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Marin navigerings- och kommunikationsutrustning – System för automatisk identifiering (AIS) – Del 2: Utrustning i klass A för fartyg – Tekniska och operationella fordringar, provningsmetoder och erforderliga provningsresultat

*Maritime navigation and radiocommunication equipment and systems –
Automatic identification systems (AIS) –
Part 2: Class A shipborne equipment of the automatic identification system (AIS) –
Operational and performance requirements, methods of test and required test results*

Som svensk standard gäller europastandarden EN 61993-2:2013. Den svenska standarden innehåller den officiella engelska språkversionen av EN 61993-2:2013.

Nationellt förord

Europastandarden EN 61993-2:2013

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English version

**Maritime navigation and radiocommunication equipment and systems -
Automatic Identification Systems (AIS) -
Part 2: Class A shipborne equipment of the automatic identification
system (AIS) -
Operational and performance requirements, methods of test and required
test results
(IEC 61993-2:2012)**

Matériels et systèmes de navigation et de
radiocommunications maritimes -
Systèmes d'identification automatique
(AIS) -
Partie 2: Equipements AIS de type Classe
A embarqués -
Exigences d'exploitation et de
fonctionnement, méthodes d'essai et
résultats d'essai exigés
(CEI 61993-2:2012)

Navigations- und
Funkkommunikationsgeräte und -systeme
für die Seeschifffahrt -
Automatische
Identifikationssysteme (AIS) -
Teil 2: Geräte der Klasse A des
universellen automatischen
Identifikationssystems (AIS) für Schiffe -
Betriebs- und Leistungsanforderungen,
Prüfverfahren und geforderte
Prüfergebnisse
(IEC 61993-2:2012)

This European Standard was approved by CENELEC on 2012-11-23. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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CENELEC

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

Management Centre: Avenue Marnix 17, B - 1000 Brussels

Foreword

The text of document 80/656/CDV, future edition 2 of IEC 61993-2, 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 61993-2:2013.

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) 2013-08-23
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2015-11-23

This document supersedes EN 61993-2:2002.

EN 61993-2:2013 includes the following significant technical changes with respect to EN 61993-2:2002:

It incorporates the technical characteristics included in Recommendation ITU-R M.1371-4, which was published in 2010. New technical characteristics result in sundry clarifications to the requirements and the ability to handle five new messages – Messages 23, 24, 25, 26 and 27.

The significant changes in this edition include:

- a new requirement in 6.9 for vessels of type "tanker" to use a low power setting;
- expanded requirements for the functionality of the minimum keyboard and display in 6.11 including new requirements for display of AIS-SART together with an AIS-SART alarm and new requirements for the protection of the static data of the ship;
- expanded requirements for the transmitters and receivers in 7.2 but with the removal of the previous requirement for 12,5 kHz channel operation which has not been used in practice;
- expanded requirements for long-range applications in Clause 8 to add a broadcast method;
- a definition of the pilot plug pin out in 7.6 together with some new requirements for interfaces;
- extensively revised test methods in Clauses 14 to 19 based on the experience of testing AIS equipment;
- expanded test methods in Annex D for DSC functionality but the removal of the previous requirement for DSC polling which is no longer used.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC [and/or CEN] shall not be held responsible for identifying any or all such patent rights.

Endorsement notice

The text of the International Standard IEC 61993-2:2012 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 61097-14	NOTE	Harmonized as EN 61097-14.
IEC 61108-1	NOTE	Harmonized as EN 61108-1.
IEC 61108-2	NOTE	Harmonized as EN 61108-2.
IEC 61162-3	NOTE	Harmonized as EN 61162-3.
IEC 61162-450	NOTE	Harmonized as EN 61162-450.
IEC 62287-1	NOTE	Harmonized as EN 62287-1.
IEC 62320-1	NOTE	Harmonized as EN 62320-1.
IEC 62320-2	NOTE	Harmonized as EN 62320-2.
ISO 9000 series	NOTE	Harmonized in EN ISO 9000 series.

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 + corr. April	2002 2008	Maritime navigation and radiocommunication equipment and systems - General requirements - Methods of testing and required test results	EN 60945	2002
IEC 61108	Series	Maritime navigation and radiocommunication equipment and systems - Global navigation satellite systems (GNSS)	EN 61108	Series
IEC 61162-1	-	Maritime navigation and radiocommunication equipment and systems - Digital interfaces - Part 1: Single talker and multiple listeners	EN 61162-1	-
IEC 61162-2	-	Maritime navigation and radiocommunication equipment and systems - Digital interfaces - Part 2: Single talker and multiple listeners, high-speed transmission	EN 61162-2	-
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	-
IEC 62388	-	Maritime navigation and radio-communication equipment and systems - Shipborne radar - Performance requirements, methods of testing and required test results	EN 62388	-
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 MSC.74(69)	-	Recommendations on performance standards - for Track control systems	-	-
IMO Resolution MSC.43(64)	-	Guidelines and Criteria for Ship Reporting Systems (as amended by MSC.111(73))	-	-
ITU-R Recommendation M.1371-4	-	Technical characteristics for an automatic identification system using time-division multiple access in the VHF maritime mobile band	-	-
ITU-R Recommendation M.825-3	-	Characteristics of a transponder system using digital selective calling techniques for use with vessel traffic services and ship-to-ship identification	-	-

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
ITU-R Recommendation M.493-13	-	Digital selective-calling system for use in the maritime mobile service	-	-
ITU-T Recommendation O.153	-	Basic parameters for the measurement of error performance at bit rates below the primary rate	-	-
ITU-R Recommendation M.1084-5	-	Interim solutions for improved efficiency in the use of the band 156-174 MHz by stations in the maritime mobile service	-	-
ITU-R Recommendation M.541-9	-	Operational procedures for the use of digital selective-calling equipment in the maritime mobile service	-	-

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INTRODUCTION

In comparison with the previous edition of this Standard, the structural changes to the document are that the original Clause 8 on DSC compatibility together with the corresponding tests in Clause 20 have been moved into a new Annex D. A new Clause on test signals has been added as Clause 10. The original Annex B detailing IEC 61162 sentences has been deleted and replaced with a new Annex H, noting that much of this information is now included in IEC 61162-1. The original Annex C describing long-range applications has also been deleted as IMO has decided to adopt a different system for long-range identification and tracking. A new Annex E has been added to describe optional presentation interface port sentences, a new Annex F has been added on alarm handling and a new Annex G has been added on calculation of area size and distance.

MARITIME NAVIGATION AND RADIOCOMMUNICATION EQUIPMENT AND SYSTEMS – AUTOMATIC IDENTIFICATION SYSTEMS (AIS)

Part 2: Class A shipborne equipment of the automatic identification system (AIS) – Operational and performance requirements, methods of test and required test results

1 Scope

This part of IEC 61993 specifies the minimum operational and performance requirements, methods of testing and required test results conforming to performance standards adopted by the IMO in Resolution MSC.74(69), Annex 3, Shipborne Automatic Identification System. This standard incorporates the applicable technical characteristics of Class A shipborne equipment included in Recommendation ITU-R M.1371-4 and takes into account the ITU Radio Regulations, where applicable. In addition, it takes account of IMO Resolution A.694(17) to which IEC 60945 is associated. When a requirement in this standard is different from IEC 60945, the requirement of this standard takes precedence.

This part of IEC 61993 also specifies the minimum requirements both for the means to input and display data and for the interfaces to other equipment suitable to be used as means of input and display data.

NOTE All text of this standard, that is identical to that in IMO resolution MSC.74(69), Annex 3 or to that in ITU-R Recommendation M.1371-4 is printed in *italics* and references to the resolution (abbreviated to "A3") or the recommendation (abbreviated to "M.1371") and paragraph numbers are indicated in parentheses, for instance (A3/3.3) or (M.1371/A2-3.3) respectively.

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 60945:2002, *Maritime navigation and radiocommunication equipment and systems – General requirements – Methods of testing and required test results*

IEC 61108 (all parts), *Maritime navigation and radiocommunication equipment and systems – Global navigation satellite systems (GNSS)*

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 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*

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

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 MSC.43(64), as amended by MSC.111(73), *Guidelines and Criteria for Ship Reporting Systems*

IMO Resolution MSC.74(69) Annex 3, *Recommendation on performance standards for AIS*

ITU-R Recommendation M.493-13, *Digital selective-calling system for the use in the maritime mobile service*

ITU-R Recommendation M.541-9, *Operational procedures for the use of digital selective-calling (DSC) equipment in the maritime mobile service*

ITU-R Recommendation M.825-3, *Characteristics of a transponder system using digital selective calling techniques for use with vessel traffic services and ship-to-ship identification*

ITU-R Recommendation M.1084-5, *Interim solutions for improved efficiency in the use of the band 156-174 MHz by stations in the maritime mobile service*

ITU-R Recommendation M.1371-4, *Technical characteristics for an automatic identification system using time division multiple access in the VHF maritime mobile band*

ITU-T Recommendation O.153, *Basic parameters for the measurement of error performance at bit rates below the primary rate*