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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 31843.450-2019

**Maritime navigation and radiocommunication equipment and
systems -- Digital interfaces -- Part 450: Multiple talkers and
multiple listeners -- Ethernet interconnection**

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Standardization Administration**

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2 .2010, IDT)

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Foreword

GB/T 31843 "Marine Navigation and Radio Communication Equipment and System Digital Interface" is intended to be divided into the following parts.

--- Part 1. Single talker and multiple receivers;

--- Part 2. High-speed transmission of a single speaker and multiple receivers;

--- Part 3. Serial data device network;

--- Part 450. Ethernet connection of multiple talkers and multiple receivers;

This part is part 450 of GB/T 31843.

This section was drafted in accordance with the rules given in GB/T 1.1-2009.

The translation method used in this section is equivalent to the use of IEC 61162-450..2018

`` Marine Navigation and Radio Communication Equipment and Systems Digital Interface

Part 450. Ethernet connection for multiple talkers and multiple receivers. "

The documents in China that have a consistent correspondence with the normatively cited international documents in this section are as follows.

--- GB/T 7247.2-2018 Safety of Laser Products Part 2. Safety of Optical Fiber Communication System (OFCS) (IEC 60825-

2 .2010, IDT)

--- GB/T 31843.3-2015 Digital Interface for Maritime Navigation and Radio Communication Equipment and Systems Part 3. Serial Data

Device network (IEC 61162-3..2008, IDT)

This part is proposed and managed by the National Ship Electric and Electronic Equipment Standardization Technical Committee (SAC/TC531).

This section was drafted by. China Shipbuilding Industry Comprehensive Technology and

Economics Research Institute, China Shipping Telecom Co., Ltd., China Electronics
Division (Ningbo) Marine Electronics

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1 Scope

This part of GB/T 31843 stipulates that between shipboard navigation and radio communication equipment, as well as these systems and other

Requirements and test methods for high-speed communication interfaces between ship systems in which aviation and radio equipment communicate. This section is applying existing international standards

On the basis of standard, the data transmission framework between shipboard Ethernet devices is proposed.

The Ethernet specified in this section is based on a bus network, and the receiver can receive messages from the transmitter when the following conditions are met.

--- This section includes provisions for multicast distribution of messages formatted according to the requirements of IEC 61162-1, such as location correction and

Other measurement methods; also includes provisions for the transmission of general data packets (binary files), such as transmission between radar and navigation data recorder

Input; also includes provisions for multicast distribution of messages formatted according to IEC 61162-3 requirements, such as position correction and other measuring.

--- This part is limited to the protocol used by devices (network nodes) connected to a simplex Ethernet network.

It consists of two devices and control lines (network infrastructure).

--- The requirements presented in this section are limited to device interfaces. The provisions of the agreement are to ensure that the equipment implementing this part is transmitted between

Interoperability requirements for IEC 61162-1 designated sentences, IEC 61162-3PGN information, and general binary image data are also available

Ensure certain security of the device itself.

--- If the interface of the network infrastructure meets the requirements of other network functions (ONF, see 4.6), this part allows the equipment to adopt this part

The network infrastructure is shared by agreements other than the prescribed agreements.

--- This section includes provisions for network traffic filtering in order to limit the traffic of each device to a manageable level.

--- In addition to the requirements that can be summarized from the requirements of a single device, this section does not include any system requirements. Related standards IEC 61162-460 further elaborated the system requirements.

2 Normative references

The following documents are essential for the application of this document. For dated references, only the dated version applies to this article

Pieces. For the cited documents without date, the latest version (including all amendments) applies to this document.

IEC 60825-2 Safety of Laser Products Part 2. Safety of Optical Fiber Communication System (OFCS) [Safetyoflaserprod-

ucts-Part 2. Safetyofopticalfibrecommunicationsystems (OFCS)]

IEC 60945 Maritime navigation and radio communication equipment and systems generally require test methods and required test results

(Maritimenavigationandradiocommunicationequipmentandsystems-Generalrequirements-Meth-

odsoftestingandrequiredtestresults)

IEC 61162-1..2016 Digital interfaces for maritime navigation and radio communication equipment and systems. Part 1. Single talker and multiple receivers

Phone

(Maritimenavigationandradiocommunicationequipmentandsystems-Digitalinterfaces-Part 1.

Singletalkerandmultiplelisteners)

IEC 61162-3..2008 Digital interface for marine navigation and radio communication equipment and systems. Part 3. Serial data equipment network

(Maritimenavigationandradiocommunicationequipmentandsystems-Digitalinterfaces-Part 3.