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colour inside

Maritime navigation and radiocommunication equipment and systems – Shipborne voyage data recorder (VDR) – Part 1: Performance requirements, methods of testing and required test results

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Maritime navigation and radiocommunication equipment and systems – Shipborne voyage data recorder (VDR) – Part 1: Performance requirements, methods of testing and required test results



IEC 61996-1:2013-05+AMD1:2021-05 CSV(en)

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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MARITIME NAVIGATION AND RADIOCOMMUNICATION EQUIPMENT AND SYSTEMS – SHIPBORNE VOYAGE DATA RECORDER (VDR) –

Part 1: Performance requirements, methods of testing and required test results

FOREWORD

1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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This consolidated version of the official IEC Standard and its amendment has been prepared for user convenience.

IEC 61996-1 edition 2.1 contains the second edition (2013-05) [documents 80/690/FDIS and 80/699/RVD] and its amendment 1 (2021-05) [documents 80/976/CDV and 80/993/RVC].

In this Redline version, a vertical line in the margin shows where the technical content is modified by amendment 1. Additions are in green text, deletions are in strikethrough red text. A separate Final version with all changes accepted is available in this publication.

International Standard IEC 61996-1 has been prepared by IEC technical committee 80: Maritime navigation and radiocommunication equipment and systems.

This second edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition.

a) The description of the protective capsule in 4.3.4 has been changed in line with the requirements of the new IMO performance standards given in Resolution MSC.333(90) which now require a final recording medium comprising three parts; fixed, float-free and long-term.
b) A new requirement for a performance test has been added in 4.3.6.
c) Further data items to be recorded have been added to 4.6 for ECDIS, AIS, rolling motion and electronic logbooks.
d) Clause 5 contains new technical requirements for configuration data, operational performance test and bridge alert management system. In addition, further technical requirements have been added to 5.6 for bridge audio and to 5.8 for radar and ECDIS images.
e) References to “alarm” requirements in the previous edition have been substituted by references to “cautions” in line with current IMO recommendations. The test methods in Clause 6 have been updated to reflect the new requirements.
f) New Annexes E, F and G concerning protocols for interfacing images using a Local Area Network have been added.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts of the IEC 61996 series, under the general title *Maritime navigation and radiocommunication equipment and systems – Shipborne voyage data recorder (VDR)*, can be found on the IEC website.

NOTE All text of this standard, whose wording is identical to that of IMO Resolution MSC.333(90), is printed in *italics,* and the Resolution and associated performance standard paragraph numbers are indicated in brackets.

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MARITIME NAVIGATION AND RADIOCOMMUNICATION EQUIPMENT AND SYSTEMS – SHIPBORNE VOYAGE DATA RECORDER (VDR) –

Part 1: Performance requirements, methods of testing and required test results

1 Scope

This part of IEC 61996 specifies the minimum performance requirements, technical characteristics, methods of testing and required test results, for shipborne voyage data recorder (VDR) installations as required by Chapter V of the International Convention for Safety of Life at Sea (SOLAS), as amended. It takes account of IMO resolution A.694(17) and is associated with IEC 60945. When a requirement in this standard is different from IEC 60945, the requirement in this standard takes precedence.

This standard incorporates the applicable parts of the performance standards included in IMO Resolution MSC.333(90).

NOTE All text of this standard, whose wording is identical to that of IMO Resolution MSC.333(90), is printed in *italics,* and the Resolution and associated performance standard paragraph numbers are indicated in brackets.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60068-2-27:2008, *Environmental testing – Part 2-27: Tests – Test Ea and guidance: Shock*

IEC 60268-16, *Sound system equipment – Part 16: Objective rating of speech intelligibility by speech transmission index*

IEC 60945, *Maritime navigation and radiocommunication equipment and systems – General requirements – Methods of testing and required test results*

IEC 61097-2, *Global maritime distress and safety system (GMDSS) – Part 2: COSPAS-SARSAT EPIRB – Satellite emergency position indicating radio beacon operating on 406 MHz – Operational and performance requirements, methods of testing and required test results*

IEC 61097-7:1996, *Global maritime distress and safety system (GMDSS) – Part 7: Shipborne VHF radiotelephone transmitter and receiver – Operational and performance requirements, methods of testing and required test results*

IEC 61162 (all parts), *Maritime navigation and radiocommunication equipment and systems – Digital interfaces*

IEC 61162-450:2011, *Maritime navigation and radiocommunication equipment and systems – Digital interfaces – Part 450: Multiple talkers and multiple listeners – Ethernet interconnection*

IEC 61174, *Maritime navigation and radiocommunication equipment and systems – Electronic chart display and information system (ECDIS) – Operational and performance requirements, methods of testing and required test results*

IEC 61260:1995, *Electroacoustics – Octave-band and fractional-octave-band filters*
Amendment 1:2001

IEC 61672-1:2002, *Electroacoustics – Sound level meters – Part 1: Specifications*

IEC 62388:2007, *Maritime navigation and radiocommunication equipment and systems – Shipborne radar – Performance requirements, methods of testing and required test results*

IMO A.658(16), *Use and fitting of retro-reflective materials on life-saving appliances*

IMO A.662(16), *Performance standards for float-free release and activation arrangements for emergency radio equipment*

IMO A.694(17), *General requirements for shipborne radio equipment forming part of the Global maritime distress and safety system (GMDSS) and for electronic navigational aids*

~~IMO A.810(19), *Performance standards for float-free satellite emergency position-indicating radio beacons (EPIRBs) operating on 406 MHz*~~

IMO Resolution MSC.471(101), *Performance standards for float-free emergency position-indicating radio beacons (EPIRBs) operating on 406 MHz*

IMO A.1021(26), *Code on alerts and indicators*

IMO MSC.333(90):2012, *Performance standards for shipborne Voyage Data Recorders (VDRs)*

EUROCAE ED-112:2003, *Minimum operational performance specification (MOPS) for crash protected airborne recorder systems*

VESA:2007, *Video electronics standards association – VESA and industry standards and guidelines for computer display monitor timing (DMT), Version 1.0, Revision 0.11*

SAE AS8045A:2011, *Engineering Society for advancing mobility land sea air and space – Minimum performance standard for underwater locating devices – Acoustic, self-powered*

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Maritime navigation and radiocommunication equipment and systems – Shipborne voyage data recorder (VDR) – Part 1: Performance requirements, methods of testing and required test results



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A list of all parts of the IEC 61996 series, under the general title *Maritime navigation and radiocommunication equipment and systems – Shipborne voyage data recorder (VDR)*, can be found on the IEC website.

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MARITIME NAVIGATION AND RADIOCOMMUNICATION EQUIPMENT AND SYSTEMS – SHIPBORNE VOYAGE DATA RECORDER (VDR) –

Part 1: Performance requirements, methods of testing and required test results

1 Scope

This part of IEC 61996 specifies the minimum performance requirements, technical characteristics, methods of testing and required test results, for shipborne voyage data recorder (VDR) installations as required by Chapter V of the International Convention for Safety of Life at Sea (SOLAS), as amended. It takes account of IMO resolution A.694(17) and is associated with IEC 60945. When a requirement in this standard is different from IEC 60945, the requirement in this standard takes precedence.

This standard incorporates the applicable parts of the performance standards included in IMO Resolution MSC.333(90).

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Amendment 1:2001

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