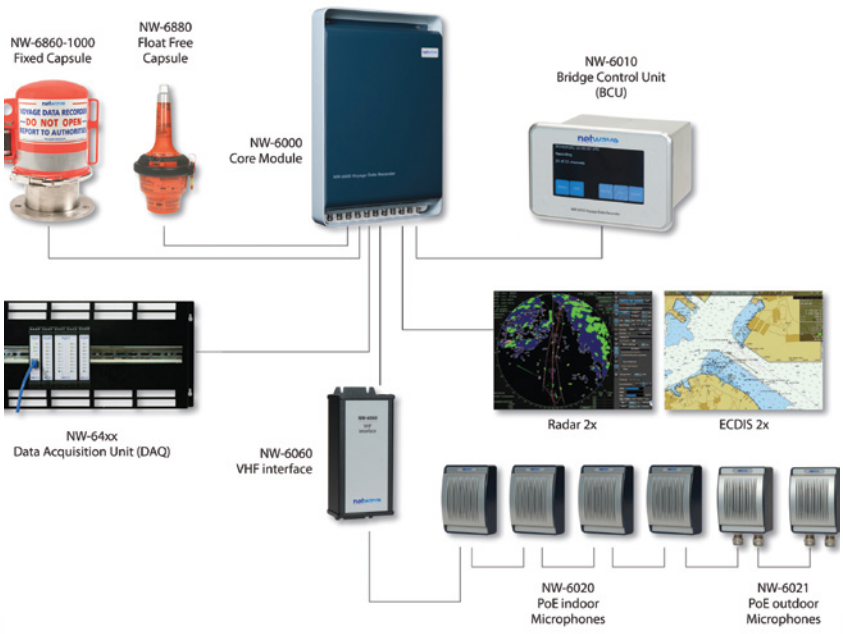
Netwave NW6000 Series VDRs

Orolia Maritime's Netwave brand Inland Waterways VDR has been a global leader in the provision of Vessel Data Recorders (VDR), Simplified VDR and Netwave data capture solutions have been designed and manufactured in the EU for over a decade and are a leading VDR brand, supporting a global fleet of over 6000 vessels. With a reputation for innovation, design diversity and a focus on quality; which is reflected in the multiple IMO certifications held including the Wheelmark.A diverse range of customers; including Military, Search and Rescue, Coast Guard, Commercial Marine and Cruise Ships, deploy Netwave technology, confident in it's proven ease of installation, reputation for quality and unparalleled global support network; made up of 320 Service Centers and over 1200 engineers.

What is a VDR?

Voyage Data Recorders (VDRs) are mandated for commercial vessels under regulation 20 of SOLAS Chapter V, with the aim to enable accident investigators to review procedures and instructions in the moments before an incident and help to identify the cause of any accident.The VDR collects data from the sensors on board the vessel and stores it in an externally mounted Fixed Capsule. The capsule can be retrieved from the vessel and the stored data used to support investigations by authorities, therefore the capsule is a tamperproof unit designed to withstand the extreme environments, including impacts, shock, pressure and heat associated with a maritime incident.



Netwave Vessel Data Recorder Architecture

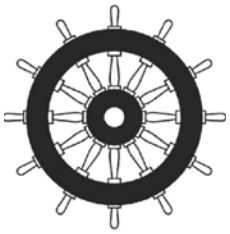
Five Reasons Why Fleet Managers Install Netwave Brand VDRs

The Netwave NW6000 Series is one of the world's most popular VDR solutions, allowing fleet manager the flexibility and confidence to install technology with their requirements in mind. The top five reasons our customers highlight for picking Netwave are:

1. Design Versatility

- Single ethernet cable system architecture significantly reduces cabling requirement, while extensive Power by Ethernet (PoE) capability is designed to reduce installation time
- Flexible, scalable installation design makes the NW6000 Series particularly attractive for VDR / (S)VDR retrofits
- Proven solid state memory architecture minimises ongoing maintenance and support costs.
- Unique stainless steel Fixed Capsule housing offers a resilient design to protect vital recorders.

2. Brand Quality



- Netwave brands globally recognised quality, ISO9001, AS9100 and MED Module D certificates and IMO required certifications including Wheelmark, Russian Register, and China Class. (wheel mark image)
- Extendable warranty options available

3 Competitive Solution

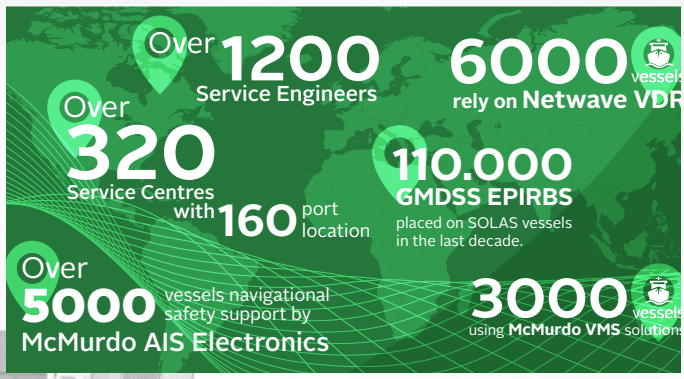
- Competitive price includes fitting kit and first APT with multi-day auto archiving included as standard. The versatility of the NW6000 Series minimizes installation and maintenance costs, particular for retrofits, but comes with a brand reputation and service support you can trust.

4 Maritime Heritage

- The Netwave brand has been designing and manufacturing VDR in Europe for over 12 years, with over a decade of experience in the design and manufacture of its' fixed capsule recording media, which is also widely used in OEM
- Over 6000 vessels currently trust their mandated VDR / SVDR requirements to Netwave, including Cruise ships, Ferries, Commercial vessels, Coast Guard and Workboats

5 Service Network

- Over 150 service centres ports on major shipping routes supported by more than 1200 service engineers, Orolia Maritime offers unparallel support infrastructure.



Netwave VDR Features

VDR Feature	Netwave NW 6000
Days of data	30 days
Usability	Bridge control is highly intuitive and offers touch screen interaction
Service Coverage	Largest Global Service Network, with over 1200 service engineers
OPT test	Crew can test VDR is operating correctly from Bridge Control Unit (BCU)
Cost of ownership	Flexible installation platform and designed with minimal cabling reduces install and maintenance requirements
Reliability	European design and manufacture, with a 6000+ vessel install base, global service and parts availability
Warranty term	Warranty included with option of extension
Spare Parts Availability	Service Centres in over 160 global ports
Re-Play Software	Available
Speed of client Response	24/7 customer service support, satisfaction reflected in latest customer feedback scores
Installation Time	Versatile design allows flexible installation
Future Proof	NW6000 meets the latest mandated requirements and is highly adaptable
Customisation	Scalable, highly customisable architecture

What is an Inland Waterway VDR?

An Inland Waterways VDR or IW-VDR differs from the mandated SOLAS version in a number of ways. Primarily, the IW-VDR doesn't have the rigid specifications of the mandated variant and the solution can be configured for the owner or vessels requirements. The central capability is to capture Radar, AIS, GPS, Depth, Rudder Position, Compass and Angle of Turn, as part of the core eight sensor recording system. Secondly, as the configuration is not constrained by legal requirement; there is flexibility on what information is captured and the ability to upgrade the specification to include audio recordings and protected memory capsule via the addition of float free or fixed capsules. This flexibility allows the owner to define what information they require and makes the solution more affordable by only capturing relevant data.

NW-6000 Specification Sheet

Unit	Type number	Dimensions (mm) (h x d x w)	Weight	Specifications	
Core module	NW-6000	484x450x45	16.5 kg	• PSU (110-220 VAC, 50 - 60 Hz) /105 Watt • Built-in UPS • 10 ports switch (8 x PoE, 2 x Non-PoE) • CPU unit with min. 30 days storage	
Bulkhead mount frame and cover	NW-6900	744x464x115	11 kg (excl core module)	Bulkhead mount with prepared internal wiring and external RJ45 connector bank	
Bridge control unit	NW-6010	99x134x150	1.8 kg	• Powered from Core module thru PoE • 4" touch colour screen • Panel mounted with frame (IP20)	
Microphone (internal)	NW-6020	114x40x84	0.4 kg	• Powered thru PoE • Bulkhead mounted (IP20) • LED identification light	
Microphone (external)	NE-6021	114x57x84	0.5 kg	• Powered thru PoE • Bulkhead mounted (IP67) • LED identification light	
Microphone connection box	NW-6022	180x47x87	0.5 kg	• For connecting microphones • Powered thru PoE • Bulkhead mounted (IP67)	
VHF interface	NW-6060	180x47x87	0.5 kg	• Powered thru PoE • 2 line-in • Interface for mocrophones • Bulkhead mounted (IP20)	
Hardened FRM	NW-6860	411x311	27.5 kg	• Powered thru PoE from core module • Incl. 25 mtr maritime CAT-6 cable • Deck mounted protective capsule for 48 hours (IP68) • with Under water locator beacon (90 days)	
Float free FRM	NW-6880	533x218x240	5.4 kg	• Powered thru PoE from core module • Incl. 25 mtr maritime CAT-6 cable • Bulkhead mounted in protective cover for 48 hours storage (IP67)	
Interface module	NW-64900	182x232x436	2-3 kg (subject to 1-7 module interfaces)	• Powered thru PoE from core module • DIN rail mounted interface • For NMEA (bd up to 9600) (multiple 8 port) • For digital sensors (multiple 8 port) • For analogue sensors (multiple 4 port) • Additional 24 VDC power input/output	
Video interface	NW-6044	38x240x184	1 kg	• For non-networked video • 4 channels video • Bulkhead/DIN rail mounting • 24 VDC / 12 watt	

- Netwave Systems recommends maritime CAT-6 ethernet cable for connecting all units to the core module switch
- Complete system runs from 110-230 VAC (50-60 Hz) through core module
- Power consuption 105 watt (max)

About Orolia Maritime

Orolia Maritime is the marine arm of Orolia's leading Resilient Positioning, Navigation and Timing solutions. Offering trusted **Fleet Management, Data Capture & Analytics, Emergency Readiness & Response** and **Navigation Safety**, via the globally recognised maritime brands of **McMurdo, Netwave and Kannad**.