

Inspiration and Substance with Endless Possibilities.

A truly perfect and complete balance on performance, simplicity and functional efficiency.



Our Antenna System: Re-interpretation of Performance

Established in 1993, one of the oldest manufacturers, Navisystem specializes in the design, production and after-sale service of maritime stabilized antennas that are known for advance technologies, intelligent design, and the innovative use of materials, all with the aim of reinventing a truly unique antenna system with unrivalled tracking performance, extremely compact, exceptionally robust, and the greatest possible range with flexibility.

Navisystem's distinctive technology credentials, holding numerous key patents and intellectual properties on antenna design, pride itself on the relevancy of their features and functionality that keep redefining the industry standard and set ours apart from competing systems. The upshot is our high efficient stabilized platform, which is built

around the patented IntelliMax architecture, itself underpinned by a strong drive system with high torque actuators providing high speed angular velocities and accelerations. The system is therefore highly responsive and maintains an unparalleled accuracy greater than 0.2° , even at $\pm 20^\circ$ pitch or roll ship motion. This accuracy allows the system to have continuous full access to all C, Ku and future Ka satellites worldwide.

Applying advance system design with breakthrough in radome-to-antenna ratio, our antenna features a significant reduction in size and weight with approximately 50% smaller and 20% lighter than the comparable systems. We are able to house a larger dish in a small radome, that can fit into a great variety of vessels, with no compromise in the tracking



A higher level of reliability to meet all major specifications

reliability and signal strength found in most small-sized antenna systems on the market.

The mechanical architecture is very intelligently designed and built to meet all major specifications and standards to withstand shock and vibration, blasts and severe environmental conditions at sea. The internal structure is entirely a rugged hard coated anodized finish over marine grade, tempered aluminum. Other than providing unsurpassed durability and strength against corrosive marine environment, this unique mechanical structure ensures the maximum mechanical precision to optimize pointing and tracking reliability.

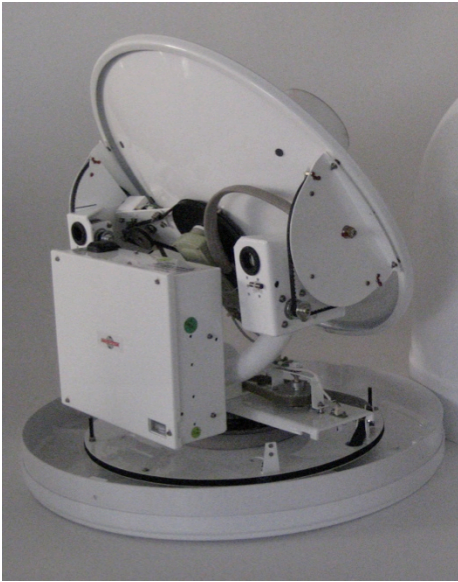
While competitive systems offer a very limited choice, Navisystem provides 11 models to complement the vessels size, to suit the budgetary requirements, and to address the rigorous operational needs of leisure, commercial and military customers, for real time data.

Antenna Size (cm)	Vessel Size (m)	Description
55	13 – 18	The best combination of size and performance
65	17 – 25	
75	23 – 30	
85	24 - 35	The right solution when you need to head offshore.
95/108	30 – 40	The highest performance Ku band even in the worst weather and ocean conditions
120	> 40	
135	> 50	The highest performance C band even in the worst weather and ocean conditions
150	> 50	
190	> 50	
240	> 50	



Broadband Maritime System

Versatile. Performance.



Navisystem offers a complete line of 3-axis (as well as a 4-axis for LNB auto-skew control) stabilized marine VSAT communications systems in sizes from 55cm to 2.4m, provides the ideal ocean-going platform for SCPC or on-demand networks supporting Internet, VPNs, VoIP, and large-file data transfer. These antennas are available with a variety of C-Band, Ku-Band and future Ka-Band feed configurations. Its shock and vibration-resistant design criteria meet the same strict standards as all of Navisystem's antenna systems. It is designed to support single and multi-band LNBS, both cross-pol and co-pol feeds, various BUC options.



Our maritime VSAT antenna systems offer unparalleled RF performance. Exclusive use of high performance optical Cassegrain prime focus ensures great efficiency with high gain. The feed systems are installed behind the dish that allows the shortest possible RF path to be realized avoiding the losses generated by multiple connections and lengthy waveguides.

Navisystem stabilized VSAT antenna system provides excellent tracking performance, delivers high tracking speed of up to 90°/s and accuracy at around +/- 0.2°, even in severe conditions. The mechanical pointing accuracy is even higher, better than 0.01°.



The built-in auto Polarization with mechanical moving +/- 90° correction, in accordance with the vessel's geographical position, enables a constant radiation pattern and the waveguide transmission lines, and therefore eliminates any signal loss.

Every Navisystem system has been designed to reduce the components number to a minimum, creating functional blocks and assemblies to minimize the number of spare parts. Every component, of mechanic or electronic nature, can be swapped within 20 minutes in case of servicing. The balanced construction and the open electronics location make maintenance and repair easy and accessible to all, even if not specialized personnel.



Key Features

Advance Technologies. Applying the advance system design, Navisystem patented IntelliMAX stabilized antenna platform offers:

- ✿ A low radome-to-dish diameter ratio to house a larger dish in a small radome, with no compromise in the tracking reliability and signal strength found in most small-sized antenna systems on the market;
- ✿ The maximum mechanical precision to optimize pointing and tracking reliability, and therefore guarantees unbeaten performance for demanding environments and in particular for vibration exposed applications;
- ✿ True full hemispherical coverage, without keyholes, at all elevations above the horizon.
- ✿ Built-in RF Package with key RF components is designed by Navisystem own laboratory to achieve superior antenna performance on gain and xpol isolation.
- ✿ Feed systems are installed behind the dish that allows the optimization of the signal/noise ratio.
- ✿ Exclusive use of high performance optical Cassegrain prime focus to ensure great efficiency with high gain.
- ✿ Internal EMI shielding to cancel the RFI problem up to +/- 20° of interference potential

Fast Tracking with high accuracy maximize the availability and reliability. Our antenna systems attain superior tracking performance as a result of:

- ✿ Automatic Pointing System (APS) allows the signal processing performing fully automatic, fast and accurate satellite acquisition and lock within 10 seconds.
- Manual Tune, usually only found in advance telemetry system, can be performed to overcome APS automatic tracking disruption under marginal signal condition, such as rain fade, to maintain the antenna always peaked at the optimum position.
- ✿ A combination of built-in gyrocompass, GPS, and inclinometers provide for an accurate and reliable satellite tracking. In case of a weak signal situation, these sensors are able to point the antenna independently.
 - ✿ NaviBer Adaptive Tracking Control (NATC) constantly monitor and optimize the satellite link performance to allows antenna to search, peak and lock on to a signal with incredible speed up to 90°/s for uninterrupted signal.
 - ✿ Backlash free drive configuration to maximize pointing accuracy



Fully Configurable. The Navisystem antenna architecture has a high degree of flexibility. The configuration can be easily customized with NaviSolutions for a specific requirement. These includes:

- ✿ TV Kit to add satellite TV capability to the antenna;
- ✿ Military specification upgrade package.

Simple Installation, Setup, and

Maintenance. Simple service and maintenance is inherent to the mechanical design.

- ✿ Navilynk multiplex signal control to enable only one cable (at virtually unlimited length) between antenna and control unit for fast and easy installation.
- ✿ The modular design with all the electronics being sealed in a cast housing and integrated into the pedestal structure, is implemented to support ease of maintenance.
- ✿ Fully compliant with major satellite operator specifications worldwide
- ✿ Supports different access methods (FDMA, TDMA or CDMA)
- ✿ Supports NMEA-0183, Step by Step & Synchro Compass Interfaces
- ✿ Supports Auto Beam Switching via OpenAMIP protocol of iDirect

- ✿ Ready for multiple satellite selection with preloaded global satellite library
- ✿ No system rebalancing
- ✿ 3 years warranty proves our commitment to the quality and reliability of every antenna systems we make

Robust and Rugged Built to maximize your ROI. Our antenna systems are built to:

- ✿ The most strict and proven specification of CE as well as EN 60945 and 60065 compliance.
- ✿ Comply with ISO 9001 standard.
- ✿ Eutelsat type approval
- ✿ Withstand shock and vibration, blasts and severe environmental conditions at sea
- ✿ Design lifespan of more than 10 years; proven MTBF of over 4 years

Future Compatibility. The antenna system is designed to provide reliable access to all Ku band satellites worldwide. The same antenna and stabilization design can offer improved performance for future deployments on Ka band satellites.



Exclusive NaviSolutions

Enliven and enhance the entire onboard experience with a host of configurable and extendable options using our patented technology.



Integrated Antenna Solutions. Navisystem combined the TV antenna solution with the maritime V-SAT antenna technology for a new integrated antenna solution to meet the emerging requirements for greater integration of onboard communication and entertainment services, as well as improved crew morale services. Instead of two antennas, we can integrate TV services and connectivity services into a single antenna to take advantage of low equipment and lifecycle cost.



Automatic Commutation Systems. Navisystem's innovative Automatic Commutation System, working with Sat 105, is the new generation of antenna switching systems. It is capable of automatic switching between two antenna systems, regardless of TV or V-SAT, when one has encountered blockage, sudden loss of AGC, or power failure. Once one antenna is blocked in sight, the other antenna seamlessly takes over the satellite connection to prevent nearly any loss of satellite signals through blockage. This allows a fully redundant system to guarantee the availability of TV and broadband services.



OEM. Navisystem OEM program is augmented with global distribution partners that have access to our extensive technology and product capabilities. We have expertise in supporting OEM requirements, such as custom configurations and custom engineering.

Please contact our sales offices for detail and quotation.



Support

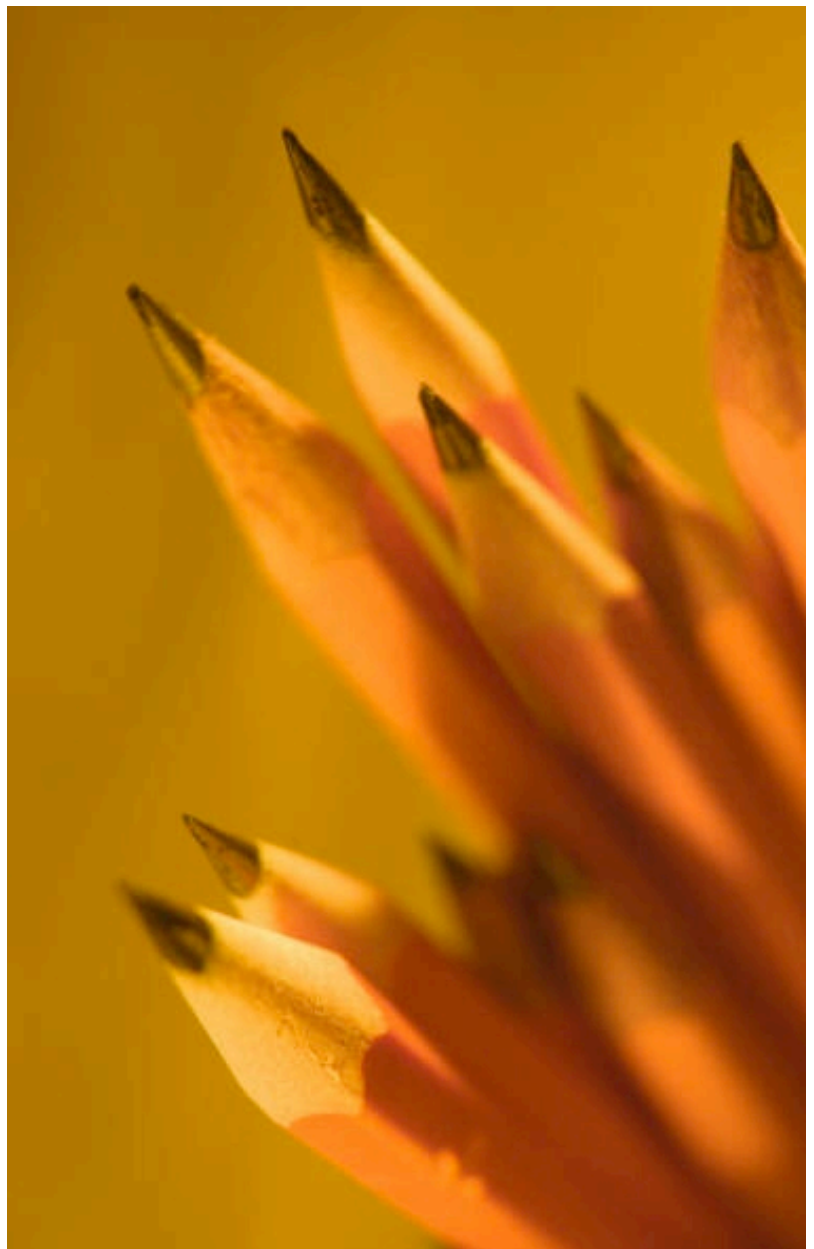
Ordering. Orders must be placed in an official Purchase Order to Navisystem Asia Pacific. Delivery charges will be 'ex factory'. The delivery lead time is usually 10 days subject to confirmation.

Warranty. A three-year limited warranty is standard on all Navisystem products.

Training. Navisystem offers a variety of standard training modules in support of our products. Topics covered in these modules include core concepts, configuration, day-to-day operation, management and performance tuning. Courses are open to engineers and professionals at a variety of skill levels.

Every 2 months, Navisystem will conduct several classes in our headquarter, where training room is installed with the equipment together with the necessary test equipment, readily available to enable the theory to be put into practice. Each class will be presented by one of our knowledgeable service tech staff members while each attendee will receive training materials and a certificate upon completion.

These comprehensive training programs ensure that our technical professionals remain accredited and conversant. This in turn extends the number of competent local partners around the world, providing Navisystem's customers with reassurance in keeping equipment fully operational.





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“Perfetto”



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Navisystem Asia Pacific

www.navisystem.com