

# INTERNATIONAL STANDARD



**Maritime navigation and radiocommunication equipment and systems –  
Integrated communication system (ICS) – Operational and performance  
requirements, methods of testing and required test results**



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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**MARITIME NAVIGATION AND  
RADIOCOMMUNICATION EQUIPMENT AND SYSTEMS –  
INTEGRATED COMMUNICATION SYSTEM (ICS) –  
OPERATIONAL AND PERFORMANCE REQUIREMENTS,  
METHODS OF TESTING AND REQUIRED TEST RESULTS**

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

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Full information on the voting for the approval of this document can be found in the report on voting indicated in the above table.

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## INTRODUCTION

IEC 62940 incorporates the applicable parts of the performance standards included in IMO Resolution A.811(19) for an integrated radiocommunication system. It also incorporates the applicable requirements for the presentation of information included in IMO Resolution MSC.191(79) which is associated with IEC 62288, applicable requirements for bridge alert management included in IMO Resolution MSC.302(87) based on, and in compliance with applicable requirements for Ethernet interconnection in IEC 61162-450.

The ICS is a system in which individual radiocommunication equipment and installations are used as subsystems, i.e. without the need for their own control units, providing outputs to and accepting inputs from a communications human machine interface (COM-HMI). Each subsystem is in compliance with the type approval requirements for that subsystem, where applicable, and is in compliance with the interface requirements in this document. An ICS consists of at least two individual GMDSS subsystems.

The COM-HMI is designed so that it can be made available on a bridge workstation either dedicated to communications or as part of a multi-function display.

# MARITIME NAVIGATION AND RADIOCOMMUNICATION EQUIPMENT AND SYSTEMS – INTEGRATED COMMUNICATION SYSTEM (ICS) – OPERATIONAL AND PERFORMANCE REQUIREMENTS, METHODS OF TESTING AND REQUIRED TEST RESULTS

## 1 Scope

IEC 62940 specifies the minimum operational and performance requirements, technical characteristics and methods of testing, and required test results, for shipborne integrated communication systems (ICS) designed to perform ship external communication and distress and safety communications (GMDSS) and the functions of onboard routing of this communication. It takes account of IMO Resolution A.694(17) and is associated with IEC 60945. When a requirement in this document is different from IEC 60945, the requirement in this document takes precedence.

## 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, *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*

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

IEC 61162-460:2015, *Maritime navigation and radiocommunication equipment and systems – Digital interface – Part 460: Multiple talker and multiple listeners – Ethernet interconnection – Safety and security*

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 62283:2014, *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*

IMO Resolution A.694(17), *General requirements for shipborne radio equipment forming part of the global maritime distress and safety system (GMDSS) and for electronic navigational aids*

IMO Resolution MSC.191(79), *Performance standards for the presentation of navigation-related information on shipborne navigational displays*

IMO MSC.1/Circ.1389, *Guidance on procedures for updating shipborne navigation and communication equipment*