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Global maritime distress and safety system (GMDSS) – Part 3: Digital selective calling (DSC) equipment – Operational and performance requirements, methods of testing and required testing results

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CONTENTS

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International Standard IEC 61097-3 has been prepared by IEC technical committee 80: Maritime navigation and radiocommunication equipment and systems.

This second edition cancels and replaces the first edition published in 1994. This edition constitutes a technical revision.

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

a) changes in the operation of DSC which have been developed by IMO and ITU since the first edition was published;
b) compliance with bridge alert management (BAM);

c) optional addition of remote operation of the DSC functionality. This facility can also used for type approval testing of the performance of the DSC equipment;

d) incorporation of the radio frequency test methods for MF, MF/HF and VHF transceivers and watch receivers for convenience of testing.

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

FDIS	Report on voting
80/861/FDIS	80/866/RVD

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

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

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 "http://webstore.iec.ch" in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

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

GLOBAL MARITIME DISTRESS AND SAFETY SYSTEM (GMDSS) –

Part 3: Digital selective calling (DSC) equipment – Operational and performance requirements, methods of testing and required testing results

1 Scope

This part of IEC 61097 specifies the performance requirements, technical characteristics, operational requirements and methods of testing of shipborne DSC equipment for use with MF, MF/HF and VHF installations in the GMDSS, including those required by Chapter IV of the 1974 International Convention for Safety of Life at Sea (SOLAS) as amended, and is associated with IEC 60945 (Shipborne radio equipment forming part of the global maritime distress and safety system and marine navigational equipment).

This document incorporates applicable parts of the performance standards of IMO Resolutions A.803(19), A.804(19) and A.806(19) (DSC facilities for VHF, MF and MF/HF radio installations), IMO MSC/Circ.862 (describing the operation of the distress button), the provisions of the ITU Radio Regulations, the technical characteristics of DSC equipment and the operational procedures for its use contained in Recommendations ITU-R M.493, M.541, M.689, M.821 and M.1082, and takes into account the general requirements contained in IMO Resolution A.694(17).

Recommendation ITU-R M.493-14 describes classes A, B, D, E, H and M of DSC equipment. This document specifies test procedures for DSC equipment of Class A and B which are applicable to the SOLAS requirements:

Class A, which includes all of the facilities defined in Annex 1, 3 and 4 of Recommendation ITU-R M.493-14 and which will comply with the IMO GMDSS carriage requirements for MF/HF installations and/or VHF installations;

Class B, which provides minimum facilities for equipment on ships not required to use Class A equipment and which will comply with the minimum IMO GMDSS carriage requirements for MF and/or VHF installations.

This document also includes requirements and methods of testing for the RF part of the MF, MF/HF and VHF installations, specified in the annexes of this document for reference.

NOTE All text whose meaning is identical to that in IMO Resolution A.803(19), A.804(19), A.806(19), MSC.68(68), and to that in IMO Circular MSC/Circ.862, and to that in Recommendations ITU-R M.493, M.541, M 689, M.821, and M.1082 is printed in italics and the references indicated in brackets. Text referencing IMO Resolution A.803(19) includes references to A.804(19) and A.806(19) unless otherwise stated.

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 61162-2, *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 61162-460:2015, *Maritime navigation and radiocommunication equipment and systems - Digital interfaces - Part 460: Multiple talkers and multiple listeners - Ethernet interconnection - Safety and security*

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 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*

Recommendation ITU-R M.493-14:2015, *Digital selective-calling system for use in the maritime mobile service*

Recommendation ITU-R M.541-10:2015, *Operational procedures for use of digital selective-calling equipment in the maritime mobile service*

Recommendation ITU-R M.689-3:2012, *International maritime VHF radiotelephone system with automatic facilities based on DSC signalling format*

Recommendation ITU-R M.821-1:1997, *Optional expansion of the digital selective-calling system for use in the maritime mobile service*

Recommendation ITU-R M.1084-5:2012, *Interim solutions for improved efficiency in the use of the band 156-174 MHz by stations in the maritime mobile service*

Recommendation ITU-R M.1082-1:1997, *International maritime MF/HF radiotelephone system with automatic facilities based on digital selective calling signalling format*

ITU *Radio Regulations:*2016

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

IMO Resolution A.803(19), *Performance standards for shipborne VHF radio installations capable of voice communication and digital selective calling, as amended by Resolution MSC.68(68):1997, Annex 1*

IMO Resolution A.804(19), *Performance standards for shipborne MF radio installations capable of voice communication and digital selective calling, as amended by Resolution MSC.68(68):1997, Annex 2*

IMO Resolution A.806(19), *Performance standards for shipborne MF/HF radio installations capable of voice communication, narrow-band direct-printing and digital selective calling, as amended by Resolution MSC.68(68):1997, Annex 3*

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

IMO MSC.68(68):1997, *Adoption of amendments to performance standards for shipborne radiocommunication equipment*

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