

# INTERNATIONAL STANDARD



**Maritime navigation and radiocommunication equipment and systems – Digital interfaces –  
Part 460: Multiple talkers and multiple listeners – Ethernet interconnection –  
Safety and security**



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**Maritime navigation and radiocommunication equipment and systems – Digital interfaces –  
Part 460: Multiple talkers and multiple listeners – Ethernet interconnection –  
Safety and security**

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**MARITIME NAVIGATION AND RADIOCOMMUNICATION  
EQUIPMENT AND SYSTEMS – DIGITAL INTERFACES –****Part 460: Multiple talkers and multiple listeners –  
Ethernet interconnection – Safety and security**

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

FDIS	Report on voting
80/764/FDIS	80/769/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.

This International Standard is to be used in conjunction with IEC 61162-450:2011.

A list of all parts in the IEC 61162 series, published under the general title *Maritime navigation and radiocommunication equipment and systems – Digital interfaces*, can be found on the IEC website.

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

## Part 460: Multiple talkers and multiple listeners – Ethernet interconnection – Safety and security

### 1 Scope

This part of IEC 61162 is an add-on to the IEC 61162-450 standard where higher safety and security standards are needed, e.g. due to higher exposure to external threats or to improve network integrity. This standard provides requirements and test methods for equipment to be used in an IEC 61162-460 compliant network as well as requirements for the network itself and requirements for interconnection from the network to other networks. This standard also contains requirements for a redundant IEC 61162-460 compliant network.

This standard extends the informative guidance given in Annex D of IEC 61162-450:2011. It does not introduce new application level protocol requirements to those that are defined in IEC 61162-450.

### 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 61162-450:2011, *Maritime navigation and radiocommunication equipment and systems – Digital interfaces – Part 450: Multiple talker and multiple listeners – Ethernet interconnection*

IEC 61924-2:2012, *Maritime navigation and radiocommunication equipment and systems – Integrated navigation systems – Part 2: Modular structure for INS – Operational and performance requirements, methods of testing and required test results*

IEC 62288:2014, *Maritime navigation and radiocommunication equipment and systems – Presentation of navigation-related information on shipborne navigational displays – General requirements, methods of testing and required test results*

IEEE 802.1D-2004, *IEEE Standards for Local Area Networks: Media Access Control (MAC) Bridges*

IEEE 802.1Q-2005, *Virtual Bridged Local Area Networks*

ISOC RFC 792, *Internet Control Message Protocol (ICMP), Standard STD0005 (and updates)*

ISOC RFC 1112, *Host Extensions for IP Multicasting*

ISOC RFC 2236, *Internet Group Management Protocol, Version 2*