

**Maritime navigation and radiocommunication  
equipment and systems - Shipborne voyage data  
recorder (VDR) - Performance requirements -  
Methods of testing and required test results**

Maritime navigation and radiocommunication  
equipment and systems - Shipborne voyage data  
recorder (VDR) - Performance requirements - Methods  
of testing and required test results

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 61996-1:2008 sisaldab Euroopa standardi EN 61996-1:2008 ingliskeelset teksti.</p> <p>Standard on kinnitatud Eesti Standardikeskuse 19.08.2008 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.</p> <p>Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 16.07.2008.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 61996-1:2008 consists of the English text of the European standard EN 61996-1:2008.</p> <p>This standard is ratified with the order of Estonian Centre for Standardisation dated 19.08.2008 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.</p> <p>Date of Availability of the European standard text 16.07.2008.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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**Võtmesõnad:** management, navigation, perfo, radar, radar equipment, radar systems, radiocommunication, radiolocation, radionavigation, recording equipment, recording instruments, shipbuilding, ships, specification (approval), specifications, test results, testing, water transport

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Aru 10 Tallinn 10317 Eesti; [www.evs.ee](http://www.evs.ee); Telefon: 605 5050; E-post: [info@evs.ee](mailto:info@evs.ee)

English version

**Maritime navigation and radiocommunication equipment and systems -  
Shipborne voyage data recorder (VDR) -  
Part 1: Voyage data recorder (VDR) -  
Performance requirements, methods of testing and required test results  
(IEC 61996-1:2007)**

Matériels et systèmes de navigation  
et de radiocommunication maritimes -  
Enregistreurs des données du voyage  
(VDR) de bord -  
Partie 1: Enregistreur des données  
du voyage (VDR) -  
Exigences de fonctionnement, méthodes  
d'essai et résultats d'essai exigés  
(CEI 61996-1:2007)

Navigations-  
und Funkkommunikationsgeräte  
und -systeme für die Seeschifffahrt -  
Fahrtdatenaufzeichnungsgeräte (VDR)  
auf Seeschiffen -  
Teil 1: Fahrtdatenaufzeichnungsgerät  
(VDR) -  
Leistungsanforderungen, Prüfverfahren  
und geforderte Prüfergebnisse  
(IEC 61996-1:2007)

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European Committee for Electrotechnical Standardization  
Comité Européen de Normalisation Electrotechnique  
Europäisches Komitee für Elektrotechnische Normung

**Central Secretariat: rue de Stassart 35, B - 1050 Brussels**

## Foreword

The text of document 80/470/CDV, future edition 1 of IEC 61996-1, prepared by TC 80, Maritime navigation and radiocommunication equipment and systems, was submitted to the IEC-CENELEC Parallel Unique Acceptance Procedure and was approved by CENELEC as EN 61996-1 on 2008-06-01.

This European Standard supersedes EN 61996:2000.

A new requirement has been added to 4.3.5 for an interface to be used for downloading the stored data to an external computer. This is defined in Annex C which is derived from amendments published by the IMO in resolution MSC.214(81). An optional LAN interface for connection to radar has been added in 5.8. Some corrections to the text have also been made. Subclause 4.3.5 (Assessment of final recording medium) has been renumbered as 4.3.4.2 and Subclause 4.3.6 (Interfaces) has been renumbered as 4.3.5.

The following dates were fixed:

- latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2009-03-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2011-06-01

Annex ZA has been added by CENELEC.

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## Endorsement notice

The text of the International Standard IEC 61996-1:2007 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60936-1	NOTE Harmonized as EN 60936-1:2000 (not modified).
IEC 60936-3	NOTE Harmonized as EN 60936-3:2002 (not modified).
IEC 62388	NOTE Harmonized as EN 62388:2008 (not modified).
ISO 8728	NOTE Harmonized as EN ISO 8728:1998 (not modified).
ISO 11674	NOTE Harmonized as EN ISO 11674:2001 (not modified).

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## Annex ZA (normative)

### Normative references to international publications with their corresponding European publications

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

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60068-2-27	1987	Basic environmental testing procedures - Part 2: Tests - Test Ea and guidance: Shock	EN 60068-2-27	1993
IEC 60268-16	2003	Sound system equipment - Part 16: Objective rating of speech intelligibility by speech transmission index	EN 60268-16	2003
IEC 60945	2002	Maritime navigation and radiocommunication equipment and systems - General requirements - Methods of testing and required test results	EN 60945	2002
IEC 61097-2	- <sup>1)</sup>	Global maritime distress and safety system (GMDSS) - Part 2: COSPAS-SARSAT EPIRB - Satellite emergency position indicating 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 61162-1	- <sup>1)</sup>	Maritime navigation and radiocommunication equipment and systems - Digital interfaces - Part 1: Single talker and multiple listeners	EN 61162-1	2008 <sup>2)</sup>
IEC 61162-2	- <sup>1)</sup>	Maritime navigation and radiocommunication equipment and systems - Digital interfaces - Part 2: Single talker and multiple listeners, high-speed transmission	EN 61162-2	1998 <sup>2)</sup>
IEC 61260	1995	Electroacoustics - Octave-band and fractional-octave-band filters	EN 61260	1995
IEC 61672-1	2002	Electroacoustics - Sound level meters - Part 1: Specifications	EN 61672-1	2003
IMO Resolution A.658(16)	- <sup>1)</sup>	Use and fitting of retro-reflective materials on life-saving appliances	-	-
IMO Resolution A.662(16)	- <sup>1)</sup>	Performance standards for float-free release and activation arrangements for emergency radio equipment	-	-

<sup>1)</sup> Undated reference.

<sup>2)</sup> Valid edition at date of issue.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IMO Resolution A.689	1991	Testing of life saving appliances	-	-
IMO Resolution A.694(17)	- <sup>1)</sup>	General requirements for shipborne radio equipment forming part of the global maritime distress and safety system (GMDSS) and for electronic navigational aids	-	-
IMO Resolution A.810(19)	- <sup>1)</sup>	Performance standards for float-free satellite emergency position-indicating radio beacons (EPIRBs) operating on 406 MHz	-	-
IMO Resolution A.830(19)	- <sup>1)</sup>	Code on alarms and indicators	-	-
IMO Resolution A.861(20)	- <sup>1)</sup>	Performance standards for shipborne voyage data recorders (VDRs)	-	-
IMO Resolution MSC 214(81) Annex 1	- <sup>1)</sup>	Amendments to the recommendation on performance standards for shipborne voyage data recorders (VBDRs) (Resolution A.861(20))	-	-
IMO	1974	International convention for the Safety of Life at Sea (SOLAS)	-	-
ITU-R M.633-1	1990	Transmission characteristics of a satellite emergency position-indicating radiobeacon (satellite EPIRB) system operating through a low polar-orbiting satellite system in the 406 MHz band	-	-
Eurocae: ED56A Amendment 1	- <sup>1)</sup>	Minimum operational performance specification (MOPS) for cockpit voice recorder system	-	-
VESA	1996	Video electronics standards association - Discrete monitor timings standard 1.0, Revision 0.7 (DMTS)	-	-
SAE AS 8045	1988	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: Voyage data recorder (VDR) – Performance requirements, methods of testing and required test results

### 1 Scope

This part of IEC 61996 specifies the minimum performance requirements, technical characteristics and 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 Resolutions A.861(20) and MSC.214(81) Annex 1.

NOTE All text of this standard, whose wording is identical to that of IMO Resolution A.861, is printed in *italics*, and the Resolution and associated performance standard paragraph numbers are indicated in brackets.

### 2 Normative references

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

IEC 60068-2-27:1987, *Environmental testing – Part 2: Tests – Test Ea and guidance: Shock*

IEC 60268-16:2003, *Sound system equipment – Part 16: Objective rating of speech intelligibility by speech transmission index*

IEC 60945:2002, *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 SARTSAT 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 61162-1, *Maritime navigation and radiocommunication equipment and systems – Digital interfaces – Part 1: Single talker and multiple listeners*

IEC 61162-2, *Maritime navigation and radiocommunication equipment and systems – Digital interfaces – Part 2: Single talker and multiple listeners, high-speed transmission*

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

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

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 A.830(19): *Code on alarms and indicators*

IMO A.861(20): *Performance standards for shipborne voyage data recorders (VDRs)* IMO A.689:1991, *Testing of life saving appliances*

IMO MSC.214(81): Annex 1: *Amendments to the recommendation on performance standards for shipborne voyage data recorders (VDRs) (Resolution A.861(20))*

IMO:1974, *International Convention for the Safety of Life at Sea (SOLAS), as amended*

ITU-R M.633-1:1990, *Transmission characteristics of a satellite emergency position-indicating radiobeacon (satellite EPIRB) system operating through a low polar-orbiting satellite system in the 406 MHz band*

Eurocae: ED56A Amendment 1 – *Minimum operational performance specification (MOPS) for cockpit voice recorder system*

VESA:1996, *Video electronics standards association – Discrete monitor timings standard 1.0, Revision 0.7 (DMTS)*

SAE AS8045:1988, *Engineering Society for advancing mobility land sea air and space – Minimum performance standard for underwater locating devices – acoustic-self-powered*

### **3 Terms, definitions and abbreviations**

#### **3.1 Definitions**

##### **3.1.1**

##### **activation of a suitable alarm**

mutable audible alarm and persistent visual indication, given according to the requirements of A.830, but with an audible level in the range of 55 dBA – 65 dBA

##### **3.1.2**

##### **bridge work station**

position at which a person is expected to be when performing one of the normal bridge duties at, for example, the following work stations:

- centre line conning
- bridge wing(s)
- main radar
- chart table
- helmsman
- communication