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Maritime navigation and radiocommunication equipment and systems – Automatic identification system (AIS) – Part 2: AIS AtoN Stations – Operational and performance requirements, methods of testing and required test results

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

Part 2: AIS AtoN Stations – Operational and performance requirements, methods of testing and required test results

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International Standard IEC 62320-2 has been prepared by IEC technical committee 80: Maritime navigation and radiocommunication equipment and systems.

This second edition cancels and replaces the first edition, published in 2008, and constitutes a technical revision.

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

- additional cyber security measures;
- updated description of configuration via VDL;
- updated VDL access scheme requirements;
- new PI sentences and VDL message structures with added description for optional TAG blocks;
- added requirement for at least one standard method for configuration using Standard PI sentences;
- updated test methods and updated Annexes.

The text of this standard is based on the following documents:

FDIS	Report on voting
80/817/FDIS	80/822/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

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

A list of all parts in the IEC 62320 series, published under the general title *Maritime navigation and radiocommunication equipment and systems – Automatic identification system (AIS)*, can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

A bilingual version of this publication may be issued at a later date.

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

Part 2: AIS AtoN Stations – Operational and performance requirements, methods of testing and required test results

1 Scope

This part of IEC 62320 specifies the operational and performance requirements, methods of testing and required test results for AIS AtoN Stations compatible with the performance standards adopted by IMO Resolution MSC.74(69), Annex 3, Universal AIS. It incorporates the technical characteristics of non-shipborne AIS AtoN equipment, included in Recommendation ITU-R M.1371 and IALA Recommendation A-126. Where applicable, it also takes into account the ITU Radio Regulations. This standard takes into account other associated IEC International Standards and existing national standards, as applicable.

This document is applicable for automatic identification system (AIS) installations on aids to navigation (AtoN).

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 60945, *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 61108-1, *Maritime navigation and radiocommunication equipment and systems – Global navigation satellite systems (GNSS) – Part 1: Global positioning system (GPS) – Receiver equipment – Performance standards, methods of testing and required test results*~~

~~IEC 61108-2, *Maritime navigation and radiocommunication equipment and systems – Global navigation satellite systems (GNSS) – Part 2: Global navigation satellite system (GLONASS) – Receiver equipment – Performance standards, methods of testing and required test results*~~

~~IEC 61108-4, *Maritime navigation and radiocommunication equipment and systems – Global navigation satellite systems (GNSS) – Part 4: Shipborne DGPS and DGLONASS maritime radio beacon receiver equipment – Performance requirements, methods of testing and required results*~~

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

IEC 62287-1, *Maritime navigation and radiocommunication equipment and systems – Class B shipborne equipment of the automatic identification system (AIS) – Part 1: Carrier-sense time division multiple access (CSTDMA) techniques*

IEC 62320-3:2015, *Maritime navigation and radiocommunication equipment and systems – Automatic identification systems (AIS) – Part 3: Repeater station – Minimum operational and performance requirements – Methods of test and required test results*

ITU Radio Regulations, Appendix 18, *Table of transmitting frequencies in the VHF maritime mobile band*

ITU-R Recommendation M.1371-5:2014, *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*~~

IALA Recommendation A-126, *The Use of Automatic Identification System (AIS) in Marine Aids to Navigation*

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

Part 2: AIS AtoN Stations – Operational and performance requirements, methods of testing and required test results

FOREWORD

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International Standard IEC 62320-2 has been prepared by IEC technical committee 80: Maritime navigation and radiocommunication equipment and systems.

This second edition cancels and replaces the first edition, published in 2008, and constitutes a technical revision.

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

- additional cyber security measures;
- updated description of configuration via VDL;
- updated VDL access scheme requirements;
- new PI sentences and VDL message structures with added description for optional TAG blocks;

- added requirement for at least one standard method for configuration using Standard PI sentences;
- updated test methods and updated Annexes.

The text of this standard is based on the following documents:

FDIS	Report on voting
80/817/FDIS	80/822/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

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

A list of all parts in the IEC 62320 series, published under the general title *Maritime navigation and radiocommunication equipment and systems – Automatic identification system (AIS)*, can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

A bilingual version of this publication may be issued at a later date.

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

Part 2: AIS AtoN Stations – Operational and performance requirements, methods of testing and required test results

1 Scope

This part of IEC 62320 specifies the operational and performance requirements, methods of testing and required test results for AIS AtoN Stations compatible with the performance standards adopted by IMO Resolution MSC.74(69), Annex 3, Universal AIS. It incorporates the technical characteristics of non-shipborne AIS AtoN equipment, included in Recommendation ITU-R M.1371 and IALA Recommendation A-126. Where applicable, it also takes into account the ITU Radio Regulations. This standard takes into account other associated IEC International Standards and existing national standards, as applicable.

This document is applicable for automatic identification system (AIS) installations on aids to navigation (AtoN).

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 60945, *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 62287-1, *Maritime navigation and radiocommunication equipment and systems – Class B shipborne equipment of the automatic identification system (AIS) – Part 1: Carrier-sense time division multiple access (CSTDMA) techniques*

IEC 62320-3:2015, *Maritime navigation and radiocommunication equipment and systems – Automatic identification systems (AIS) – Part 3: Repeater station – Minimum operational and performance requirements – Methods of test and required test results*

ITU Radio Regulations, Appendix 18, *Table of transmitting frequencies in the VHF maritime mobile band*

ITU-R Recommendation M.1371-5:2014, *Technical characteristics for an automatic identification system using time division multiple access in the VHF maritime mobile band*

IALA Recommendation A-126, *The Use of Automatic Identification System (AIS) in Marine Aids to Navigation*