BLUE OCEAN
VDR / S-VDR

Operator's Manual

SAFETY INSTRUCTIONS

WARNING

ELECTRICAL SHOCK HAZARD
Do not open the equipment.
Only qualified personnel should work inside the equipment.

Immediately turn off the power at the switchboard if water leaks into the equipment or something is dropped in the equipment.
Continued use of the equipment can cause fire or electrical shock. Contact a COMAS agent for service.

Do not disassemble or modify the equipment.
Fire, electrical shock or serious injury can result.

Do not place liquid-filled containers on the top of the equipment.
Fire or electrical shock can result if a liquid spills into the equipment.

Use the proper fuses.
Use of the wrong fuse can cause fire or permanent damage to the equipment.

WARNING LABEL
A warning label is attached to the AC-DC power supply. Do not remove the label. If the label is missing or damaged, contact a COMAS agent or dealer about replacement.

Immediately turn off the power at the switchboard if the equipment is emitting smoke or fire.
Continued use of the equipment can cause fire or electrical shock. Contact a COMAS agent for service.

Make sure no rain or water splash leaks into the equipment.
Fire or electrical shock can result if water leaks in the equipment.

Do not operate the equipment with wet hands.
Electrical shock can result.

FOREWORD

Features

The BlueOcean VDR/SVDR is build according to IEC60945(2002), IEC61996(2000) or IEC61996-2, IEC61162-1(2000)

Important Notices

• No part of this manual may be copied or reproduced without written permission.
• If this manual is lost or worn, contact your dealer about replacement.
• The contents of this manual and equipment specifications are subject to change without notice.
• The example screens (or illustrations) shown in this manual may not match the screens you see on your display. The screen you see depends on your system configuration and equipment settings.
• COMAS will assume no responsibility for the damage caused by improper use or modification of the equipment or claims of loss of profit by a third party.

SYSTEM CONFIGURATION

Configuration A: SVDR

According to IEC61996-2

Model: VDU1M-S

Main characteristics
Radar: optional, can be replaced by AIS
Alarms: optional

Configuration B: VDR

According to IEC61996(2000)

Model: VDU1M-F

Main characteristics
Radar: mandatory
Alarms: mandatory, up to 250 supported
Doors: supported (up to 250)
Openings: supported (up to 250)

SPECIFICATIONS

Configuration A: SVDR

According to IEC61996-2

Model: VDU1M-S

The specification for S-VDR differs significantly from that for VDR in two areas:
a)   the requirements for monitoring certain sensors are reduced when the data is not provided in IEC 61162 format, and
b)   the requirements for the protective S-VDR capsule are different from the VDR capsule, both for the fixed and float-free versions.

Protective Capsule
Both fixed and floating type supported.

Capsules that can be used:
L3 model SVR02
MacMurdo Model C1

Interfaces
A. Mandatory
IEC61162 (NMEA): 8 channels
Audio: 8 microphones, 4 VHF inputs
Radar: up to 1280x1024

B. Optional (not required by the standard)
Analogue inputs for old equipment
Digital inputs for alarms, openings and doors

Data items to be recorded

Recorded at least for 12 h

A. Full configuration data in special database

B. Status data

Internal conditions monitoring:
-         Power supply
-         Record function
-         Module function
-         Microphone condition
-         Errors and diagnostics

Ship Data

Mandatory items

<u>Date and time</u>: internal clock continuously synchronised with external source (digital PLL). In case of loss of external source drift is less than 1 sec /hour. Resolution of recordings is 0.01 sec.

<u>Ship's position</u>

<u>Speed</u>

<u>Heading</u>

<u>Bridge Audio</u>: 8 microphones and 4 VHF inputs supported

<u>RADAR</u>: resolution up to 1280x1024. Where there is no commercial off-the-shelf interface available to obtain radar data then AIS target data shall be recorded

<u>AIS</u>

<u>Depth</u>

<u>Ruder order</u>

<u>Ruder response</u>

<u>Engine order</u>

<u>Engine response</u>

Items that can be recorded if presented on the bridge:

<u>Main alarms</u>: includes the status of all IMO mandatory alarms on the bridge. Other alarms can be included optionally

<u>Accelerations and hull stresses</u>

<u>Wind speed and direction</u>

<u>Hull openings (doors) status</u>

<u>Watertight and fire door status</u>

The last 2 item classes can optionally be classified as alarms

Other Items: auxiliary items can be recorded if presented in NMEA format

All data are stored in a format that allows correlation in date and time by the playback equipment

Operation

Normal operation fully automated

Optional display shows most significant items (not required by the standard)

Termination of normal operation is key and password protected

Power source

Normal:	230 Vac nominal, 1A (max 1,5A), 185-275 Vac
Ship's emergency power:	24 Vdc, 12A (max 15A), 22-30V
Reserve power:	24 Vdc batteries, 2h minimum, internal charger 40 Ah required, use ship approved type

SPECIFICATIONS

Configuration B: VDR

According to IEC61996(2000)

Model: VDU1M-F

Protective Capsule
Both fixed and floating type supported.

Capsules that can be used:
L3 model HVR02

Interfaces
A. Mandatory
IEC61162 (NMEA): 8 channels, 16-24 optional
Audio: 8 microphones, 4 VHF inputs
Radar: up to 1280x1024
Analogue inputs for old equipment
Digital inputs for alarms, openings and doors

Data items to be recorded

A. Full configuration data in special database

B. Status data

Recorded at least for 12 h

Internal conditions monitoring:
-        Power supply
-        Record function
-        Module function
-        Microphone condition
-        Errors and diagnostics

Ship Data

Mandatory items

Date and time: internal clock continuously synchronised with external source
(digital PLL). In case of loss of external source drift is less than 1 sec /hour.
Resolution of recordings is 0.01 sec.
Ship's position
Speed
Heading
Bridge Audio: 8 microphones
Communications Audio: 4 VHF inputs supported
RADAR: resolution up to 1280x1024.

<u>Depth</u>
<u>Main alarms</u>: includes the status of all IMO mandatory alarms on the bridge as per 61996 annex B . Other alarms can be included optionally (up to 250 total)
<u>Ruder order</u>
<u>Ruder response</u>
<u>Engine order</u>
<u>Engine response</u>
<u>Hull openings (doors) status</u>: up to 250 supported
<u>Watertight and fire door status</u>: up to 250 supported
Some of the last 2 item classes can optionally be classified as alarms if needed
<u>Accelerations and hull stresses</u>: if fitted on ship
<u>Wind speed and direction:</u> applicable where a ship is fitted with a suitable sensor.

Other Items: auxiliary items can be recorded if presented in NMEA format

All data are stored in a format that allows correlation in date and time by the playback equipment

Operation

Normal operation fully automated
Optional display shows most significant items (not required by the standard)
Termination of normal operation is key and password protected

Power source

Normal: 230 Vac nominal, 1A (max 1,5A), 185-275 Vac
Ship's emergency power: 24 Vdc, 12A (max 15A), 22-30V
Reserve power: 24 Vdc batteries, 2h minimum, internal charger
                                   40 Ah required, use ship approved type