

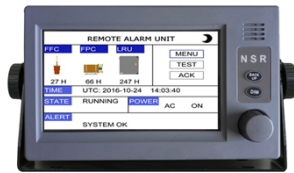
VDR (Voyage Data Recorder)

NVR-9000

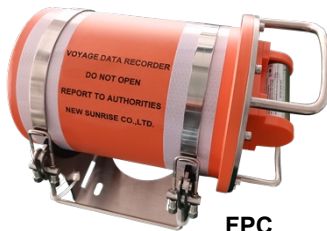
- Conform to new IMO regulation
- NSR's own FFC and FPC used
- Real monitoring software available for easy check
- Flexible configuration for either VDR or S-VDR
- Linux O/S used in firmware of VDR system
- Large size color LCD with touch screen operation
- Data interface to BAM System
- Type approval with DNV (MED) and CCS



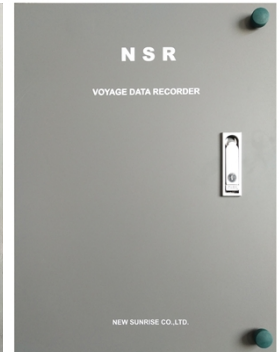
FFC



RAU



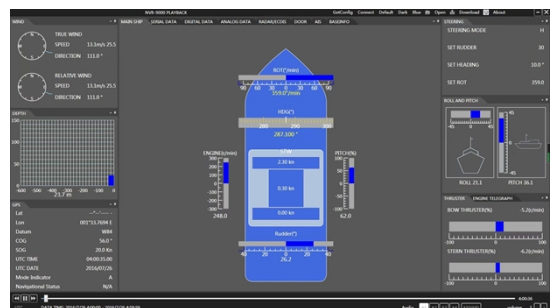
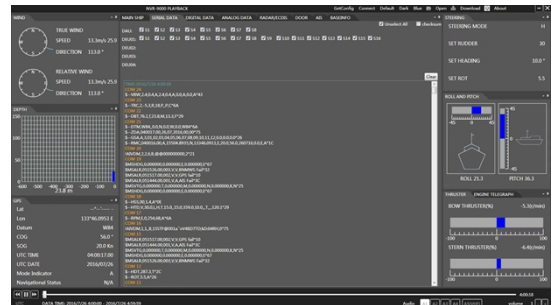
FPC

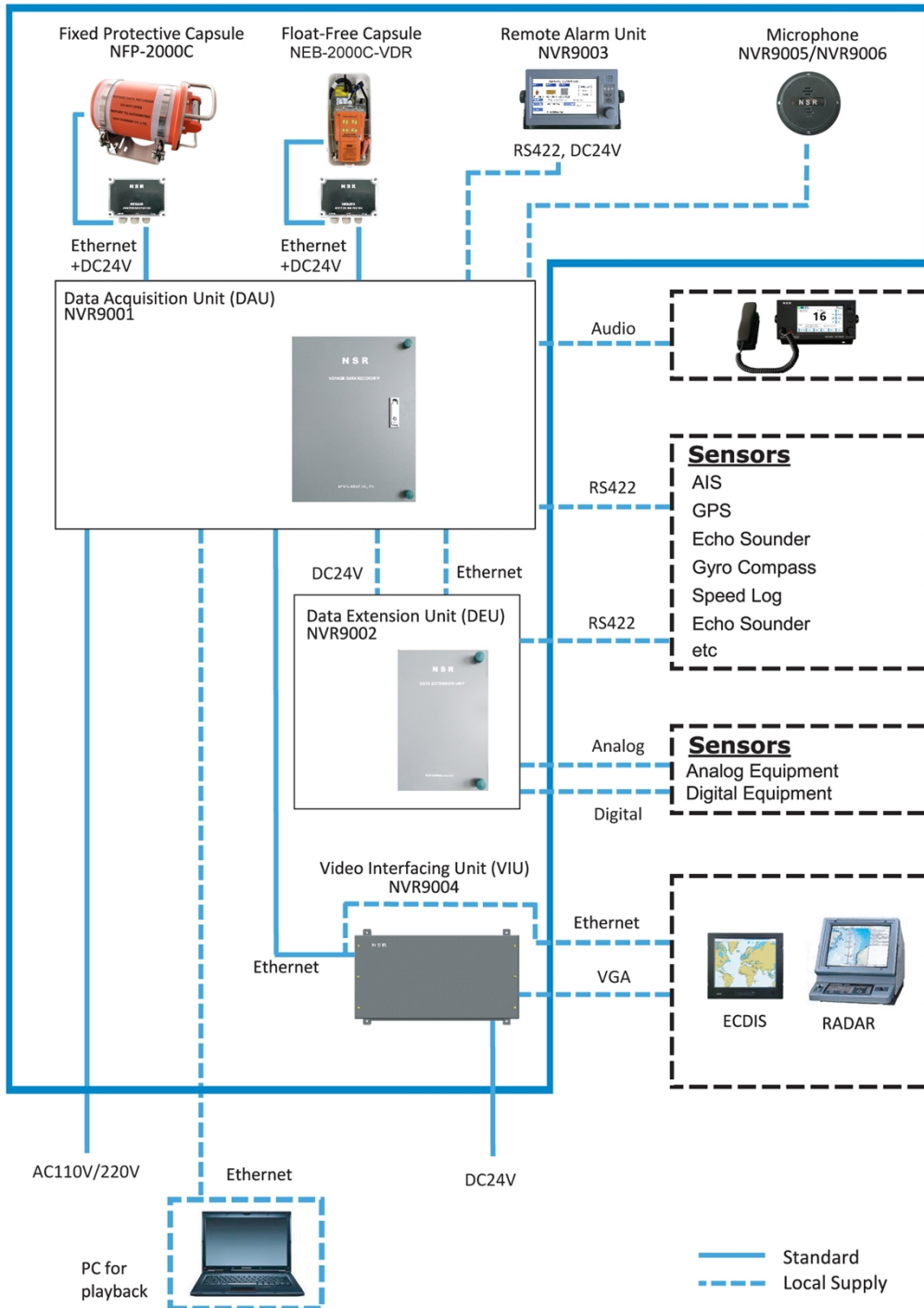


DAU

NVR-9000 VDR is designed to comply with the latest IMO rules of MSC.494 (104), IMO MSC.302 (87), IEC 61996-1, IEC 62923-1, IEC 62923-2, IEC 62288.

- Store data for 72 hours both in Float-free Capsule (FFC) and Fixed Protective Capsule (FPC).
- Store data for min 30 days/720 hours in Data Acquisition Unit.
- Record image of two radars and two ECDIS.
- Three separate channels for audio input:
 - One for up to 4 microphones
 - One for up to 4 microphones
 - One for 2 VHF audio
- As standard configuration, below ports provided:
 - Serial port×24 ch (8 at DAU and 16 at DEU)
 - Digital port×64 ch (DEU)
 - Analog port×8 ch (DEU)
- PC software available for playback & real time monitoring.





SPECIFICATIONS

Data Acquisition Unit (DAU)	Interface	Ethernet IEC 61162-450	4 ch
		Serial IEC 61162-1/2, RS422	8 ch
		VHF Audio	2 ch
		Microphone	8 ch
		Remote Alarm Unit	1 ch
		USB	1 ch
	DC 24V output	Remote Alarm Unit (RAU)	1 ch
		Fixed Protective Capsule (FPC)	1 ch
		Float-Free Capsule (FFC)	1 ch
Recording Duration		min 720 hours	
Reserve Battery Capacity		min 2 hours	
Fixed Protective Capsule (FPC)		Memory	64 GB
		Recording Duration	72 hours
		Beacon Battery Capacity	min 90 days
		Beacon Battery Life	3 years
Float-Free Capsule (FFC)		Memory	64 GB
		Recording Duration	72 hours
		Battery Capacity	min 168 hours
		Battery Life	5 years
Data Extension Unit (DEU)	Interface	Analog Input	8 ch
		Digital Input	64 ch
		Serial IEC 61162-1/2, RS422	16 ch
		Ethernet	1 ch
Video Interface Unit (VIU)	Interface	VGA	1-2 ch
		Ethernet	1-2 ch
Remote Alarm Unit (RAU)		Serial IEC 61162-1/2, RS422	1 ch
POWER SUPPLY			
Data Acquisition Unit (DAU)	AC110V/220V, 0.5~1.5A, 50/60Hz		
Data Extension Unit (DEU)	DC24V, 0.5A		
Video Interface Unit (VIU)	DC24V, 0.3A		

EQUIPMENT LIST

Standard

1	Data Acquisition Unit (DAU)	NVR9001	1 unit	5	Indoor Microphone Unit (IMU)	NVR9005	4 units
2	Data Extension Unit (DEU)	NVR9002	1 unit	6	Outdoor Microphone Unit (OMU)	NVR9006	2 units
3	Remote Alarm Unit (RAU)	NVR9003	1 unit	7	Fixed Protective Capsule (FPC) *	NFP-2000C	1 unit
4	Video Interface Unit (VIU)	NVR9004	0~4 units	8	Float-Free Capsule (FFC) *	NEB-2000C-VDR	1 unit

* NEB-2000C-VDR/NFP-2000C is supplied together with a Junction Box (NEB205) and cable (30m).

Options

1	Data Extension Unit (DEU)	NVR9002
2	Video Interface Unit (VIU)	NVR9004
3	Indoor Microphone Unit (IMU)	NVR9005
4	Outdoor Microphone Unit (OMU)	NVR9006

※ Specifications subject to change without notice

1	Data Acquisition Unit (DAU)	NVR9001	IP22	15.2 kg	
2	Data Extension Unit (DEU)	NVR9002	IP22	5.2 kg	
3	Remote Alarm Unit (RAU)	NVR9003	IP22	1.6 kg	
4	Video Interface Unit (VIU)	NVR9004	IP22	2.5 kg	
5	Indoor Microphone Unit (IMU)	NVR9005	IP22	0.1 kg	
6	Outdoor Microphone Unit (OMU)	NVR9006	IP56	0.2 kg	
7	Fixed Protective Capsule (FPC)	NFP-2000C	Note 1	16.5 kg	
8	Float-Free Capsule (FFC)	NEB-2000C-VDR	Note 2	3.5 kg	

Note 1: Watertight at a depth of 6000m for at least 24 hours.

Note 2: Watertight at a depth of 10m for at least 5 min.