

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**

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## **AS/NZS IEC 62320.3:2015**

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.

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## 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*.

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## CONTENTS

1	Scope	9
2	Normative references	9
3	Symbols and abbreviations	10
4	Functional requirements for a repeater station	11
4.1	General	11
4.1.1	Types of repeater stations	11
4.1.2	Repeating operation	11
4.1.3	Synchronisation	12
4.1.4	Access to the VDL	12
4.1.5	Configuration	13
4.2	Functional block diagram of an AIS repeater station	13
4.3	Repeating rules	14
4.3.1	General repeating rules	14
4.3.2	Repeater station use of repeat indicator	15
4.3.3	Duplicate message filtering	15
4.3.4	Content filtering	16
4.3.5	Reporting interval filtering	19
4.3.6	Channel filtering	19
4.3.7	Filtering procedure	19
4.3.8	Message processing	21
4.3.9	Overload protection	21
4.3.10	Slot selection using RSSI – RSSI measurement	22
4.4	Message scheduling	22
4.4.1	Station report	22
4.4.2	Repeater station identification message structure	23
4.4.3	Broadcast active AIS-PAKT message	24
4.4.4	Configuration parameters	24
4.5	Repeater station input/output sentence formatters	29
5	Performance requirements	30
5.1	Cyclic redundancy check	30
5.2	Physical layer requirements	30
5.2.1	Transmitter requirements	30
5.2.2	Receiver requirements	34
5.2.3	Power consumption	34
5.2.4	Environmental requirements	35
5.3	Link layer requirements	35
6	Functional tests	35
6.1	Configuration tests	35
6.1.1	Factory default settings	35
6.1.2	Standard test set-up	36
6.1.3	Configuration via VDL	37
6.2	Basic functional tests	38
6.2.1	Basic repetition test	38
6.2.2	Power setting	38

6.2.3	Repeat indicator handling .....	39
6.2.4	Synchronisation jitter .....	40
6.3	VDL access .....	41
6.3.1	RATDMA .....	41
6.3.2	FATDMA access .....	44
6.3.3	ITDMA access .....	44
6.4	Repetition rates .....	45
6.4.1	Downsampling .....	45
6.4.2	Fixed repetition interval .....	46
6.4.3	Maximum VDL load .....	46
6.4.4	Maximum transmissions per second .....	47
6.4.5	Age of time stamp .....	47
6.5	Filtering .....	48
6.5.1	Duplicate filtering .....	48
6.5.2	Channel filtering .....	48
6.5.3	Position filtering .....	49
6.5.4	Message type filtering .....	51
6.5.5	Message content filtering .....	51
6.5.6	AIS-SART filtering .....	56
6.6	Repeater station identification message .....	56
6.6.1	Purpose .....	56
6.6.2	Method of measurement .....	56
6.6.3	Required results .....	57
7	Test conditions .....	57
7.1	Normal and extreme test conditions .....	57
7.1.1	Normal test conditions .....	57
7.1.2	Extreme test conditions .....	57
7.2	Additional test arrangements .....	57
7.2.1	Arrangements for test signals applied to the receiver input .....	57
7.2.2	Encoder for receiver measurements .....	58
7.2.3	Waiver for receiver .....	58
7.2.4	Impedance .....	58
7.2.5	Artificial antenna (dummy load) .....	58
7.2.6	Facilities for access .....	58
7.2.7	Modes of operation of the transmitter .....	58
7.3	Measurement uncertainties .....	58
7.4	Test signals .....	59
7.4.1	Standard test signal number 1 .....	59
7.4.2	Standard test signal number 2 .....	59
7.4.3	Standard test signal number 3 .....	59
7.4.4	Standard test signal number 4 .....	59
8	Physical radio tests .....	60
8.1	Transceiver protection test .....	60
8.1.1	Purpose .....	60
8.1.2	Method of measurement .....	60
8.1.3	Required results .....	61
8.2	TDMA transmitter .....	61
8.2.1	General .....	61
8.2.2	Frequency error .....	61

8.2.3	Carrier power.....	61
8.2.4	Modulation spectrum slotted transmission.....	62
8.2.5	Transmitter test sequence and modulation accuracy verification.....	63
8.2.6	Transmitter output power versus time function.....	64
8.2.7	Intermodulation attenuation (Type 1 only).....	66
8.3	TDMA receivers.....	67
8.3.1	Sensitivity.....	67
8.3.2	Error behaviour at high input levels.....	68
8.3.3	Co-channel rejection.....	68
8.3.4	Adjacent channel selectivity.....	69
8.3.5	Spurious response rejection.....	70
8.3.6	Intermodulation response rejection.....	72
8.3.7	Blocking or desensitisation.....	73
8.3.8	Conducted spurious emissions at the antenna.....	74
Annex A (normative)	Configuration structures.....	75
A.1	General.....	75
A.2	PI sentences for repeater stations.....	77
A.2.1	RFS – Repeater station FATDMA slots.....	77
A.2.2	RMF – Repeater station MMSI filter.....	79
A.2.3	Area configuration.....	79
A.3	Configuration via VDL using Message 26.....	83
Annex B (informative)	Test area arrangement.....	103
Bibliography	.....	104
Figure 1	– Functional block diagram of an AIS repeater station.....	14
Figure 2	– Power versus time characteristics.....	32
Figure 3	– Format for repeating four-packet cluster.....	60
Figure 4	– Measurement arrangement.....	61
Figure 5	– Measurement arrangement.....	62
Figure 6	– Modulation spectrum for slotted transmission.....	63
Figure 7	– Measurement arrangement.....	63
Figure 8	– Power versus time characteristics.....	65
Figure 9	– Measurement arrangement.....	66
Figure 10	– Measurement arrangement.....	67
Figure 11	– Measurement arrangement.....	68
Figure 12	– Measurement arrangement.....	68
Figure 13	– Measurement arrangement.....	69
Figure 14	– SINAD or PER/BER measuring equipment.....	71
Figure 15	– Measurement arrangement.....	72
Figure 16	– Measurement arrangement.....	73
Figure B.1	– Test area arrangement.....	103
Table 1	– SOTDMA communication state of received station.....	12
Table 2	– ITDMA Communication state of received station.....	13
Table 3	– ITDMA communication state of received station with rescheduling.....	13
Table 4	– Duplicate message filtering parameters.....	16
Table 5	– Repeater station behaviour for message repeat.....	17

Table 6 – Contents of Message 26 used for repeater station identification .....	23
Table 7 – Alarm status definition for Table 6 .....	24
Table 8 – Message 8 structure with AIS-SART related content .....	24
Table 9 – Configurable parameters .....	25
Table 10 – Repetition parameters .....	26
Table 11 – Area related configuration parameters .....	28
Table 12 – Repeater station input/output sentence formatters .....	30
Table 13 – Transmitter parameters .....	31
Table 14 – Power versus time characteristics for Figure 2 .....	32
Table 15 – Required parameter settings for a repeater station .....	33
Table 16 – Required settings of physical layer constants .....	33
Table 17 – Modulation parameters of the physical layer of the repeater station .....	33
Table 18 – Required receiver characteristics .....	34
Table 19 – Factory default values .....	35
Table 20 – Standard test set-up .....	36
Table 21 – Test area of standard test set-up .....	37
Table 22 – Content of first two packets .....	60
Table 23 – Fixed PRS data derived from Recommendation ITU-R M.153 .....	60
Table 24 – Power versus time characteristics .....	65
Table 25 – Frequencies for intermodulation tests .....	73
Table A.1 – Basic system parameters .....	76
Table A.2 – General repetition parameters .....	77
Table A.3 – Basic structure of Message 26 .....	84
Table A.4 – Message 26 repeater commands .....	84
Table A.5 – EPV configuration .....	85
Table A.6 – EPV query .....	86
Table A.7 – Property identifiers for use with EPV – Basic system parameters .....	87
Table A.8 – Property identifiers for use with EPV – General repetition parameters .....	88
Table A.9 – AES key configuration .....	89
Table A.10 – RFS configuration .....	90
Table A.11 – RFS query .....	91
Table A.12 – RMF configuration .....	92
Table A.13 – RMF query .....	93
Table A.14 – RA1 configuration .....	94
Table A.15 – RA1 query .....	95
Table A.16 – RA2 configuration .....	96
Table A.17 – RA2 query .....	98
Table A.18 – RA3 configuration .....	99
Table A.19 – RA3 query .....	100
Table A.20 – RA4 configuration .....	101
Table A.21 – RA4 query .....	102

## 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

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## 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