

# VDR

Voyage Data Recorder

VDR  
VR-3000

# S-VDR

Simplified Voyage Data Recorder

S-VDR  
VR-3000S



*Records all sort of crucial data to identify the cause of maritime casualty as well as to contribute to the future prevention of the catastrophe of any kind*

The VR-3000/S is a Voyage Data Recorder/Simplified Voyage Data Recorder, which fully complies with IMO A861(20) and IEC 61996 and IEC 60945, and IMO MSC. 163(78) and IEC 61996-1/2 and IEC 60945, respectively. The purposes of the VDR and S-VDR are to assist investigators in identifying the causes of maritime casualty as well as to use the data for future reference to further incident prevention.

The VDR is intended for all the passenger ships as well as for newly constructed cargo ships of 3,000 gross tonnage and upwards. The S-VDR is for existing cargo vessels of the same category with a phase-in requirement schedule for those of 20,000 gross tonnage and upwards first, to be followed by others of 3,000 gross tonnage and upwards. The S-VDR is not required to store the same level of detailed data as the VDR but should maintain a store, in a secure and retrievable form, of information concerning the position, movement, physical status, command and control of a ship over the period leading up to and following an incident.

The VR-3000/S consists of Data Collecting Unit (DCU), Data Recording Unit (DRU), Remote Alarm Panel and up to six microphones. Incorporating interface modules, a powerful processor and status monitor into a compact container, the DCU collects voyage data. The DCU processes the data and events in the order of occurrence, while old data is overwritten by the latest data for storage in the DRU. The data is stored for at least 12 hours. In case of power supply failure, the reserve battery enables the VDR/S-VDR to record the bridge audio for two additional hours.

The data recorded in the DRU can be replayed with the optional playback software application, Liveplayer PRO for incident investigation as well as for educational briefing purposes. The DRU is contained in a protective capsule to ensure survival and recovery of the recorded data following an incident. The incorporated acoustic pinger helps investigators locate the capsule underwater. The DRU in the float-free capsule with a locating device is also available for the S-VDR, which floats at the surface of water.



Data Recording Unit  
Float free type (only for S-VDR)



Data Recording Unit  
(Fixed type)



Data Collecting Unit

- **VDR:** Complies with IMO A861(20) and IEC 61996 and IEC 60945

**S-VDR:** Complies with IMO MSC.163(78) and IEC 61996-1/2 and IEC 60945

- Space-saving installation with a compact Data Collecting Unit (DCU)
- Data storing for 12 hours both in the DCU and Data Recording Unit (DRU)
- DRU for the VR-3000S is selectable either a fixed protection capsule or a float-free capsule
- Internal frame grabber board to record Radar/ECDIS images\*
- Remote Junction Box for recording serial data, contact signals and analog data\*
- Optional Live Player software allows for real-time data monitoring as well as data playback with a PC at a later date

\*Standard for VR-3000 and optional for VR-3000S

### Data items to be recorded

Every kind of data and events can be recorded if the data sources are interfaced with VDR/S-VDR.

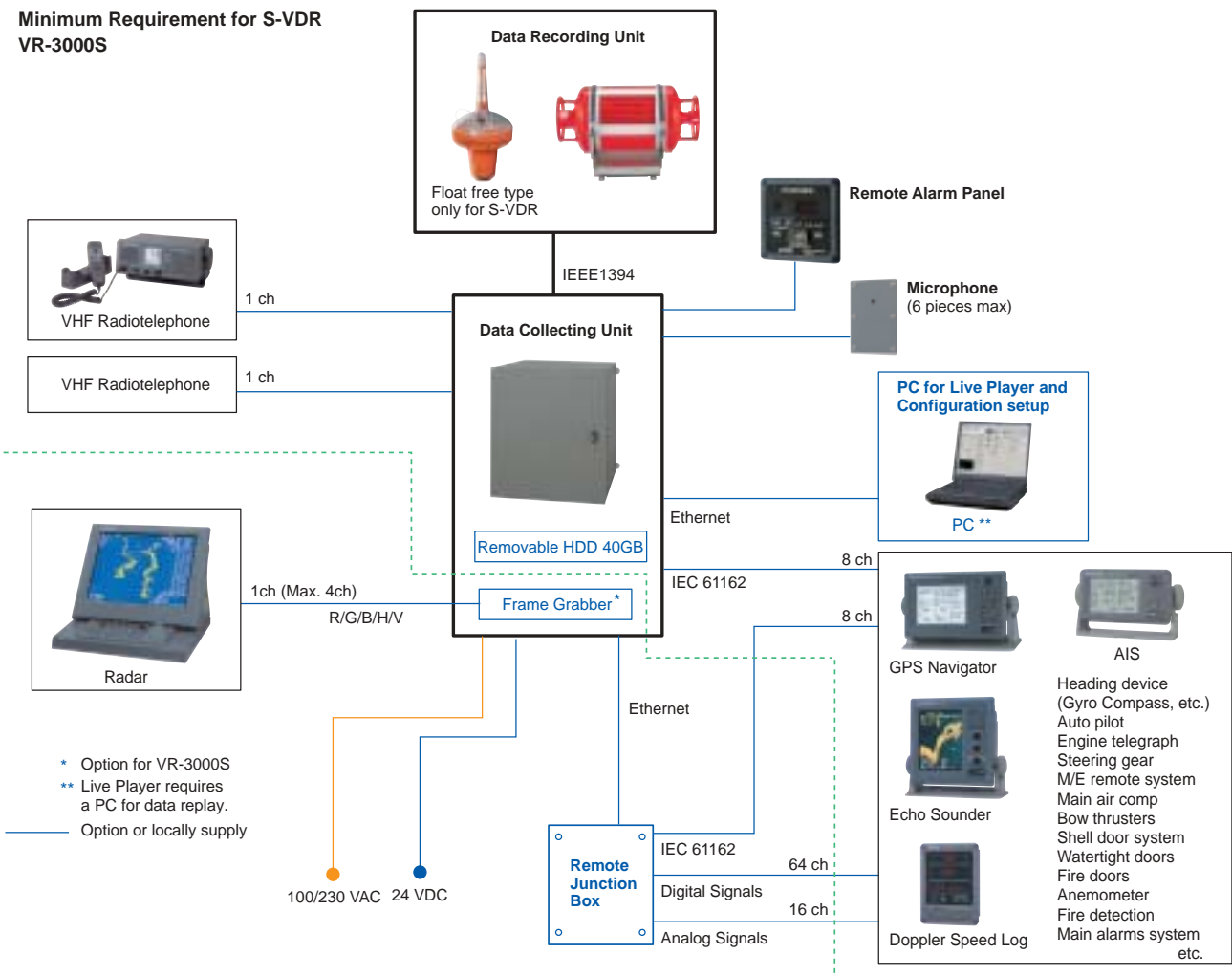
No.	Data to be recorded	VDR			S-VDR	
		IMO A861(20)	IEC Clause(s)	Interface	IMO MSC.163(78)	Interface
1	Date and time	5.4.1	4.6.1	IEC61162	5.4.1	IEC61162
2	Ship's position and datum used	5.4.2	4.6.2	IEC61162	5.4.2	IEC61162
3	Speed (through the water and/or over the ground)	5.4.3	4.6.3	IEC61162	5.4.3	IEC61162
4	Heading (from compass)	5.4.4	4.6.4	IEC61162, Step, Synchro, Analog	5.4.4	IEC61162, Step, Synchro, Analog
5	Bridge audio (by one or more microphones on the bridge)	5.4.5	4.6.5	Audio	5.4.5	Audio
6	Communications audio	5.4.6	4.6.6	Audio	5.4.6	Audio
7	Radar, post-display selection	5.4.7	4.6.7	R.G.B.H.V	5.4.7	R.G.B.H.V (if available)
8	Depth	5.4.8	4.6.8	NMEA/IEC61162	5.4.9	if available IEC61162 Interface
9	Main alarms (mandatory alarms on the bridge)	5.4.9	4.6.9	NMEA/IEC61162, Contact, Analog	5.4.9	
10	Rudder order and response	5.4.10	4.6.10	IEC61162, Contact, Analog	5.4.9	
11	Engine order and response	5.4.11	4.6.11	IEC61162, Contact, Analog	5.4.9	
12	Hull openings status (all mandatory information required to be displayed on the bridge)	5.4.12	4.6.12	IEC61162, Contact	5.4.9	
13	Water tight and fire door status (all mandatory information required to be displayed on the bridge)	5.4.13	4.6.13	IEC61162, Contact	5.4.9	
14	Accelerations and hull stresses (if fitted)	5.4.14	4.6.14	IEC61162, Contact, Analog	5.4.9	IEC61162-2 (if radar data isn't recorded should be recorded)
15	Wind speed and direction (if fitted)	5.4.15	4.6.15	IEC61162, Analog	5.4.9	
16	AIS Information				5.4.8	

# VDR S VDR

Features of VR-3000/VR-3000S

## Requirement for VDR VR-3000

### Minimum Requirement for S-VDR VR-3000S



## Carriage Requirement

	Ships on International voyages	Mandatory Installation
S-VDR	Existing cargo ships of 20,000 GT and upward	At the first scheduled dry-docking after 1 July 2006 but not later than 1 July 2009
	Existing cargo ships of 3,000 GT and upward but less than 20,000 GT	At the first scheduled dry-docking after 1 July 2007 but not later than 1 July 2010
VDR	All passenger ships as well as newly built cargo ships of 3,000 GT and upwards.	



Data Recording Unit



Microphone for bridge audio

## Play back/Live play Software (option)

Data Playback software, Live Player is optionally available for VR-3000/S in order to smooth out the data collection process.

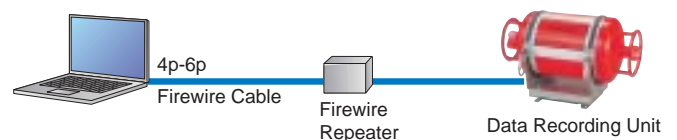


Standard mode

This software application extracts and displays the data accumulated in VR-3000/S in real time on the networked PC screen.

Also, the data can be replayed for a more thorough data analysis at a later date.

### Play back of DRU data



### Play back of removable HDD data



## GENERAL

### Rules and Regulations

VDR: IMO A.861(20), IEC 61996, IEC 60945, IEC 61162  
S-VDR: IMO MSC.163(78), IEC 61996-1/2, IEC 60945, IEC 61162

### Data Collecting Unit (DCU)

Recording period: At least 12 hours  
Data to be recorded: As specified in the above regs  
Interface

	VDR	S-VDR
<b>Input</b>		
Fire wire (IEEE1394):	1 ch	1 ch
Serial interface IEC 61162-2:	4 ch	2 ch (+2 ch*)
IEC 61162-1:	12 ch	6 ch (+6 ch*)
Bridge communication:	6 ch	6 ch
VHF audio:	2 ch	2 ch
Radar RGBHV:	1 ch (Max 4ch*)	Max 4 ch*
Analog:	16 ch (Max 48ch*)	Max 48 ch*
Contact/Digital:	64 ch (Max 194ch*)	Max 194 ch*
<b>Output</b>		
Ethernet:	2 ch	2 ch
Remote Alarm System:		
VDR System Fail	1 ch	1 ch
Local ACK	1 ch	1 ch
Remote ACK	1 ch	1 ch

\* Option

### Data Recording Unit (DRU)

#### Memory

6 GB/9 GB\* flash memory standard for IMO mandatory data for 12 h cycle, first-in first-out basis. Retains data for more than 10 years under no external power.

\* Specify when placing a purchase order.

## EQUIPMENT LIST

### VDR VR-3000

#### Standard

- |   |        |
|---|--------|
| 1. Data Collecting Unit VR-3010                             | 1 unit |
| 2. Data Recording Unit VR-5020 (with 30 m cable and cradle) | 1 unit |
| 3. Remote Alarm Panel VR-3016                               | 1 unit |
| 4. Remote Junction Box IF-8530                              | 1 unit |
| 5. Frame Grabber Board                                      | 1 unit |
| 6. Microphone VR-5011                                       | 6 sets |
| 7. Installation Materials and Spare Parts                   |        |

#### Optional

- |   |        |
|---|--------|
| 1. Removable HDD for DCU (40 GB)              |        |
| 2. PC Software Kit LivePlayer PRO             |        |
| 3. Water-resistant Box for Microphone VR-5012 | 6 sets |
| 4. VHF Interface IF-5200                      |        |

### S-VDR VR-3000S

#### Standard

- |  |        |
|--|--------|
| 1. Data Collecting Unit VR-3010                                      | 1 unit |
| 2. Data Recording Unit VR-5020/VR-3030* (with 30 m cable and cradle) | 1 unit |
| 3. Remote Alarm Panel VR-3016  | 1 unit |
| 4. Microphone VR-5011  | 6 sets |
| 5. Installation Materials and Spare Parts                            |        |

\* Float-free capsule selectable

#### Optional

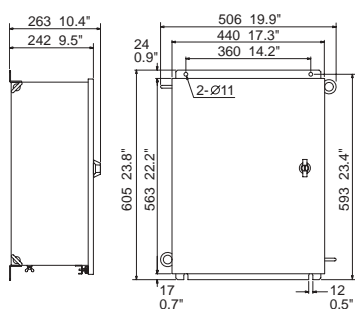
- |   |        |
|---|--------|
| 1. Removable HDD for DCU (40 GB)              |        |
| 2. PC Software Kit LivePlayer PRO             |        |
| 3. Remote Junction Box IF-8530                | 1 unit |
| 4. Frame Grabber Board                        | 1 unit |
| 5. Water-resistant Box for Microphone VR-5012 | 6 sets |
| 6. VHF Interface IF-5200                      |        |

## POWER SUPPLY

100 - 230 VAC, 50 - 60 Hz

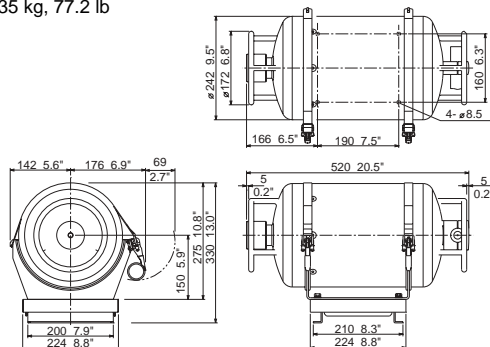
### Data Collecting Unit VR-3010

45 kg, 99.2 lb



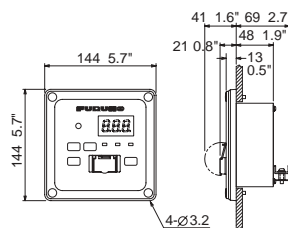
### Data Recording Unit VR-5020

35 kg, 77.2 lb



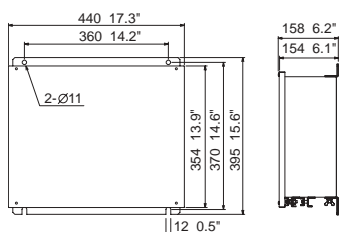
### Remote Alarm Panel VR-3016

1.0 kg, 2.2 lb



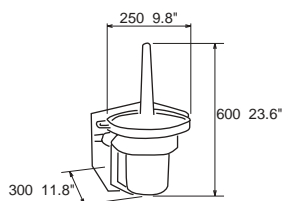
### Remote Junction Box IF-8530

12 kg, 26.5 lb



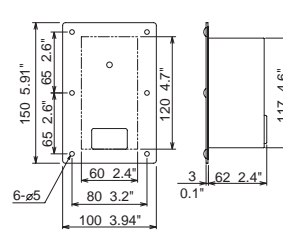
### Data Recording Unit (Float free type) VR-3030

5 kg, 11 lb



### Microphone VR-5011

0.3 kg, 0.7 lb



SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

#### FURUNO U.S.A., INC.

Camas, Washington, U.S.A.  
Phone: +1 360-834-9300  
Fax: +1 360-834-9400

#### FURUNO (UK) LIMITED

Denmead, Hampshire, U.K.  
Phone: +44 2392-230303  
Fax: +44 2392-230101

#### FURUNO FRANCE S.A.

Bordeaux-Mérignac, France  
Phone: +33 5 56 13 48 00  
Fax: +33 5 56 13 48 01

#### FURUNO ESPAÑA S.A.

Madrid, Spain  
Phone: +34 91-725-90-88  
Fax: +34 91-725-98-97

#### FURUNO DANMARK AS

Hvidovre, Denmark  
Phone: +45 36 77 45 00  
Fax: +45 36 77 45 01

#### FURUNO NORGE A/S

Ålesund, Norway  
Phone: +47 70 102950  
Fax: +47 70 127021

#### FURUNO SVERIGE AB

Västra Frölunda, Sweden  
Phone: +46 31-7098940  
Fax: +46 31-497093

#### FURUNO FINLAND OY

Espoo, Finland  
Phone: +358 9 4355 670  
Fax: +358 9 4355 6710

#### FURUNO POLSKA Sp. z o.o.

Gdynia, Poland  
Phone: +48 58 669 02 20  
Fax: +48 58 669 02 21

#### FURUNO DEUTSCHLAND GmbH

Rellingen, Germany  
Phone: +49 4101 301 300  
Fax: +49 4101 301 458

#### FURUNO EURUS LLC

Petersburg, Russia  
Phone: +7 812 167 15 92  
Fax: +7 812 166 55 52



05095N Printed in Japan