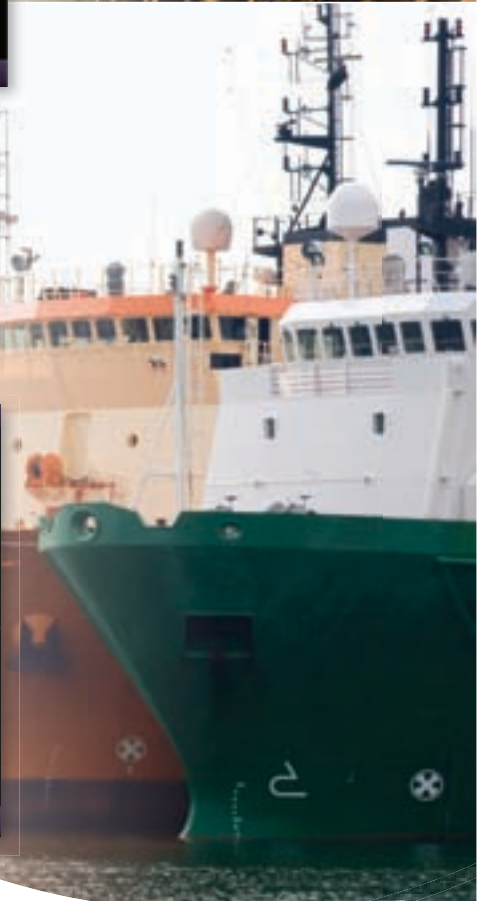
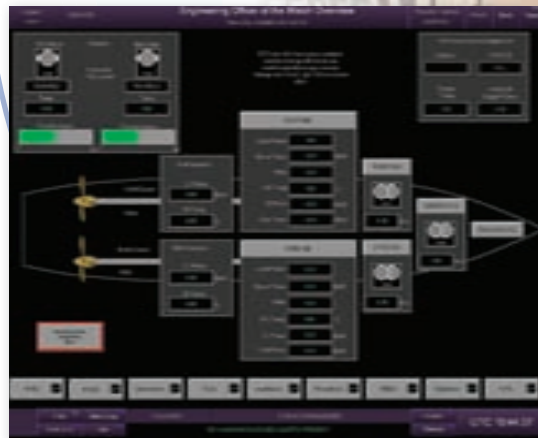


**VISIONMASTER
ALARM MONITORING SYSTEM (AMS) AND
MACHINERY CONTROL SYSTEM (MCS)**



VISIONMASTER AMS & MCS

SCALABLE SOLUTIONS

The latest addition in the VisionMaster series – VisionMaster AMS and VisionMaster MCS are the new-generation of alarm, monitoring and control solutions from Northrop Grumman Sperry Marine. These are scalable solutions for small to medium size vessels.

Whether you are looking for...

- An Alarm and Monitoring only solution (AMS)
- Or the more sophisticated Machinery Control System (MCS)

...We have the solution to fit your requirement.

KEY HIGHLIGHTS

- Over 30 years ship control and machinery automation expertise
- Modular design for total flexibility
- User friendly design – Instinctive user friendly graphics
- Open-architecture network-based solution
- Enhanced safety & security through redundant ring network architecture and server
- Seamless integration with a wide variety of subsystems
- Interfaces to most fieldbus technologies
- Industry-standard remote I/O outstation hardware
- Serial Interfacing to major plant suppliers – CAT, Wartsila, Volvo, MTU etc.
- UMS (Unmanned Machinery Space) operation
- CCTV option for incident management
- Part of the VisionMaster series of navigation and ship control solutions
- Fully supported by a worldwide network of machinery and ship control experts

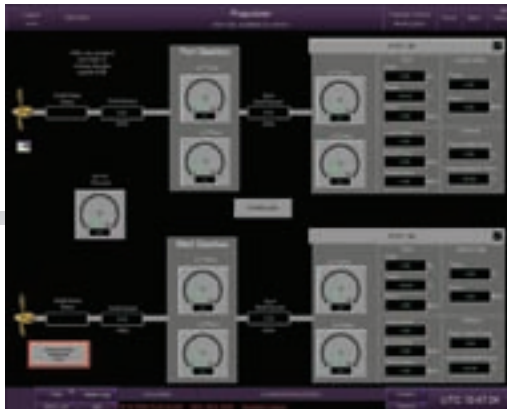


WORKSTATION

The workstation in console or kit form is engineered to meet stringent shock and vibration criteria. The equipment includes an LCD screen, processor unit, a trackball and a single rugged keyboard. The processor unit is mounted beneath the work surface.

Each HMI workstation can be used to access any MCS function.

USER FRIENDLY INTERFACE



EASE OF USE

The system front end, using open standards technology, provides an instinctive user-friendly design that minimizes training and reduces operator workload and the associated costs. Any person who has basic ship knowledge can quickly learn to operate VisionMaster AMS and MCS. On a high resolution screen, the user has a graphic reproduction of the ship systems. It is simple to use with the additional interactive online manual available.

OPERATOR INTERFACE

Using open architecture permits the connection of Human Man Interface (HMIs) anywhere in the vessel.

The high resolution Human-Machine Interface (HMI) is provided by a PC Client workstation unit that displays on a rugged LCD display panel. Each of the workstations is provided with all alarm and condition information via the main servers.

The thin client technology used for HMI visualization provides an extremely expandable system at minimum cost e.g. the fitting of a fully operational workstation in an office or cabin in a small space envelope and small cost. This also allows for the use of portable workstations (laptops).

The standard VisionMaster AMS and MCS operator interface consists of a TFT monitor, trackball and keyboard.

REDUNDANT RING NETWORK ARCHITECTURE

Both VisionMaster AMS and MCS are based on a dedicated switched Ethernet local area network for complete field-to-server data links.

The Ethernet ring is structured around dual redundant servers in hot back up configuration for decentralized control and monitoring of all subsystems.

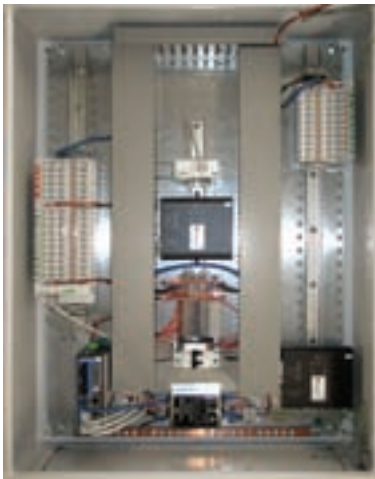
AUTO DIAGNOSTIC FUNCTIONS

The MCS system offers full diagnostics and 'health' monitoring for all its components, along with display of processor and network loading.

FLEXIBILITY AND SUPPORT

INDUSTRY STANDARD HARDWARE

VisionMaster AMS and MCS utilizes standard industry components within the main building blocks of the system. The VisionMaster AMS and MCS solution is cost effective. This ensures that Northrop Grumman Sperry Marine is able to provide complete support as long as the system is onboard your vessel.



OUTSTATION

A fully environmentally qualified (to IP55) Data Acquisition Unit, (Outstation) is complete with I/O devices, Industrial Ethernet network switches and various other COTS modules for communication, power conditioning, etc.

Interfaces with all monitored or controlled devices are via I/O modules which include: Digital Input, Digital Output, Analog Input, Analog Output I/O modules and serial interfaces.

The design provides all the functionality of larger, rack-based systems, but saves on the costly hardware, installation and space requirements.

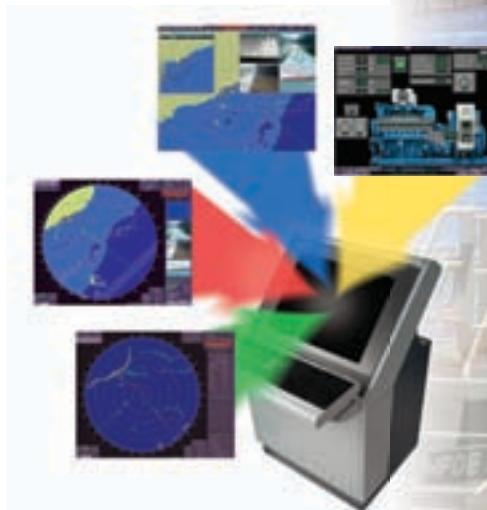
CCTV

The system is designed to support flexible CCTV and IR sensor capability. CCTV and IR images can be displayed in pop-up windows as desired. This functionality integrates into the same network and screens with optional pan, tilt and zoom.



VISIONMASTER INTEGRATION

VisionMaster AMS and MCS is a stand-alone system but can also be fully integrated with other VisionMaster systems for display and control including the Multifunction workstation VisionMaster FT.



TYPE APPROVED

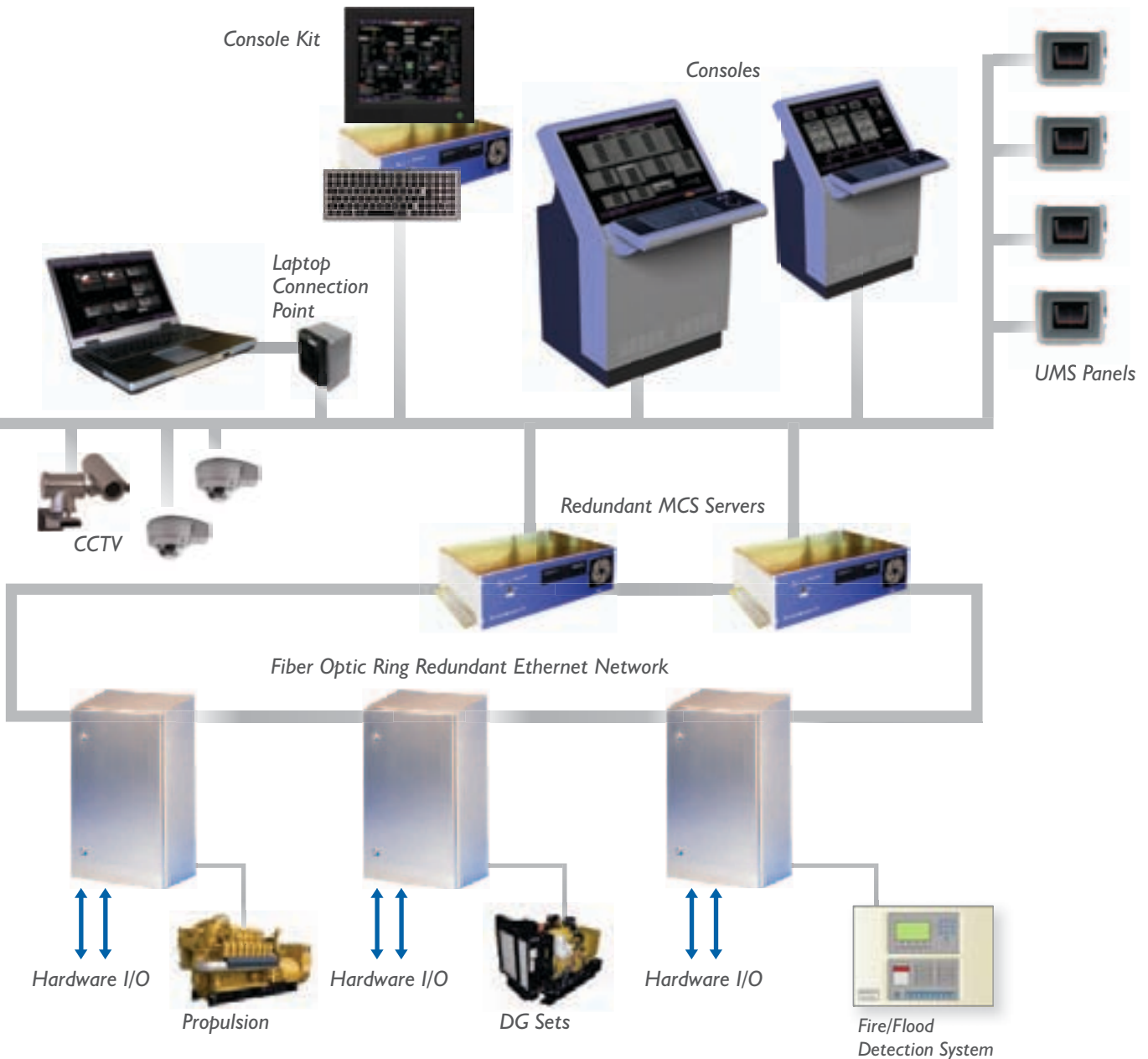
VisionMaster AMS & MCS has been designed to meet the requirements of all major classification societies for UMS operation.

WORLD CLASS SUPPORT

Northrop Grumman Sperry Marine's VisionMaster AMS and MCS development and support team are made up of highly skilled engineers, sales support and an extensive network of factory-trained service technicians each of whom brings a wealth of first hand operator knowledge and expertise.



SYSTEM CONFIGURATION



SCALABLE SOLUTIONS

VisionMaster AMS and MCS scalable architecture is designed to meet the full range of shipboard requirements and encompasses all aspects of alarm, monitoring and control required by a small to medium size vessel. From an Alarm Monitoring System only solution, to the more encompassing Machinery Control System solution, the network is scalable and open ended for easy upgradeability.

AMS

- Alarm management
- Trend reporting and analysis
- Tank and Bilge monitoring
- Optional screens, such as CCTV HVAC and Fire Systems

MCS
AMS

all AMS features plus...

- Machinery & auxiliary control
- Ballast control
- Propulsion control
- Power management
- Optional controls, such as CCTV, HVAC and Fire Systems

Sperry Marine

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WORLDWIDE SERVICE

Sperry Marine, founded in 1910, is the world leader in developing, manufacturing, supplying and supporting marine electronics equipment and systems. We have 34 facilities in 11 countries and a worldwide network of over 200 distributors. Sperry Marine has a service location in every major seaport. You are never far from a factory-trained service engineer.



World-Class Technology Backed by Worldwide Support

CENTRALIZED DISPATCHING CENTERS

NORTH & SOUTH AMERICA

24-Hour Service:
Phone: +1 504 371 8365
Fax: +1 504 371 8368

Spares & Repairs:
Phone: +1 504 328 9171
Fax: +1 504 328 9855

EUROPE & MIDDLE EAST

Service (United Kingdom):
Phone: +44 (0) 208 329 2401/2
After
Hours: +44 (0) 208 329 2400
Fax: +44 (0) 208 329 2458

Spares & Repairs (Netherlands):
Phone: (65) 274 3332
Fax: (65) 274 3339

ASIA

24-Hour Service (Singapore):
Phone: +31 (0) 10 445 1666
Fax: +31 (0) 10 434 6102

Spares & Repairs (Singapore):
Phone: (65) 274 3332
Fax: (65) 274 3339

AT YOUR SERVICE AROUND THE WORLD

SERVICE HIGHLIGHTS

- Worldwide 24/7 Service
- 24-Hour Hotline
- Computerized Customer Support
- Operator Crew and Technical Training
- Service Management Agreements/Contracts
- Electronic Documentation
- Computer-Based Training
- ISO 9002 Certified Offices
- Consultation for Special Projects
- Shoreside Repair Centers
- Parts Exchange Service
- GMDSS Shore-Based Maintenance Agreements

Sperry Marine, with worldwide headquarters in Charlottesville, VA, and major engineering and support offices in Melville, NY, New Malden, England, and Hamburg, Germany, is part of the Northrop Grumman Electronic Systems sector.

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