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**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**

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**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**

FOREWORD

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This consolidated version of the official IEC Standard and its amendment has been prepared for user convenience.

IEC 62287-1 edition 3.1 contains the third edition (2017-04) [documents 80/837/FDIS and 80/842/RVD] and its amendment 1 (2022-11) [documents 80/1042/CDV and 80/1052/RVC].

In this Redline version, a vertical line in the margin shows where the technical content is modified by amendment 1. Additions are in green text, deletions are in strikethrough red text. A separate Final version with all changes accepted is available in this publication.

International Standard IEC 62287-1 has been prepared by IEC technical committee 80: Maritime navigation and radiocommunication equipment and systems.

This third edition constitutes a technical revision.

This edition includes the following significant technical change with respect to the previous edition: in the synchronisation method, addition of a direct method for synchronisation from an internal UTC source.

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

A list of all parts of the IEC 62287 series published under the general title *Maritime navigation and radiocommunication equipment and systems – Class B shipborne equipment of the automatic identification system (AIS)*, can be found on the IEC website.

The committee has decided that the contents of the base publication and its amendment will remain unchanged until the stability date indicated on the IEC web site under 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- withdrawn,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.

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INTRODUCTION

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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

1 Scope

This part of IEC 62287 specifies the minimum operational and performance requirements, methods of testing and required test results for Class B shipborne automatic identification system (AIS) equipment using carrier-sense time division multiple access (CSTDMA) techniques. This document takes into account other associated IEC International Standards and existing national standards, as applicable.

It is applicable for AIS equipment used on craft that are not covered by the mandatory carriage requirement of AIS under SOLAS Chapter V.

An AIS station intended to operate in receive-only mode is not considered a Class B shipborne mobile AIS station.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 60945:2002, *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 61993-2, *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 62320-1, *Maritime navigation and radiocommunication equipment and systems – Automatic identification systems (AIS) – Part 1: AIS Base Stations – Minimum operational and performance requirements, methods of testing and required test results*

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

ITU-R Recommendation M.825-3:1998, *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.1084-5:2012, *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.1371-5:2014, *Technical characteristics for an automatic identification system using time-division multiple access in the VHF maritime mobile band*

ITU, *Radio Regulations:2012* (available at <http://www.itu.int/publ/R-REG-RR/en>)

FINAL VERSION



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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**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**

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IEC 62287-1 edition 3.1 contains the third edition (2017-04) [documents 80/837/FDIS and 80/842/RVD] and its amendment 1 (2022-11) [documents 80/1042/CDV and 80/1052/RVC].

This Final version does not show where the technical content is modified by amendment 1. A separate Redline version with all changes highlighted is available in this publication.

International Standard IEC 62287-1 has been prepared by IEC technical committee 80: Maritime navigation and radiocommunication equipment and systems.

This third edition constitutes a technical revision.

This edition includes the following significant technical change with respect to the previous edition: in the synchronisation method, addition of a direct method for synchronisation from an internal UTC source.

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

A list of all parts of the IEC 62287 series published under the general title *Maritime navigation and radiocommunication equipment and systems – Class B shipborne equipment of the automatic identification system (AIS)*, can be found on the IEC website.

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

- reconfirmed,
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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

1 Scope

This part of IEC 62287 specifies the minimum operational and performance requirements, methods of testing and required test results for Class B shipborne automatic identification system (AIS) equipment using carrier-sense time division multiple access (CSTDMA) techniques. This document takes into account other associated IEC International Standards and existing national standards, as applicable.

It is applicable for AIS equipment used on craft that are not covered by the mandatory carriage requirement of AIS under SOLAS Chapter V.

An AIS station intended to operate in receive-only mode is not considered a Class B shipborne mobile AIS station.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 60945:2002, *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 61993-2, *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 62320-1, *Maritime navigation and radiocommunication equipment and systems – Automatic identification systems (AIS) – Part 1: AIS Base Stations – Minimum operational and performance requirements, methods of testing and required test results*

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

ITU-R Recommendation M.825-3:1998, *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.1084-5:2012, *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.1371-5:2014, *Technical characteristics for an automatic identification system using time-division multiple access in the VHF maritime mobile band*

ITU, *Radio Regulations:2012* (available at <http://www.itu.int/publ/R-REG-RR/en>)