AS/NZS IEC 62320.3:2015
IEC 62320-3, Ed. 1.0 (2015)

AS/NZS IEC 62320.3:2015

Australian/New Zealand Standard™

Maritime navigation and radiocommunication equipment and systems—Automatic identification system (AIS)

Part 3: Repeater stations—Minimum operational and performance requirements—Methods of test and required test results

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee RC-004, Radiocommunications Equipment—Maritime and Safety of Life. It was approved on behalf of the Council of Standards Australia on 9 June 2015 and on behalf of the Council of Standards New Zealand on 11 June 2015.
This Standard was published on 29 June 2015.

The following are represented on Committee RC-004:

Australian Communications and Media Authority
Australian Industry Group
Australian Maritime Safety Authority
Australian Volunteer Coast Guard Association
Civil Aviation Safety Authority
Department of Defence (Australian Government)
Electromagnetic Technical Evaluation Committee
Maritime New Zealand
Ministry of Business, Innovation and Employment, New Zealand
Telecommunications Users Association of New Zealand
Wireless Institute Australia
Yachting Australia

Keeping Standards up-to-date

Standards are living documents which reflect progress in science, technology and systems. To maintain their currency, all Standards are periodically reviewed, and new editions are published. Between editions, amendments may be issued. Standards may also be withdrawn. It is important that readers assure themselves they are using a current Standard, which should include any amendments which may have been published since the Standard was purchased.

Detailed information about joint Australian/New Zealand Standards can be found by visiting the Standards Web Shop at www.saiglobal.com.au or Standards New Zealand web site at www.standards.co.nz and looking up the relevant Standard in the on-line catalogue.

For more frequent listings or notification of revisions, amendments and withdrawals, Standards Australia and Standards New Zealand offer a number of update options. For information about these services, users should contact their respective national Standards organization.

We also welcome suggestions for improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Please address your comments to the Chief Executive of either Standards Australia or Standards New Zealand at the address shown on the back cover.

This Standard was issued in draft form for comment as DR AS/NZS IEC 62320.3:2015.

Australian/New Zealand Standard™

Maritime navigation and radiocommunication equipment and systems—Automatic identification system (AIS)

Part 3: Repeater stations—Minimum operational and performance requirements—Methods of test and required test results

First published as AS/NZS IEC 62320.3:2015.

Jointly published by SAI Global Limited under licence from Standards Australia Limited, GPO Box 476, Sydney, NSW 2001 and by Standards New Zealand, Private Bag 2439, Wellington 6140.

ISBN 978 1 76035 134 2

PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee RC-004, Radiocommunications Equipment—Maritime and Safety of Life.

The objective of this Standard is to provide the minimum operational and performance requirements, methods of test and the required test results for a type of non-shipborne automatic identification system (AIS) equipment known as an AIS repeater station.

This Standard is identical with, and has been reproduced from IEC 62320-3, Ed. 1.0 (2015), *Maritime navigation and radiocommunication equipment and systems—Automatic identification system (AIS)*, Part 3: *Repeater stations—Minimum operational and performance requirements—Methods of test and required test results*.

As this Standard is reproduced from an International Standard, the following applies:

(a) In the source text ‘this part of IEC 62320’ should read ‘this Australian/New Zealand Standard’.

(b) A full point substitutes for a comma when referring to a decimal marker.

None of the normative references in the source document have been adopted as Australian or Australian/New Zealand Standards.

The terms ‘normative’ and ‘informative’ have been used in this Standard to define the application of the annexes to which they apply. A ‘normative’ annex is an integral part of a Standard, whereas an ‘informative’ annex is only for information and guidance.

CONTENTS

Page

Page

Page

INTRODUCTION

Chapter V of the 1974 SOLAS Convention requires mandatory carriage of Automatic Identification System (AIS) equipment on all vessels constructed on or after 01 July 2002. Implementation for other types and sizes of SOLAS Convention vessels was required to be completed not later than 31 December 2004.

SOLAS Chapter V, Regulation 19, section 2.4.5 states that AIS shall:

a) provide automatically to appropriate equipped shore stations, other ships and aircraft information, including ship's identity, type, position, course, speed, navigational status and other safety-related information;

b) receive automatically such information from similarly fitted ships;

c) monitor and track ships; and

d) exchange data with shore-based facilities.

In addition, the IMO Performance Standards for AIS states that:

- The AIS should improve the safety of navigation by assisting in the efficient navigation of ships, protection of the environment, and operation of Vessel Traffic Services (VTS), by satisfying the following functional requirements:
  1) in a ship-to-ship mode for collision avoidance;
  2) as a means for littoral States to obtain information about a ship and its cargo; and
  3) as a VTS tool, i. e. ship-to-shore (traffic management).
- The AIS should be capable of providing to ships and to competent authorities, information from the ship, automatically and with the required accuracy and frequency, to facilitate accurate tracking. Transmission of the data should be with the minimum involvement of ship's personnel and with a high level of availability.

The provision of Shore Based AIS will be necessary to attain the full benefit of the SOLAS Convention requirements.

This standard provides the minimum operational and performance requirements, methods of test and the required test results for AIS repeater stations. The testing is divided into two parts, the logical tests and the transceiver tests. These are captured in Clause 6 and Clause 8 respectively.

NOTES

AUSTRALIAN/NEW ZEALAND STANDARD

Maritime navigation and radiocommunication equipment and systems—Automatic identification system (AIS)

Part 3:
Repeater stations—Minimum operational and performance requirements—Methods of test and required test results

1 Scope

This part of IEC 62320 specifies the minimum operational and performance requirements, methods of testing and required test results for AIS repeater stations, compatible with the performance standards adopted by IMO Res. MSC.74 (69), annex 3, Universal AIS. It incorporates the technical characteristics of non-shipborne, fixed station AIS equipment, included in Recommendation ITU-R M.1371 and IALA Recommendation A-124. 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 standard is applicable for AIS repeater stations. It does not include specifications for the display of AIS data on shore.

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

ITU-R Recommendation M.585, *Assignment and use of identities in the maritime mobile service*

ITU-R Recommendation M.1084, *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, *Technical characteristics for a universal shipborne 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*

ITU Radio Regulations, Appendix 18