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# INTERNATIONAL STANDARD

**Global maritime distress and safety system (GMDSS) –**
**Part 7: Shipborne VHF radiotelephone transmitter and receiver – Operational and performance requirements, test methods and required test results**

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IEC 61097-7 has been prepared by IEC technical committee 80: Maritime navigation and radiocommunication equipment and systems. It is an International Standard.

This second edition cancels and replaces the first edition published in 1996, and Amendment 1:2018. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

a) the text has been updated to incorporate the provisions of the new IMO performance standards given in Resolution MSC.511(105) and new ITU-R recommendations given in M.493-16;

b) the provisions for digital selective calling which were previously in IEC 61097-3 have been incorporated;

c) the provisions for watch keeping receivers which were previously in IEC 61097-8 have been incorporated;

d) new requirements have been added for a received signal strength indicator in 4.3.4 and for software maintenance in 4.6 in support of IMO recommendations;

e) new Annex B and Annex E have been added for bridge alert management;

f) new Annex C and Annex D have been added for digital selective calling;

g) a new Annex F has been added for remote control operation;

h) a new Annex G has been added for equipment manuals.

The text of this International Standard is based on the following documents:

| Draft | Report on voting |
|---|---|
| 80/1151/FDIS | 80/1157/RVD |

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

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/standardsdev/publications.

A list of all parts in the IEC 61097 series, published under the general title *Global maritime distress and safety system (GMDSS)*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn, or
- revised.

# GLOBAL MARITIME DISTRESS AND SAFETY SYSTEM (GMDSS) –

# Part 7: Shipborne VHF radiotelephone transmitter and receiver – Operational and performance requirements, test methods and required test results

## 1 Scope

This part of IEC 61097 specifies the minimum performance requirements, technical characteristics and test methods with required test results for VHF radio installations capable of voice communication and digital selective calling as required by chapter IV of the International Convention for Safety of Life at Sea (SOLAS).

This document incorporates the applicable part of the performance standards included in IMO Resolution A.524(13) and MSC.511(105), the technical characteristics included in Recommendation ITU-R M.489-2 and Recommendation ITU-R M.493-16, and takes account of IMO Resolution A.694(17) which is associated with IEC 60945, and conforms with the ITU Radio Regulations where applicable.

When a requirement in this document is different from IEC 60945, the requirement in this document shall take precedence.

This document also takes account, as appropriate, of requirements for the presentation of navigation-related information on shipborne navigational displays given in IMO Resolution MSC.191(79) and is associated with IEC 62288 and the requirements for bridge alert management given in Resolution MSC.302(87) associated with IEC 62923-1 and IEC 62923-2.

NOTE 1 All text of this document, whose wording is identical to that in IMO Resolutions and ITU-R Recommendations is printed in *italics* and the Resolution/Recommendation and clause numbers are indicated in brackets.

NOTE 2 This document introduces requirements, tests and their required results in the context of digital selective calling (DSC) as defined by ITU-R recommendations such as ITU-R M.493, and in the context of bridge alert management (BAM) as defined by IMO MSC.302(87) and IEC 62923-1. Certain terms, such as "alert", "warning" and "priority" can have different meanings depending on the context in which the term is used. The meaning of specific terms used in this document is as defined in the context of DSC unless specifically expressed otherwise. For example, the expression "BAM alert" is used to indicate that the term "alert" is used in the context of BAM in that instance. Annex E provides further specifications on mapping of signals between the context of DSC and the context of BAM.

## 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 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 61162-2, *Maritime navigation and radiocommunication equipment and systems – Digital interfaces – Part 2: Single talker and multiple listeners, high-speed transmission*

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

IEC 62288, *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*

IEC 62923-1, *Maritime navigation and radiocommunication equipment and systems – Bridge alert management – Part 1: Operational and performance requirements, methods of testing and required test results*

ITU Radio Regulations:2024, Appendix 3: *Maximum permitted power levels for unwanted emissions in the spurious domain*

ITU Radio Regulations:2024, Appendix 18: *Table of transmitting frequencies in the VHF maritime mobile band*

ITU-R M.489-2:1995, *Technical characteristics of radiotelephone equipment operating in the maritime mobile service in channels spaced by 25 kHz*

ITU-R M.493-16:2023, *Digital selective-calling system for the use in the maritime mobile service*

ITU-R M.821, *Optional expansion of the digital selective calling system for use in the maritime mobile service*