

# INTERNATIONAL STANDARD

**IEC**  
**61162-2**

First edition  
1998-09

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## **Maritime navigation and radiocommunication equipment and systems – Digital interfaces –**

### **Part 2: Single talker and multiple listeners, high-speed transmission**

*Matériels et systèmes de navigation  
et de radiocommunication maritimes –  
Interfaces numériques –*

*Partie 2:  
Émetteur unique et récepteurs multiples,  
transfert rapide de données*



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For general terminology, readers are referred to IEC 60050: *International Electro-technical Vocabulary* (IEV).

For graphical symbols, and letter symbols and signs approved by the IEC for general use, readers are referred to publications IEC 60027: *Letter symbols to be used in electrical technology*, IEC 60417: *Graphical symbols for use on equipment. Index, survey and compilation of the single sheets* and IEC 60617: *Graphical symbols for diagrams*.

\* See web site address on title page.

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**MARITIME NAVIGATION AND RADIOCOMMUNICATION  
EQUIPMENT AND SYSTEMS – DIGITAL INTERFACES –****Part 2: Single talker and multiple listeners,  
high-speed transmission**

## FOREWORD

- 1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, the IEC publishes International Standards. Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. The IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- 2) The formal decisions or agreements of the IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested National Committees.
- 3) The documents produced have the form of recommendations for international use and are published in the form of standards, technical reports or guides and they are accepted by the National Committees in that sense.
- 4) In order to promote international unification, IEC National Committees undertake to apply IEC International Standards transparently to the maximum extent possible in their national and regional standards. Any divergence between the IEC Standard and the corresponding national or regional standard shall be clearly indicated in the latter.
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- 6) Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. The IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 61162-2 has been prepared by technical committee 80: Maritime navigation and radiocommunication equipment and systems.

This part of IEC 61162 is based upon NMEA 0183, version 2.30, and it is the intention of IEC and NMEA to maintain this commonality as far as possible.

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

FDIS	Report on voting
80/189/FDIS	80/206/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.

Annexes A and B are for information only.

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

# **MARITIME NAVIGATION AND RADIOCOMMUNICATION EQUIPMENT AND SYSTEMS – DIGITAL INTERFACES –**

## **Part 2: Single talker and multiple listeners, high-speed transmission**

### **1 General**

#### **1.1 Scope**

This part of IEC 61162 contains the requirements for data communication between maritime electronic instruments, navigation and radiocommunication equipment when interconnected via an appropriate interface.

This standard is intended to support one-way serial data transmission from a single talker to one or more listeners. This data is in printable ASCII form and may include any information as specified by approved sentences or information coded according to the rules for proprietary sentences. Typical messages may be from 11 to a maximum of 79 characters in length and generally require repetition rates up to once per 20 ms.

The electrical definitions in this standard are intended to accommodate higher data rates than are specified in IEC 61162-1. Since there is no provision for guaranteed delivery of messages and only limited error-checking capability, this standard should be used with caution in all safety applications.

Annex A contains a list of relevant IMO resolutions and ITU recommendations to which this standard applies.

#### **1.2 Normative references**

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of IEC 61162. At the time of publication, the editions indicated were valid. All normative documents are subject to revision, and parties to agreements based on this part of IEC 61162 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC 60945:1996, *Maritime navigation and radiocommunication equipment and systems – General requirements, methods of testing and required test results*

IEC 61162-1:1995, *Maritime navigation and radiocommunication equipment and systems – Digital interfaces – Part 1: Single talker and multiple listeners*

ITU-T V.11:1996, *Electrical characteristics for balanced double-current interchange circuits operating at data signalling rates up to 10 Mbits/s*

NMEA 0183 – Version 2.30:1998, *National marine electronics association (USA) – Standard for interfacing marine electronic navigational devices*

EIA 485:1991, *Electrical characteristics of generators and receivers for use in balanced digital multipoint systems*