



Netwave NW6000 VDR Upgrade Solutions

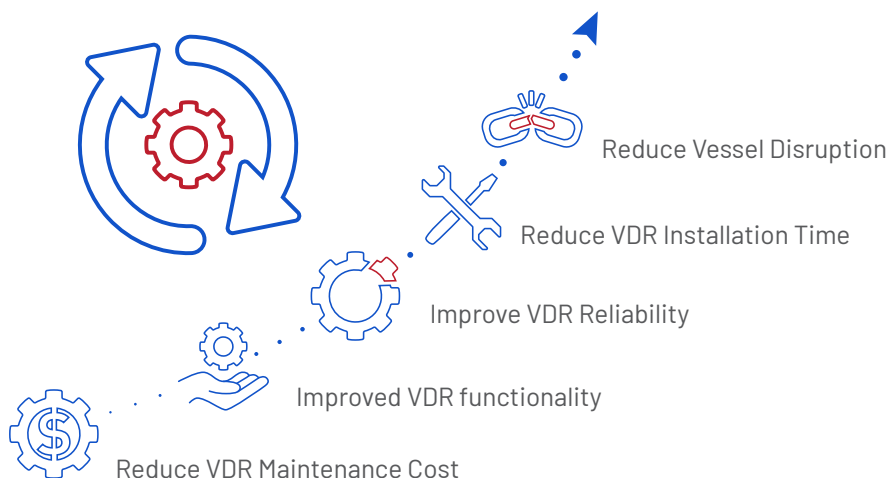
Netwave's VDR Upgrade Systems offer significant economic, innovation and installation benefits for ship owners, managers and service teams upgrading or replacing older Voyage Data Recorder systems.

As a SOLAS mandated technology your VDRs dependability is integral to the effective management of your fleet. Reliability, usability and minimised downtime are the foundation blocks for a trouble free VDR. By upgrading your aging system to a Netwave NW6000 you can ensure ease of installation with minimal downtime, while providing crew friendly features and access to a global service network.

Seas of Solutions' range of Netwave Upgrade Systems accelerate the upgrade of a wide range of VDR models. Vessel owners reduce the immediate installation cost and time, diminish the risk of supporting aging hardware obsolescence and enhance both the future reliability and capabilities of their VDR solution.



**G1/G2/G3
VDR**



Upgrade to Save Time and Money

- Upgrade specialists help reduce VDR upgrade costs with pre-installation survey forms to avoid unplanned disruption, while advanced upgrade kits reduce installation time by an average of one day. There is also the option to re-utilize existing sensor modules and cabling (where feasible) to further accelerate installation.
- Improve your VDR reliability and reduce servicing downtime by removing dated equipment reliant on sometimes scarce components, which could extend service times and hold ships at port.
- Gain access to one of the largest global service networks, with approximately 1300 certified engineers.
- By upgrading older VDRs near their end service, vessels can reduce the lifetime cost of ownership by lowering maintenance and annual APT costs and gain the peace of mind of ten-year service guarantee and seven years parts support after final manufacture date*.
- Fully compliant with July 2014 IMO installation standard MSC 333.(90), Netwave NW6000 VDRs offer technological confidence in a solution which has a global install base of more than 6,000 vessels.



Benefits of Netwave NW6000 VDR Upgrade Systems

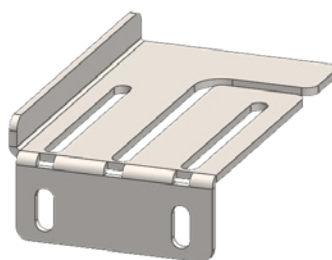
As the natural upgrade route, the Netwave NW6000 Upgrade Systems provide economic and functional benefits for the conversion of existing G1 19" rack and the G2 & G3 series VDRs.

Ease of replacing the Fixed Capsule:	NW6000 VDR standard components includes a welding plate with pre-molded holes to replace any capsule (L3; Fixed Capsule) installed on the G1/G2/G3 to reduce installation time and avoid welding on board.
Using existing wiring infrastructure:	Reduce engineering time and vessel disruption, such as ceiling access; by using existing VDR cabling with new retrofit components.
Utilize existing core module rack space and fixing:	The Upgrade Systems help avoid the need to re-allocate additional space, by incorporating the NW6000's new components into the existing VDR rack space. Attachments can be fixed to existing bolt holes using our range of retrofit plates, removing the time and hazard implications of drilling or welding new fittings. This is particularly relevant for vessels with flammable cargo.

Functional benefits

Netwave NW6000 Upgrade Systems remove and upgrade out dated components including the core module, capsule and bridge control unit. The new VDR reuses the existing interface boxes to further reduce installation cost and deploys a range of upgrade plates to ensure the new system can be installed in the same spaces.

The NW6000 VDR offers additional user-friendly benefits, including new playback features on the touchscreen BCU and the use of Power over Ethernet (PoE) to power components. This both reduces cabling requirements and allows easier future expansion of the VDR system.



Horizontal 19 inch rack mount



Capsule Fitting plate

VDR Element	Features
Bridge Control unit (BCU)	Touchscreen
Core module inside 19" rack	New VDR is installed in the existing space
Automatic Configuration	Automatic configuration of sensors reduces engineering time, with the ability to copy over existing configurations for some models.
VHF Interface	Dual function VHF interface and microphone power source
Mics	Plug and play replacement option utilising existing cabling
Screen Frame Grabber (optional)	Connection via HDMI, VGA or DVI-D if no LWE connection is possible
Player V2	Easy install allows playback and offers touchscreen interface for ease of use

By using Seas of Solutions highly skilled service network and deploying vessel specific survey reports prior to the Netwave NW6000 VDR Upgrade Systems being deployed, Netwave VDRs reduce vessel disruption and installation costs. The NW6000 series upgrade improves VDR reliability, reduces maintenance and where viable utilizes existing sensor modules and cabling to further reduce installation time and overall project cost.



VDR Upgrade Systems Components

The New NW6000 Upgrade Systems allow the cost-effective modernising of older, maintenance reliant VDR systems. The process includes pre-installation survey, a kit comprising of fitting plates to accelerate installation and maintain component locations regardless of dimensional changes. The optional retention of existing components, such as the AIM and DIM modules, and utilising existing wiring can further reduce installation time, typically by one day. The Upgrade Systems provide access to the latest NW6000 VDR at a reduced cost.

Upgrade Systems Parts

Qty	System No.	Article Number	Article Description								
NW6000 Upgrade VDR SYSTEMS											
1		NW6000-Full-VDR	NW6000 VDR (standard 16/24/4)								
2	G1	NW6000-G1	NW6000 VDR upgrade for VDR-100 G1								
3	G2(S)/G3(S)	NW6000-G2S/G3S	(S-)VDR with 8NMEA, 6 analogue microphones								
		NW6000-9000	VDR100 G1 Upgrade kit								
		NW6000-9001	G2 Upgrade Kit								
		NW6000-9002	G3 Upgrade Kit								
		NW6000-9003	19 Inch Rack Upgrade Kit								
		NW6880-AIS	Tron 40VDR AIS FF w/ bracket								
		NW6895	Junction Box for Float Free capsule								
What NW6000 you need to upgrade the old systems in Blue circles											
			System No.						Modules to keep on board		
Main Article			Description	1	2: VDR-100 G1	3: G2S	3: G2	3: G3S	3: G3	Article	Description
		NW6000R	Core Module 19" rack version		1						19" Rack base unit
		NW6000B	Voyage Data Recorder Bulkhead	1		1	1	1	1		
		NW6010	Bridge control Unit	1	1	1	1	1	1		
		NW6030	Analogue Microphones for Interior & Exterior use	6	6	6	6	6	6		
		NW6031	Microphone Hub	1	1	1	1	1	1		
		NW6060	VHF (line-in) interface	1	1	1	1	1	1		
		NW64900	Enclosure for set of DAQ modules	1	1	1	1	1	1		
		NW6410	Netwave Buscoupler	1	1	1	1	1	1		
		NW64208	NMEA 8ch DIN Module		1	1	1	1	1		
		NW64216	NMEA 16ch DIN Module	1							
		NW64324	Digital 24ch DIN Module	1	✓		✓		✓	RUT-01015	Data-Discrete Module
		NW64404	Analogue 4ch DIN Module	1	✓		✓		✓	RUT-01014	Data-Analogue Module
		NW6860	FRM Capsule excl. instal.kit. and ULB	1	1	1	1	1	1		
		NW6865	Capsule installation kit	1	1	1	1	1	1		
		GP02059	Angled connector inside microphone	9	9	9	9	9	9		
		GP02023	Data Cat7 Connector	17	16	16	16	16	16		
		GP06104	Power Supply	1	1	1	1	1	1		
Optional											
		NW6880-AIS	Tron 40VDR AIS FF w/ bracket	1	1		1		1		
		NW6895	Junction Box for Float Free capsule	1	1		1		1		
		GP01010	Lloyds Cat 7 SFTP								
		NW6000-0901	19 inch server rack mount LF/RA								
		NW6000-0902	19 inch server rack mount FL/RB								
		NW6000-9000	VDR100 G1 Upgrade kit		1						
		NW6000-9001	G2 Upgrade Kit			1	1				
		NW6000-9002	G3 Upgrade Kit					1	1		
		NW6000-9003	19 Inch Rack Upgrade Kit								
		NW3000	Remote 2-channel Video Capture interface module		✓	✓	✓	✓	✓	RUT-01005	Video Module
Important information:											
To Upgrade G1, you can use system 2 + Specified Upgrade Kit + Tron 40VDR AIS + Junction box.											
To Upgrade G2S & G3S S-VDRs, you can use system No.3 + Specified Upgrade Kit.											
To Upgrade G2 & G3 VDRs, you can use system No.3 + Specified Upgrade Kit + Tron 40VDR AIS + Junction box.											