeiDou, Galileo, and QZSS
- Beacon (V133) and SBAS Capable
- 511 Channels
- 20 Hz Update Rate (50 Hz Optional)
- 0.3° Heading Accuracy



V500

- Designed Specifically for Marine Applications
- Multi-Frequency, Multi-GNSS
- GPS, GLONASS, BeiDou, Galileo, QZSS, and IRNSS
- Athena™ RTK, Atlas® L-Band, and SBAS-Capable
- 1100+ Channels
- 10 Hz Update Rate (20 Hz Optional)
- 0.27° Heading Accuracy



VS1000

- Designed Specifically for Marine Applications
- Multi-Frequency, Multi-GNSS
- GPS, GLONASS, BeiDou, and Galileo, IRNSS
- Athena™ RTK, Atlas® L-Band, and SBAS-Capable
- 1100+ Channels
- 10 Hz Update Rate (20 Hz Optional)



R632 GNSS RECEIVER



- Designed specifically for Marine, Construction & Mining, and Survey base station applications
- Multi-Frequency, Multi-GNSS
- GPS, GLONASS, BeiDou, Galileo, IRNSS, QZSS, Atlas L-band
- Worldwide Atlas L-band corrections to 4 cm
- Long-range RTK baselines up to 50km

VS-i8 INS RECEIVER



- Vega 60 and Honeywell® sensor fusion technology
- Accurate time-stamped position, velocity, angular rate, linear acceleration, roll, pitch, heading
- Multi-Frequency, GPS, GLONASS, BeiDou, Galileo, QZSS, NavIC
- Athena™ RTK, Atlas® L-Band, and SBAS-Capable
- 1100+ Channels, 100 Hz INS

A45 GNSS ANTENNA



- Rugged IP69K Enclosure/EP455 Shock/Vibration Rating
- Rugged and Compact Design
- Signals Received: GPS L1/L2/L5, GLONASS G1/G2, BeiDou, B1/B2/B3, SBAS, L-band, Galileo E1/E5a/E5b, and QZSS
- GNSS Frequency: 1.165 to 1.278 GHz
- 1.525 to 1.615 GHz
- LNA Gain: 30 dBn
- LNA Noise: 2.0 dB, typical

WARRANTY TABLE

Product	Standard Warranty Period
V200 GNSS SMART ANTENNA	13 Months / 0 Days
VI23 & VI33 GNSS SMART ANTENNAS	13 Months / 0 Days
V500 GNSS SMART ANTENNA	13 Months / 0 Days
VS1000 GNSS RECEIVER	13 Months / 0 Days
R632 GNSS RECEIVER	13 Months / 0 Days
VS-18 INERTIAL NAVIGATION SYSTEM	13 Months / 0 Days

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