



Safer, Smarter Maritime Voyages

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Marine navigation solutions that you can depend on

Northrop Grumman Sperry Marine is renowned worldwide for the design, manufacture, installation and servicing of a wide range of cost-effective, accurate and dependable marine navigation and communication equipment, systems and support. Our depth of experience enables us to provide well-designed solutions that incorporate the latest technologies to meet all navigation and communication needs, to maximise the safety and convenience of all mariners. We can also offer tailored training to help users make the most of their equipment and systems.

Our unique position as both a manufacturer and service provider means that all Northrop Grumman Sperry Marine systems and products are supported by one of the world's most extensive worldwide service networks, with help available around the clock, wherever you are in the world, whenever you need us.

A legacy of innovation and commitment

Mariners around the world have relied upon our equipment and expertise for over 100 years. We operate in over 10 countries, with an extensive international presence in Europe, the Americas and Asia, and employ over 500 skilled, experienced and committed people.

The highest quality engineering and technology has always been at the core of Northrop Grumman Sperry Marine. Our reputation is founded on the design and development of first-class products and systems, for vessels and installations of all sizes, from commercial ships to the delivery of large-scale marine technology solutions to international navies.

Working with Northrop Grumman Sperry Marine

Wherever you are in the world, and whenever you need our help, you have at your command over 150 Sperry Marine service employees worldwide, based in 20 offices around the world, managed from three regional service coordination centres, in Europe, the United States and Asia. This support system is complemented by a global network of more than 100 service representatives, including a dedicated team of over 100 certified offshore service engineers.

Northrop Grumman Sperry Marine specialises in the design, manufacture, installation, integration and servicing of a wide range of navigation, communication, information and automation systems for vessels in both commercial and defence marine industries.

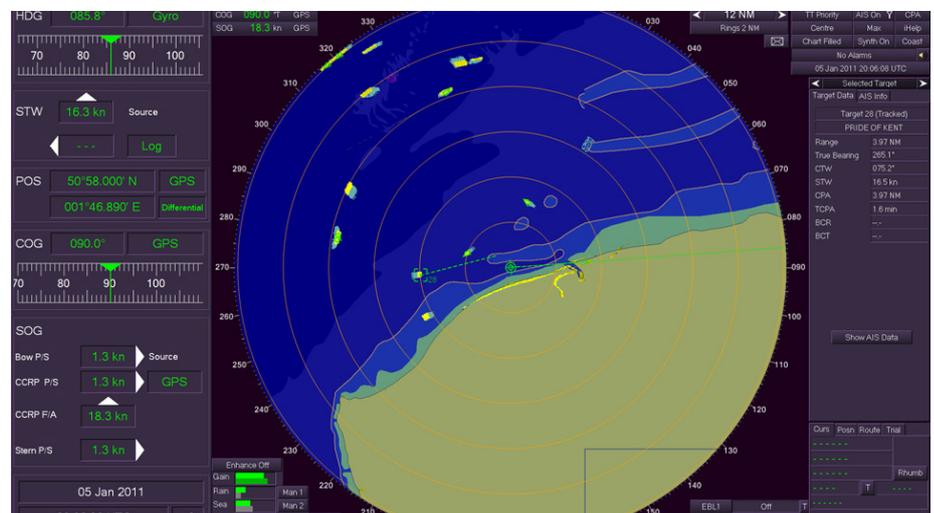
Northrop Grumman Sperry Marine equipment and systems meet all necessary certification requirements and satisfy all customers' specific carriage and class requirements.

Navigation Radar & ECDIS

Our VisionMaster FT Radar systems have evolved over many years to meet the varied requirements of our customers for safe navigation in all conditions.

These include our (Chart) Radar to provide a full radar picture under extreme weather conditions, and our Dual Channel Radar that offers extra safety by combining the views of two radars seamlessly on a single screen. The ECDIS and ECDIS-E, both fully compliant, allows the operator to assess the data at a glance and navigate stress-free. Our Total Watch system easily displays Radar, Chart Radar, ECDIS, Conning Information Display or Central Alarm Management to suit different operational requirements and navigational situations.

The VisionMaster FT series make common responsibilities such as route planning, navigation status monitoring, alarm awareness and day-to-day chart management easy through common workstation layout.



VISIONMASTER FT CHART RADAR WITH RADAR OVERLAY — FOR ENHANCED EFFICIENCY AND SAFETY

Integrated Navigation and Bridge Systems

The Integrated Bridge System (IBS) is fully adaptable to the requirements of all sea-going ship types and customer requests. Our Integrated Bridge System is designed for easy operation to allow maximum time for observation and decision making.

At Northrop Grumman Sperry Marine, we manage the whole system life cycle, including equipment, project engineering, logistics, supervision of installation, commissioning, crew training and after sales service. All solutions are backed up with qualified, worldwide service around the clock to ensure reliable operation and maximum availability of the vessel.

Integrated Platform Management System

Sperry Marine also offers next-generation alarm, monitoring and control systems designed specifically for the requirements of modern military ships, submarines and retro-fit.

Autopilot and Steering Control systems

Our Autopilot and Steering Control systems include the NAVIGUIDE 4000,



CHOOSE FROM A WIDE SELECTION OF MAGNETIC COMPASS SYSTEMS TO MATCH YOUR NEEDS

a versatile steering system that offers full control and multiple system configuration, and which is the first manual steering system based on controller area network (CAN) technology, the NAVINET 4000.

The innovative NAVIPILOT 4000 is the first marine autopilot that uses ship steering control network technology.

Compass Systems

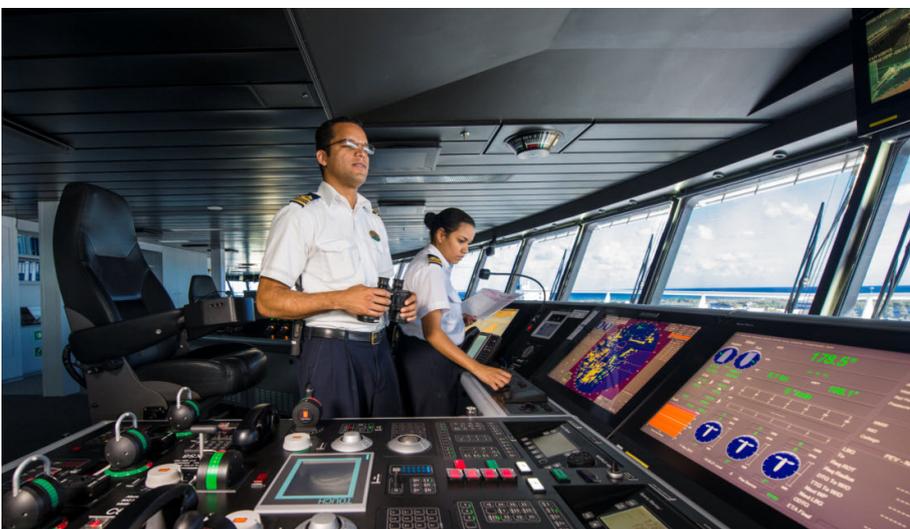
Our heritage lies in compass systems, and our range of magnetic compass

equipment has evolved to provide accurate and reliable compass systems that deliver the ultimate in dependability in the extreme marine environment.

Our NAVIGAT range provides high quality gyro compass systems and fibre-optical gyroscopes. Our product range is quick to install and provides highly accurate heading information in extremely heavy seas.

Speed/Velocity Logs and Gyrocompass Accessories

Our NAVIKNOT Multi-sensor Speed Log series comprises a uniquely flexible range of speed log systems, for use on all types of vessels. We deliver Speed Logs from electromagnetic sensors, Doppler transducers to satellite sensors offering flexibility and to meet requirements for all types of vessels.

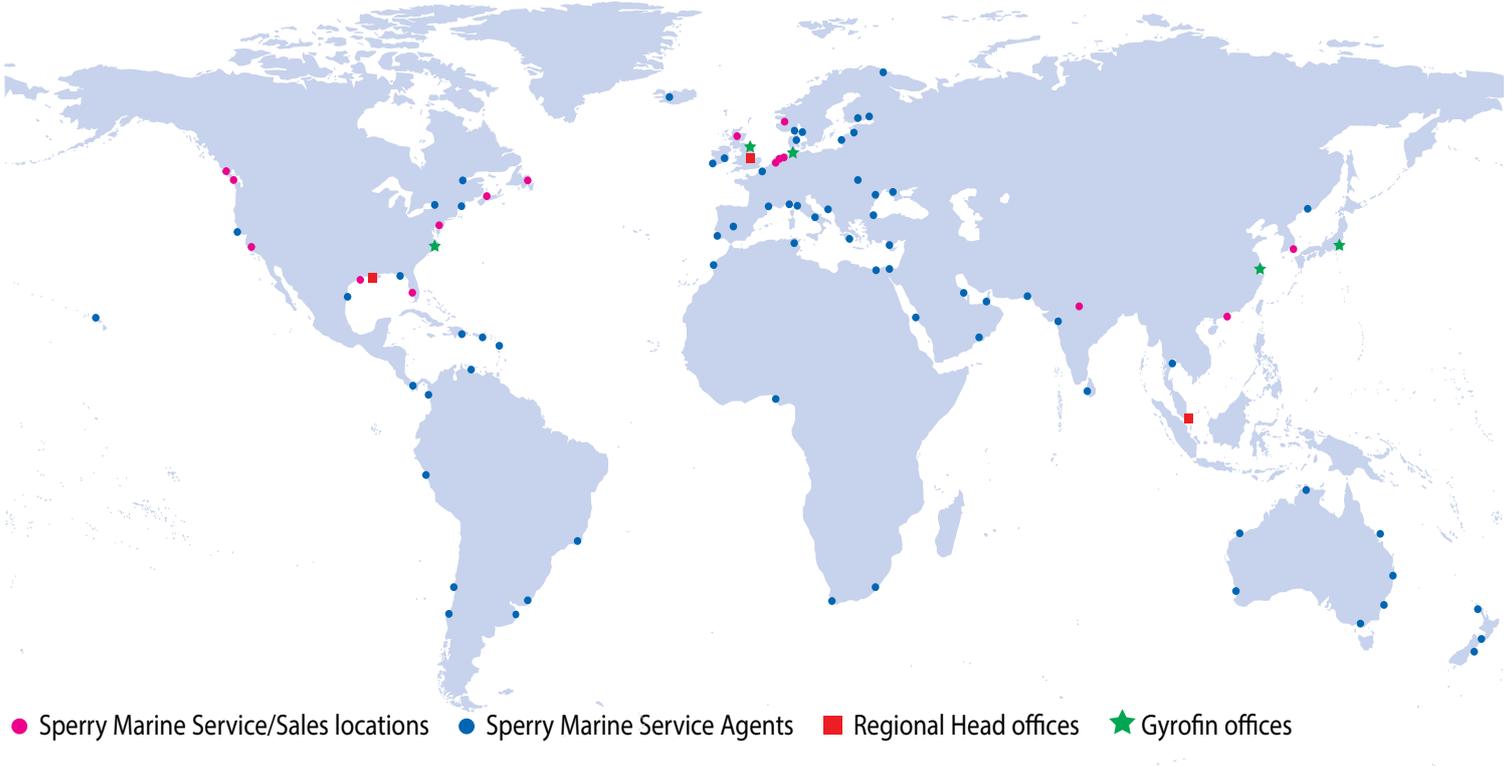


INTEGRATED NAVIGATION AND BRIDGE SYSTEMS FOR EASY OPERATION

Total Support: 24/7/365

As with all Northrop Grumman Sperry Marine systems and products, our steering systems are supported by one of the world's most extensive worldwide service networks, with help available around the clock, 24 hours a day, 365 days a year. Our global service network provides prompt shipboard maintenance and repair services in every major seaport in the world.

We also offer comprehensive maintenance contracts, as well as support for all products for at least ten years after any is discontinued, so providing continuing peace of mind to all our customers.



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A division of the Northrop Grumman Corporation, Sperry Marine provides a range of sophisticated navigation solutions for mariners around the world: autopilot and steering control systems, compass systems, integrated bridge and platform management systems, navigation radar and ECDIS, speed/velocity logs. Working with mariners around the globe for over 100 years.

Specifications and features subject to change without notice.
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