

# RUTTER

## VDR-100G2 & G2S

Proven Voyage Data Recorders  
Powerful, Flexible and Reliable



- Lightweight, modular design for fast, efficient installation
- No moving parts for essential VDR functions
- Data output socket and playback software included
- Data at your fingertips with new USB function

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## VDR-100G2 & G2S



### Setting the Standard for VDR Performance and Reliability

With one of the largest and most diversified reference lists in the industry, Rutter Technologies' reputation for VDR quality, reliability and product support is proven in both the passenger and cargo vessel markets. In meeting the demanding requirements of many of the most reputable fleets in the cruise, ferry and RoRo business, Rutter established an early reputation as the industry leader in completing even the most complex VDR retrofits on time and on budget.



Combining that experience with early understanding of the unique challenges faced by cargo vessel operators, Rutter was the first to introduce a second generation VDR economically scalable for new buildings and retrofit installations. Its compact modular design enables our VDR 100G2 and G2S models to fit anywhere and to be individually configured to cost effectively meet the full range of VDR and "Simplified VDR" requirements from basic IMO compliance to the most demanding of options.

### Standard Features

- Solid state memory, no moving parts, for all essential VDR functions.
- Distributed Ethernet technology reduces cabling and related costs by locating interface modules closer to sensors.
- Modular system components with small dimensions and minimal weight for easy transport and installation.
- Extended recording of data on internal hard disk is standard.
  - 24 hours of all video, audio and digital data
  - 30 days of all digital (NMEA) data
  - up to 6 days of overwrite-protected data record can be saved in the internal memory
- USB port and memory stick provided for convenient data download.
- VDR Data Socket for convenient connection to a PC or Remote Storage Module. Distance to the Data Processor may be up to 75m.\*
- Download and playback software is included with every system, along with free owner licenses.\*

\* Meets the new IMO Recommendation SN/Circ.246 for a data output port and download / playback software.

### Data Storage and Retrieval Options

Standard data storage and retrieval functions go well beyond IMO requirements and we offer the following additional options:

- The Automatic Data Archiving Module provides for long-term archiving of the full data set.
- The Multiple Video Display Capture option allows the VDR to capture the single required primary radar video and record up to three additional displays.
- Remote Monitoring, Remote Data Access, and Remote Diagnostics are available via any standard communications channel, allowing for monitoring and retrieval of data from anywhere in the world.
- The Remote Storage Module automatically archives data for 45 or more days.

### Data Playback and Display Options

Standard playback and display features are comprehensive and we offer the following additional options:

- The Advanced Graphic Analysis Module enables long-term trend analyses, simultaneous comparisons among all data parameters and provides for extraction and transfer of the data to spreadsheets for further analyses as required.
- The Real-Time Display Module provides a conning-like real-time display of all recorded navigation data and allows for real-time display of recorded images.

- Lightweight, modular, compact
- Designed for fast, efficient, cost-effective installations
- S-VDR available with either fixed or float free capsule
- Data output socket and playback software included

## Technical Features

### ■ Data Processing Unit (DPU)

- can be mounted up to 75m away from Data Acquisition Unit
- houses Data Management Module, Power Supply, Power Control Module and battery back-up system
- compact (350mm x 400mm x 400mm)
- weighs approximately 43kg



### ■ Remote Storage Module (Optional)

- auto data archiving for 45 plus days
- simple connection to VDR data socket
- easily connected to a PC via USB interface



### ■ VDR Data Socket

- standard Ethernet RJ45 socket
- for connection to Remote Storage Module or external PC
- suitable for remote diagnostics

### ■ Final Recording Medium (FRM)

- fixed or float free capsules are available
- compact lightweight designs
- easy to install
- powered by Power Control Module
- can be mounted 75m away from DPU



Fixed Capsule



Float Free Capsule

### ■ Audio Input Module

- up to 16 input ports for capturing any combination of microphones and radio communications channels
- additional modules can be added as required

### ■ Video Input Module

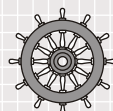
- up to 4 input ports for capturing images from the primary radar display and up to 3 additional displays
- can accommodate 1600 x 1200 x 24-bit colour images
- refresh rates up to 85Hz
- can be configured for a capture interval as short as 3 seconds

### ■ NMEA Input Module

- 9 inputs are available with each module
- additional modules can be added
- for data in IEC 61162 (NMEA 0183) format
- accepts the inputs from Rutter Interfaces

### ■ USB Data Storage

- storage of saved or previous 24 hours of data
- simple control via Operational Unit
- USB Stick protected inside DPU



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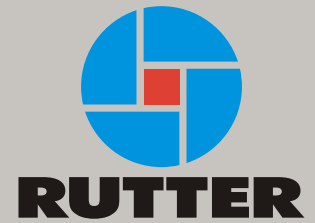


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- Worldwide type approvals
- Experienced global installation and service network
- Extended internal storage capacity
- Modular “fit anywhere” design reduces retrofit cost and out-of-service time



■ **Operation and Alarm Unit (OAU)**

- indicates the system status
- allows users to perform basic system diagnostics
- simple user interface for recording and copying data
- standard DIN panel (144x144) or wall mounting
- 24 VDC Alarm output for remote alarm indication

■ **Download/Playback Software**

- plug & play with automatic display configuration
- password-protected (general playback and audio)
- multiple display capability and output to ECDIS or ECS
- extremely user-friendly with search and fast forward features

■ **AIS Real-Time/Playback Display**

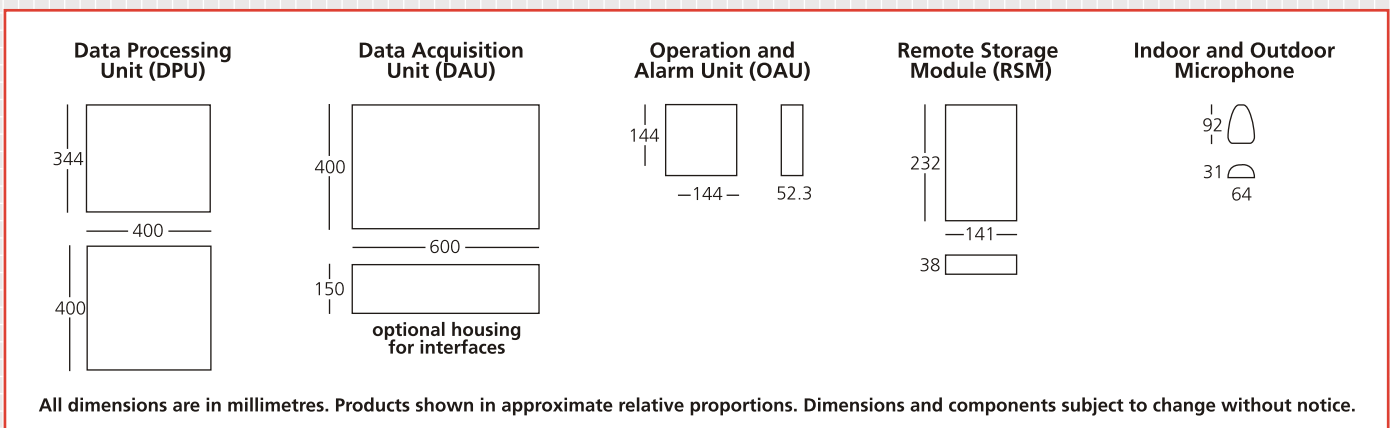
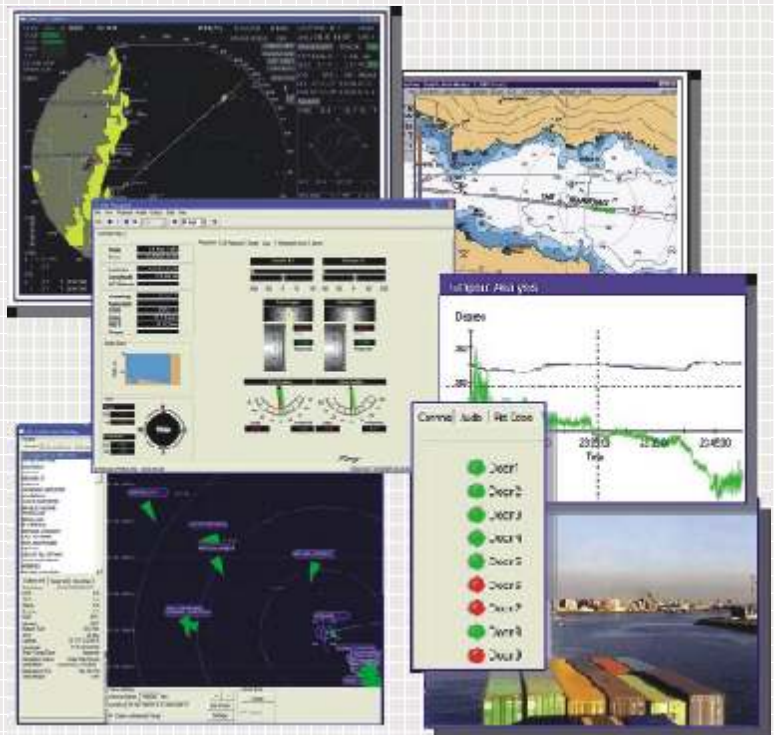
- all or selected AIS targets
- target data window
- automatic or manual display scale
- multiple windows on different scales
- CPA or TCPA calculations

■ **Power Supply**

- standard input: 85 - 264 VAC, 47 - 63 Hz
- optional: 19 - 28 VDC
- internal dedicated reserve power source (UPS) for 2 hour battery-backup operation of VDR with audio recording

■ **MTBF**

- the VDR-100G2/G2S has a MTBF exceeding 200,000 hours

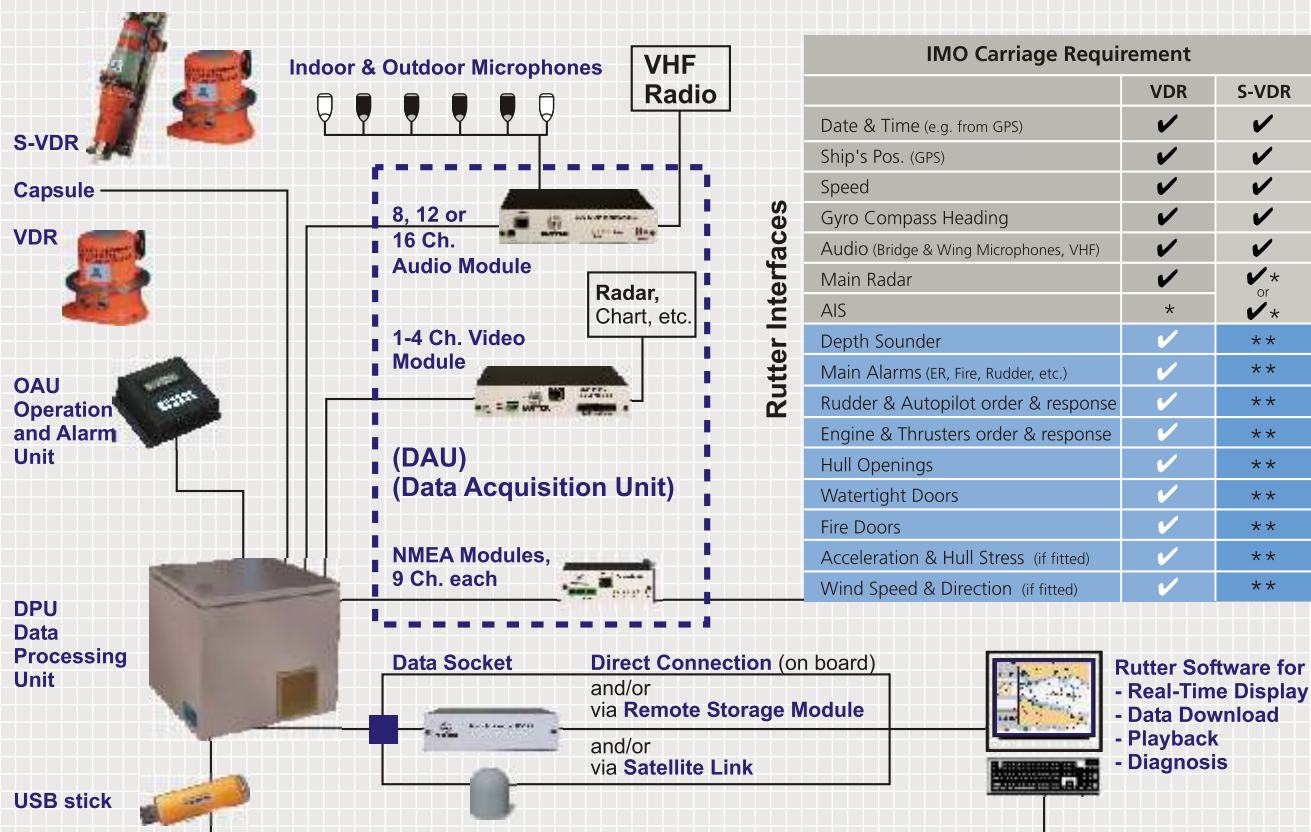




**RUTTER**

The Name For Reliable Voyage Data Recorders

## Schematic Diagram of Rutter's VDR and Simplified VDR System



\* AIS may be connected to a VDR. For S-VDR, AIS is required if the main radar cannot be connected. The main radar **must** be connected to the S-VDR, if a "commercial-off-the-shelf" interface for this radar is available.

\*\* This information **must** be recorded by the S-VDR if the data is provided in IEC 61162 (NMEA) format.

### IMO regulations for fitting simplified voyage data recorder (S-VDR) on existing cargo vessels:

- cargo vessels of 20,000 gross tonnage and upwards constructed before July 2002, at the first scheduled dry-docking after July 1<sup>st</sup>, 2006, but no later than July 1<sup>st</sup>, 2009.
- cargo vessels of 3,000 gross tonnage and upwards, but less than 20,000 gross tonnage constructed before July 1<sup>st</sup>, 2002, at the first scheduled dry-docking after July 1<sup>st</sup>, 2007, but no later than July 1<sup>st</sup>, 2010.



Rutter Technologies provides a full family of marine certified interfaces to accommodate all mandatory or voluntary data recording requirements for any type of ship.

- DataAnalog 4x2 inputs for analogue order and response signals
- DataDiscrete 4x6 inputs for status, alarm and control signals
- DataGyro for compass signals
- DataSynchro for 1:1 synchro signals
- DataSplitter 4 or 8 serial outputs from one serial input
- DataProtocol programmable interface, e.g. for converting pulsed echo sounder - or speed log signals and for converting proprietary data telegrams into IEC 61162 compliant format