IEC 61097-6

Edition 2.2 2019-07

CONSOLIDATED VERSION

colour inside

Global maritime distress and safety system (GMDSS) – Part 6: Narrowband direct-printing telegraph equipment for the reception of navigational and meteorological warnings and urgent information to ships (NAVTEX)

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REDLINE VERSION

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Global maritime distress and safety system (GMDSS) – Part 6: Narrowband direct-printing telegraph equipment for the reception of navigational and meteorological warnings and urgent information to ships (NAVTEX)



IEC 61097-6:2005-12+AMD1:2011-12+AMD2:2019-07 CSV(en)

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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GLOBAL MARITIME DISTRESS AND SAFETY SYSTEM (GMDSS) –

Part 6: Narrowband direct-printing telegraph equipment for the reception of navigational and meteorological warnings and urgent information to ships (NAVTEX)

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This Consolidated version of IEC 61097-6 bears the edition number 2.2. It consists of the second edition (2005-12) [documents 80/419/FDIS and 80/424/RVD], its amendment 1 (2011-12) [documents 80/619/CDV and 80/648/RVC] and its amendment 2 (2019-07) [documents 80/927/FDIS and 80/931/RVD]. The technical content is identical to the base edition and its amendments.

In this Redline version, a vertical line in the margin shows where the technical content is modified by amendments 1 and 2. Additions are in green text, deletions are in strikethrough red text. A separate Final version with all changes accepted is available in this publication.

International Standard IEC 61097-6 has been prepared by IEC technical committee 80: Maritime navigation and radiocommunication equipment and systems.

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

IEC 61097 consists of the following parts under the general title *Global maritime distress and safety system (GMDSS)*:

Part 1: Radar transponder – Marine search and rescue (SART) – Operational and performance requirements, methods of testing and required test results

Part 2: COSPAS-SARSAT EPIRB – Satellite emergency position indicating radio beacon operating on 406 MHz – Operational and performance requirements, methods of testing and required test results

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

Part 4: INMARSAT-C ship earth station and INMARSAT enhanced group call (EGC) equipment – Operational and performance requirements, methods of testing and required test results

Part 5: Inmarsat-E – Emergency position indicating radio beacon (EPIRB) operating through the Inmarsat system – Operational and performance requirements, methods of testing and required test results

Part 6: Narrowband direct-printing telegraph equipment for the reception of navigational and meteorological warnings and urgent information to ships (NAVTEX)

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

Part 8: Shipborne watchkeeping receivers for the reception of digital selective calling (DSC) in the maritime MF, MF/HF and VHF bands – Operational and performance requirements, methods of testing and required test results

Part 9: Shipborne transmitters and receivers for use in the MF and HF bands suitable for telephony, digital selective calling (DSC) and narrow band direct printing (NBDP) – Operational and performance requirements, methods of testing and required test results

Part 10: Inmarsat-B ship earth station equipment – Operational and performance requirements, methods of testing and required test results

Part 12: Survival craft portable two-way VHF radiotelephone apparatus – Operational and performance requirements, methods of testing and required test results

Part 13: Inmarsat F77 ship earth station equipment – Operational and performance requirements, methods of testing and required test results

The committee has decided that the contents of the base publication and its amendments will remain unchanged until the stability date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

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

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

IMPORTANT – The "colour inside" logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this publication using a colour printer.

INTRODUCTION

NAVTEX provides shipping with navigational and meteorological warnings and urgent information by automatic display and/or print out from a dedicated receiver.

NAVTEX is a component of the IMO/IHO World-Wide Navigational Warning Service (WWNWS) defined by IMO Assembly Resolution A.706(17), as amended, and the WMO Manual on Marine Meteorological Services, Part I*bis*, Provision of warnings and weather and sea bulletins (GMDSS application). It has been included as an element of the Global Maritime Distress and Safety System (GMDSS).

The original NAVTEX specification allowed for equipment with integral printers and precluded the fitting of equipment which relied on other ways of recording and displaying NAVTEX data. The use of Liquid Crystal Displays and other Visual Display Units is now ubiquitous on ships' bridges and this revision of the specification allows for their use in displaying NAVTEX data.

As a result of the final cessation of the distresss watch on 500 kHz in 1999 the frequency 490 kHz became available for use as a national NAVTEX channel and this has now been widely implemented around the world. This NAVTEX specification therefore requires simultaneous operation on an additional channel to the international channel of 518 kHz.

IMO Resolution MSC.148(77) states that the equipment should comprise radio receivers, a signal processor and:

a) an integrated printing device; or

b) a dedicated display device, printer output port and a non-volatile message memory; or

c) a connection to an integrated navigation system and a non-volatile message memory.

INTRODUCTION to Amendment 1

The amendment removes the description in Annex C of the sentences NRX and NRM. These sentences are now described in IEC 61162-1 (see NOTE below).

NOTE Applies as of edition 4 (2010).

INTRODUCTION to Amendment 2

This amendment adds a requirement to include an interface for alert management. This results from amendments to the performance standards for NAVTEX agreed by the International Maritime Organization in resolution MSC.430(98) in 2017.

GLOBAL MARITIME DISTRESS AND SAFETY SYSTEM (GMDSS) –

Part 6: Narrowband direct-printing telegraph equipment for the reception of navigational and meteorological warnings and urgent information to ships (NAVTEX)

1 Scope

This part of IEC 61097 specifies the minimum performance requirements, technical characteristics and type-testing requirements for narrowband telegraph equipment for the reception of navigational and meteorological information as required by Regulation IV/7.1.4 of the 1988 amendments to the 1974 International Convention for Safety of Life at Sea (SOLAS), and which is associated with IEC 60945. When a requirement in this standard is different from IEC 60945, the requirement in this standard takes precedence.

This standard incorporates the performance standards of IMO Resolution MSC.148(77), the technical characteristics of ITU-R Recommendation M.540, takes account of the IMO Resolution A.694(17) and conforms with the ITU Radio Regulations where applicable.

All text of this standard, whose meaning is identical to that in IMO Resolution MSC.148(77) and ITU-R Recommendation M.540 will be printed in *italics* and the Resolution/Recommendation and paragraph number indicated between brackets.

2 Normative references

The following referenced documents are indispensable for the application 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, *Marine navigation and radio communication equipment – 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 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*

IEC 62923-2, *Maritime navigation and radiocommunication equipment and systems – Bridge alert management – Part 2: Alert and cluster identifiers and other additional features*

IMO *Safety of Life at Sea (SOLAS) Convention* (1974), as amended (GMDSS)

IMO Resolution A.694(17) (1991) *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.148(77) (2003) *Revised performance standards for narrow-band direct-printing telegraph equipment for the reception of navigational and meteorological warnings and urgent information to ships (NAVTEX)*

IMO Publication – *NAVTEX Manual*

IMO Resolution MSC/Circ.1122 *Adoption of the revised NAVTEX manual*

IMO Resolution MSC.302(87) (2010), *Performance standards for bridge alert management*

ITU-R Recommendation M.540-2:1990, *Operational and technical characteristics for an automated direct printing telegraph system for promulgation of navigational and meteorological warnings and urgent information to ships*

ITU-R Recommendation M.625-3:1995, *Direct-printing telegraph equipment employing automatic identification in the maritime mobile service*

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FINAL VERSION

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FOREWORD

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Part 2: COSPAS-SARSAT EPIRB – Satellite emergency position indicating radio beacon operating on 406 MHz – Operational and performance requirements, methods of testing and required test results

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

Part 4: INMARSAT-C ship earth station and INMARSAT enhanced group call (EGC) equipment – Operational and performance requirements, methods of testing and required test results

Part 5: Inmarsat-E – Emergency position indicating radio beacon (EPIRB) operating through the Inmarsat system – Operational and performance requirements, methods of testing and required test results

Part 6: Narrowband direct-printing telegraph equipment for the reception of navigational and meteorological warnings and urgent information to ships (NAVTEX)

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

Part 8: Shipborne watchkeeping receivers for the reception of digital selective calling (DSC) in the maritime MF, MF/HF and VHF bands – Operational and performance requirements, methods of testing and required test results

Part 9: Shipborne transmitters and receivers for use in the MF and HF bands suitable for telephony, digital selective calling (DSC) and narrow band direct printing (NBDP) – Operational and performance requirements, methods of testing and required test results

Part 10: Inmarsat-B ship earth station equipment – Operational and performance requirements, methods of testing and required test results

Part 12: Survival craft portable two-way VHF radiotelephone apparatus – Operational and performance requirements, methods of testing and required test results

Part 13: Inmarsat F77 ship earth station equipment – Operational and performance requirements, methods of testing and required test results

The committee has decided that the contents of the base publication and its amendments will remain unchanged until the stability date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

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

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

INTRODUCTION

NAVTEX provides shipping with navigational and meteorological warnings and urgent information by automatic display and/or print out from a dedicated receiver.

NAVTEX is a component of the IMO/IHO World-Wide Navigational Warning Service (WWNWS) defined by IMO Assembly Resolution A.706(17), as amended, and the WMO Manual on Marine Meteorological Services, Part I*bis*, Provision of warnings and weather and sea bulletins (GMDSS application). It has been included as an element of the Global Maritime Distress and Safety System (GMDSS).

The original NAVTEX specification allowed for equipment with integral printers and precluded the fitting of equipment which relied on other ways of recording and displaying NAVTEX data. The use of Liquid Crystal Displays and other Visual Display Units is now ubiquitous on ships' bridges and this revision of the specification allows for their use in displaying NAVTEX data.

As a result of the final cessation of the distresss watch on 500 kHz in 1999 the frequency 490 kHz became available for use as a national NAVTEX channel and this has now been widely implemented around the world. This NAVTEX specification therefore requires simultaneous operation on an additional channel to the international channel of 518 kHz.

IMO Resolution MSC.148(77) states that the equipment should comprise radio receivers, a signal processor and:

a) an integrated printing device; or

b) a dedicated display device, printer output port and a non-volatile message memory; or

c) a connection to an integrated navigation system and a non-volatile message memory.

INTRODUCTION to Amendment 1

The amendment removes the description in Annex C of the sentences NRX and NRM. These sentences are now described in IEC 61162-1 (see NOTE below).

NOTE Applies as of edition 4 (2010).

INTRODUCTION to Amendment 2

This amendment adds a requirement to include an interface for alert management. This results from amendments to the performance standards for NAVTEX agreed by the International Maritime Organization in resolution MSC.430(98) in 2017.

GLOBAL MARITIME DISTRESS AND SAFETY SYSTEM (GMDSS) –

Part 6: Narrowband direct-printing telegraph equipment for the reception of navigational and meteorological warnings and urgent information to ships (NAVTEX)

1 Scope

This part of IEC 61097 specifies the minimum performance requirements, technical characteristics and type-testing requirements for narrowband telegraph equipment for the reception of navigational and meteorological information as required by Regulation IV/7.1.4 of the 1988 amendments to the 1974 International Convention for Safety of Life at Sea (SOLAS), and which is associated with IEC 60945. When a requirement in this standard is different from IEC 60945, the requirement in this standard takes precedence.

This standard incorporates the performance standards of IMO Resolution MSC.148(77), the technical characteristics of ITU-R Recommendation M.540, takes account of the IMO Resolution A.694(17) and conforms with the ITU Radio Regulations where applicable.

All text of this standard, whose meaning is identical to that in IMO Resolution MSC.148(77) and ITU-R Recommendation M.540 will be printed in *italics* and the Resolution/Recommendation and paragraph number indicated between brackets.

2 Normative references

The following referenced documents are indispensable for the application 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, *Marine navigation and radio communication equipment – 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 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*

IEC 62923-2, *Maritime navigation and radiocommunication equipment and systems – Bridge alert management – Part 2: Alert and cluster identifiers and other additional features*

IMO *Safety of Life at Sea (SOLAS) Convention* (1974), as amended (GMDSS)

IMO Resolution A.694(17) (1991) *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.148(77) (2003) *Revised performance standards for narrow-band direct-printing telegraph equipment for the reception of navigational and meteorological warnings and urgent information to ships (NAVTEX)*

IMO Publication – *NAVTEX Manual*

IMO Resolution MSC/Circ.1122 *Adoption of the revised NAVTEX manual*

IMO Resolution MSC.302(87) (2010), *Performance standards for bridge alert management*

ITU-R Recommendation M.540-2:1990, *Operational and technical characteristics for an automated direct printing telegraph system for promulgation of navigational and meteorological warnings and urgent information to ships*

ITU-R Recommendation M.625-3:1995, *Direct-printing telegraph equipment employing automatic identification in the maritime mobile service*