Maritime Black Box®

KONGSBERG

Voyage Data Recorder (VDR)

The Kongsberg MBB Maritime Black Box® Voyage Data Recorder (VDR) is designed to meet or exceed the requirements specified in SOLAS V, IMO A.861 and the performance standard given by IEC 61996.

Increased safety at sea

The main purpose of our Voyage Data Recorder is to record and store relevant ship's data, and to allow reconstruction of ship incidents at sea. Our Voyage Data Recorder can be used to identify the cause of an incident and in this way make a major contribution to increase operational safety at sea.

Easy interfacing

Kongsberg Maritime is one of the world's largest suppliers of advanced marine electronics, with more than 30 years of experience with marine automation interfacing.

We manufacture advanced navigation systems, marine automation, cargo management, safety systems and maritime simulators for the merchant marine, as well as dynamic positioning and control systems for offshore and research vessels.

We have used this unique experience to provide a highly adaptable VDR system that is easily interfaced and installed on both existing and new vessels.

Main units

Our Voyage Data Recorder consists of the following units:

Data Collection Unit

The Data Collection Unit (DCU) is interfaced with ship's equipment to collect, process and store all relevant ship's data for a period of 12 hours, as required by IMO A.861.

Microphone Units

The microphones are used for recording of bridge audio, meeting the audio quality requirements as described in IEC 61996.

Uninterruptible Power Supply

The Uninterruptible Power Supply (UPS) is connected to the ship's emergency power supply, with a battery package providing more than the required 2 hours of audio recording during a black-out.

Protected Storage Unit

The Protected Storage Unit (PSU) stores data received from the DCU on a solid state recording medium.

The PSU is calamity resistant by means of a protective capsule. It is located on top of the ship's superstructure in order to provide easy recovery following an incident.

Replay and Evaluation Unit (option)

The Replay and Evaluation Unit (REU) is used to replay and evaluate previously recorded time synchronized voyage data. The REU is in addition an excellent tool for training purposes. Data stored in the PSU can be downloaded through the DCU for replay or long-term storage of data.

System specifications

Data recorded

Video

- Radar image

Audio

- Bridge and communication audio (VHF)

Parameters

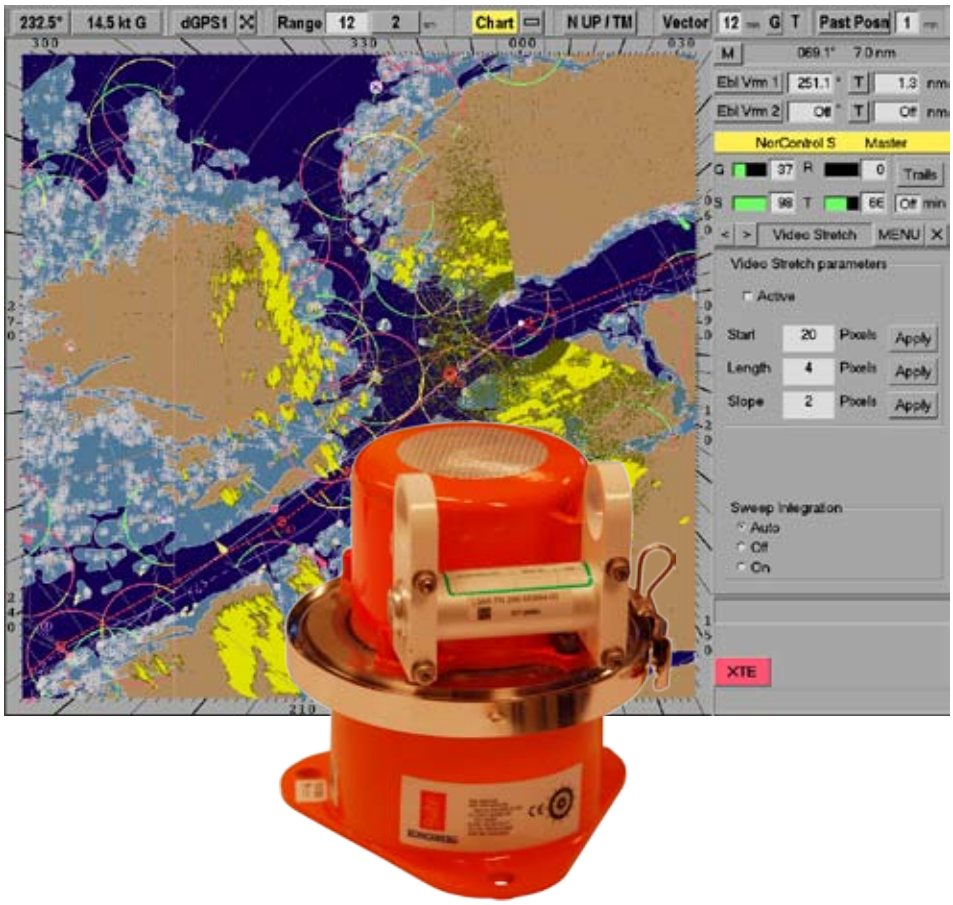
- Date and time
- Ship's position, speed and heading
- Echo sounder (depth)
- Rudder order and response
- Engine order and response
- Main alarms (IMO mandatory alarms on the bridge)
- Acceleration and hull stress
- Wind speed and direction
- Hull openings status
- Watertight and fire door status

Normative references

- DCU functionality: IEC 61996
- DCU environmental: IEC 60945
- Audio quality: IEC 60268-16
- Radar recording quality: IEC 61996
- PSU environmental: IEC 60945
- PSU survivability: IEC 61996
- MED approval: Det Norske Veritas (DNV)

Supported interfaces

- Local area connection (LAN) to Kongsberg Maritime's systems, including navigation and automation
- Up to twelve serial lines supporting RS-422, NMEA 0183 Protocol
- Analogue 0-10 V, 4-20 mA, digital signals, pulse and sync signals
- RGB VESA video signals



Features

- Fully compliant with IEC 61996 (Shipborne Voyage Data Recorder)
- Availability of wide range of interfacing modules
- Two hours uninterruptible power supply
- Twelve hours of cumulative data storage capacity
- On board playback of recorded data
- Optional interface with the ship's administrative network
- Parallel recording on hard disk (30 days)

Other benefits

Recorded VDR data is primarily intended for incident analysis. However, since the MBB® contains essential ship's data, this can also be made available for:

- Electronic logbooks
- Vessel maintenance
- On-board training
- Reporting and trending
- Vessel routing
- Weather and hydrographic data collection

VDR MED APPROVED TO IEC 61996-1 BY DET NORSKE VERITAS

Note!

Maritime Black Box® (MBB) is a registered trademark of Kongsberg Maritime AS in Norway and in other countries.
This datasheet is subject to change without prior notice.

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