

**Maritime navigation and radiocommunication equipment and systems - Shipborne radar - Performance requirements, methods of testing and required test results**

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

See Eesti standard EVS-EN 62388:2013 sisaldab Euroopa standardi EN 62388:2013 ingliskeelset teksti.	This Estonian standard EVS-EN 62388:2013 consists of the English text of the European standard EN 62388:2013.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 04.10.2013.	Date of Availability of the European standard is 04.10.2013.
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English version

**Maritime navigation and radiocommunication equipment and systems -  
Shipborne radar -  
Performance requirements, methods of testing and required test results  
(IEC 62388:2013)**

Matériels et systèmes de navigation et de  
radiocommunication maritimes -  
Radars de bord -  
Exigences de performance, méthodes  
d'essai et résultats exigés  
(CEI 62388:2013)

Navigations- und  
Funkkommunikationsgeräte und -systeme  
für die Seeschifffahrt -  
Radar für Schiffe -  
Leistungsanforderungen, Prüfverfahren  
und geforderte Prüfergebnisse  
(IEC 62388:2013)

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

**CEN-CENELEC Management Centre: Avenue Marnix 17, B - 1000 Brussels**

## Foreword

The text of document 80/696/FDIS, future edition 2 of IEC 62388, prepared by IEC TC 80 "Maritime navigation and radiocommunication equipment and systems" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 62388:2013.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2014-04-30
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2016-07-31

This document supersedes EN 62388:2008.

EN 62388:2013 includes the following significant technical changes with respect to EN 62388:2008:

- In 6.2 (Transmission and interference) reference is now made to a revised Annex B (Unwanted emissions) where the mask has been tightened from 20 dB/decade to 30 dB/decade in line with ITU requirements and a new informative Annex J has been added concerning interference from emissions in adjacent frequency bands;
- Clause 7 (Display presentation) has been simplified (and the previous Annexes J and K deleted) with reference made instead to EN 62288 with associated changes throughout the standard;
- In 9.9.2 (PI lines and positioning) the requirements for parallel index lines have been revised;
- In 10.4.4 (Display orientation) a new mode of display orientation "head-up stabilised" has been added;
- In 11.5 (Automatic Identification System) new requirements and tests have been added for types of AIS targets, AIS repeater stations and filtering of AIS targets;
- In Clause 12 (Chart radar) a new subclause 12.3 has been added for ECDIS backup requirements;
- In Clause 13 (Ergonomic criteria) a new subclause 13.5 has been added giving requirements for default control settings;
- 14.3 (Output interfacing) has been revised together with the associated Annex H to update the requirements particularly with regard to interfaces to the VDR;
- Clause 16 (Alerts and failures) has been revised to update the requirements to align with bridge alert management and new requirements added for an alert management interface with associated changes throughout the standard;
- In Clause 18 (Equipment familiarisation and documentation) a new subclause 18.3 has been added for maintenance information and equipment update.

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### Endorsement notice

The text of the International Standard IEC 62388:2013 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 62616	NOTE	Harmonised as EN 62616.
ISO 9000	NOTE	Harmonised as EN ISO 9000.
ISO 9241-8	NOTE	Harmonised as EN ISO 9241-8.
ISO 9241-12	NOTE	Harmonised as EN ISO 9241-12.

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## Annex ZA (normative)

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

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.

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 60945	-	Maritime navigation and radiocommunication equipment and systems - General requirements - Methods of testing and required test results	EN 60945	-
IEC 61162	series	Maritime navigation and radiocommunication equipment and systems - Digital interfaces	EN 61162	series
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	EN 61174	-
IEC 61924-2	2012	Maritime navigation and radiocommunication equipment and systems - Integrated navigation systems - Part 2: Modular structure for INS - Operational and performance requirements, methods of testing and required test results	EN 61924-2	2013
IEC 61996-1	2013	Maritime navigation and radiocommunication equipment and systems - Shipborne voyage data recorder (VDR) - Part 1: Performance requirements, methods of testing and required test results	EN 61996-1	2013
IEC 62288	-	Maritime navigation and radiocommunication equipment and systems - Presentation of navigation-related information on shipborne navigational displays - General requirements, methods of testing and required test results	EN 62288	-
ITU-R Recommendation M.628	-	Technical characteristics for search and rescue radar transponders	-	-
ITU-R Recommendation M.824	-	Technical parameters of radar beacons (racons)	-	-

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
ITU-R Recommendation M.1176	-	Technical parameters of radar target enhancers	-	-
IHO S-52	-	Specifications for chart content and display aspects of ECDIS	-	-
IHO S-52, Appendix 2, Annex A	-	IHO ECDIS Presentation Library	-	-
IMO Resolution A.424(IX)	-	Performance standards for gyro-compasses	-	-
IMO Resolution 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 Resolution A.821(19)	-	Performance standards for gyro-compasses for high-speed craft	-	-
IMO Resolution MSC.96(72)	-	Amendments to performance standards for devices to indicate speed and distance (resolution A.824(19))	-	-
IMO Resolution MSC.116(73)	-	Performance standards for marine transmitting heading devices (THDs)	-	-
IMO Resolution MSC.191(79)	-	Performance standards for the presentation of navigation-related information on shipborne navigational displays	-	-
IMO Resolution MSC.192(79)	-	Adoption of the revised performance standards for radar equipment	-	-
IMO Resolution MSC.232(82)	-	Revised performance standards for electronic chart display and information systems (ECDIS)	-	-
IMO Resolution MSC.302(87)	-	Adoption of performance standards for Bridge Alert Management	-	-
IMO MSC.1/Circ.1389	-	Guidance on procedures for updating shipborne navigation and communication equipment	-	-
VESA-2007-5	2007	Industry Standards and Guidelines for Computer Display Monitor Timing (DMT) Standard	-	-
DDWG DVI	1999	Digital Visual Interface (DVI) Revision 1.0, Digital Display Working Group (DDWG)	-	-

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## MARITIME NAVIGATION AND RADIOCOMMUNICATION EQUIPMENT AND SYSTEMS –

### Shipborne radar – Performance requirements, methods of testing and required test results

#### 1 Scope

This International Standard specifies the minimum operational and performance requirements, methods of testing and required test results conforming to performance standards not inferior to those adopted by the IMO in Resolution MSC.192(79).

*(MSC.192/2) The radar installation, in addition to meeting the general requirements as set out in resolution A.694(17) and the related standard IEC 60945, should comply with the performance standards of MSC.192(79). When a requirement of this standard is different from IEC 60945, the requirement in this standard takes precedence.*

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

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

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

IEC 61924-2:2012, *Maritime navigation and radiocommunication equipment and systems – Part 2 Modular Structure for INS - Operational and performance requirements, methods of testing and required test results*

IEC 61996-1:2012, *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 62288, *Maritime navigation and radiocommunication equipment and systems – Presentation of navigation-related information on shipborne navigational displays – General requirements, methods of testing and required results*

ITU-R Recommendation M.628, *Technical characteristics for search and rescue radar transponders*

ITU-R Recommendation M.824, *Technical parameters of radar beacons (racons)*

ITU-R Recommendation M.1176, *Technical parameters of radar target enhancers*

IHO S-52, *Specifications for chart content and display aspects of ECDIS*

IHO S-52 Annex A, *IHO ECDIS Presentation Library*

IMO Resolution A.424(XI), *Performance standards for Gyro-compasses*

IMO Resolution 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 Resolution A.821(19), *Performance standards for Gyro-compasses for High-Speed Craft*

IMO Resolution MSC.96(72), *Amendments to IMO Resolution A.824(19), Performance standards for devices to indicate speed and distance*

IMO Resolution MSC.116(73), *Performance standards for marine transmitting heading devices (THDs)*

IMO Resolution MSC.191(79), *Performance standards for the presentation of navigation-related information on shipborne navigational displays*

IMO Resolution MSC.192(79), *Revised performance standards for radar equipment*

IMO Resolution MSC.232(82), *Revised performance standards for electronic chart display and information systems (ECDIS)*

IMO Resolution MSC.302(87), *Performance standards for bridge alert management*

IMO MSC.1/Circ.1389, *Guidance on procedures for updating shipborne navigation and communication equipment*

VESA-2007-5:2007, *Industry standards and guidelines for computer display monitor timing (DMT)*

DDWG DVI:1999, *Digital Visual Interface (DVI) Revision 1.0, Digital Display Working Group (DDWG)*

### **3 Terms and definitions**

For the purposes of this document, the following terms and definitions apply.

#### **3.1**

##### **activated AIS target**

*target representing the automatic or manual activation of a sleeping target for the display of additional graphically presented information*

Note 1 to entry: *The target is displayed by an “activated target” symbol including a vector; the heading; and the ROT or direction of turn indication (if available) to indicate initiated course changes.*

[SOURCE: IMO Resolution MSC.192(79):2004, Appendix 2, modified – added Note 1 to entry]

#### **3.2**

##### **acquisition of a radar target**

*process of acquiring a target and initiating its tracking*

[SOURCE: IMO Resolution MSC.192(79):2004, Appendix 2]