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# CONSOLIDATED 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)**

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

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# REDLINE VERSION



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of navigational and meteorological warnings and urgent information to ships  
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## CONTENTS

FOREWORD.....	6
INTRODUCTION.....	8
INTRODUCTION to Amendment 1 .....	8
INTRODUCTION to Amendment 2 .....	8
1 Scope.....	9
2 Normative references .....	9
3 Definitions and abbreviations.....	10
3.1 Definitions .....	10
3.2 Abbreviations .....	10
4 Performance requirements .....	11
4.1 General.....	11
4.2 General characteristics.....	11
4.3 Specific characteristics.....	12
4.3.1 $B_1$ and $B_2$ characters .....	12
4.3.2 $B_3$ and $B_4$ characters .....	12
4.3.3 Preamble.....	12
4.3.4 Repetition of printing/display .....	12
4.3.5 Mandatory printing/display.....	13
4.3.6 Reception of messages with character errors .....	13
4.3.7 Controls and indicators.....	13
4.3.8 Programmable control memories .....	13
4.3.9 Alarms.....	13
4.3.10 Test facilities .....	14
4.4 Interfaces .....	15
4.5 Receiver.....	15
4.5.1 Number of receivers .....	15
4.5.2 Receive frequencies .....	15
4.5.3 Sensitivity.....	16
4.6 Display.....	16
4.6.1 General .....	16
4.7 Integral printer.....	17
4.7.1 General .....	17
4.8 NAVTEX message memory .....	18
4.8.1 Equipment without integral printers.....	18
4.8.2 Equipment with integral printer .....	18
4.9 Power supplies.....	19
4.10 Source of UTC .....	19
5 Test conditions .....	19
5.1 General.....	19
5.2 Performance test.....	20
5.3 Performance check.....	20
5.4 Normal and extreme conditions .....	20
5.4.1 Normal test conditions .....	20
5.4.2 Extreme test conditions .....	20
5.4.3 Excessive test conditions.....	21

5.5	Standard test signal .....	21
5.6	Standard test file .....	22
5.7	Arrangement for test signal applied to the receiver input .....	22
5.8	Artificial antennas.....	22
5.9	Measurement uncertainty .....	23
5.10	Interpretations of measurement results.....	23
5.11	Conducted and radiated RF immunity tests exclusion bands.....	23
5.11.1	Exclusion bands for receivers .....	23
5.12	Narrow band responses on receivers.....	23
6	Environmental tests required .....	24
7	Serial interface tests.....	24
7.1	INS input electrical tests.....	24
7.1.1	Method of test .....	24
7.1.2	Required results .....	24
7.2	INS input performance tests .....	24
7.2.1	Method of measurement .....	24
7.2.2	Required results .....	24
7.3	INS output electrical tests.....	24
7.3.1	Method of test .....	24
7.3.2	Required results .....	24
7.4	INS output performance tests .....	24
7.4.1	Method of measurement .....	24
7.4.2	Required results .....	25
7.5	Printer output electrical tests .....	25
7.5.1	Method of test .....	25
7.5.2	Required results .....	25
7.6	Printer output performance tests .....	25
7.6.1	Method of measurement .....	25
7.6.2	Required results .....	25
7.7	BAM interface performance tests.....	25
7.7.1	Method of measurement .....	25
7.7.2	Required results .....	25
8	General and signal processing tests .....	26
8.1	Exclusion of stations .....	26
8.1.1	Method of measurement .....	26
8.1.2	Results required .....	26
8.2	Exclusion of message categories.....	26
8.2.1	Method of measurement .....	26
8.2.2	Results required .....	26
8.3	Receiver test facility .....	26
8.3.1	Method of measurement .....	26
8.3.2	Results required .....	26
8.4	Search and rescue (SAR) alarm provision and reset.....	26
8.4.1	Method of measurement .....	26
8.4.2	Results required .....	27
8.5	Additional alarms.....	27
8.5.1	Method of measurement .....	27
8.5.2	Results required .....	27

9	Receiver tests .....	27
9.1	Call sensitivity .....	27
9.1.1	Definition .....	27
9.1.2	Method of measurement .....	27
9.1.3	Results required .....	27
9.2	Interference rejection and blocking immunity .....	27
9.2.1	Definition .....	27
9.2.2	Method of measurement .....	28
9.2.3	Results required .....	28
9.3	Co-channel rejection .....	28
9.3.1	Definition .....	28
9.3.2	Method of measurement .....	28
9.3.3	Results required .....	28
9.4	Intermodulation .....	28
9.4.1	Definition .....	28
9.4.2	Method of measurement .....	29
9.4.3	Results required .....	29
9.5	Off-frequency transmitter .....	29
9.5.1	Definition .....	29
9.5.2	Method of measurement .....	29
9.5.3	Results required .....	29
9.6	Simultaneous operation on several receive frequencies.....	29
9.6.1	Definition .....	29
9.6.2	Method of measurement .....	30
9.6.3	Results required .....	30
9.7	Protection of input circuits .....	30
9.7.1	Method of measurement .....	30
9.7.2	Results required .....	30
10	Printer tests.....	30
10.1	Basic requirements.....	30
10.1.1	Method of measurement .....	30
10.1.2	Results required .....	30
10.2	Paper roll end alarm and storage inhibition.....	30
10.2.1	Method of measurement .....	30
10.2.2	Results required .....	31
10.3	Automatic line feed indication and paper feed .....	31
10.3.1	Method of measurement .....	31
10.3.2	Results required .....	31
10.4	Mutilated character indication.....	31
10.4.1	Method of measurement .....	31
10.4.2	Results required .....	31
10.5	Tests of technical characteristics (ITU-R Recommendation M.540).....	31
10.5.1	$B_1/B_2$ characters selection .....	31
10.5.2	Printer activation/error-free preamble $B_1-B_4$ .....	31
10.5.3	Non-repetitive printing of a message .....	32
10.5.4	Message with $B_3B_4 = 00$ .....	32
11	Memory tests.....	32
11.1	Internal storage, message tagging and erasure of oldest message identifications .....	32

11.1.1	Method of measurement .....	32
11.1.2	Results required .....	33
11.2	Erasure of message identifications/storage time .....	34
11.2.1	Method of measurement .....	34
11.2.2	Results required .....	34
11.3	Storage of message identifications .....	34
11.3.1	Method of measurement .....	34
11.3.2	Results required .....	35
11.4	Reception of messages with character errors .....	35
11.4.1	Method of measurement .....	35
11.4.2	Results required .....	35
11.5	Unsatisfactory reception .....	35
11.5.1	Method of measurement .....	35
11.5.2	Results required .....	35
11.6	Power-off check .....	36
11.6.1	Method of measurement .....	36
11.6.2	Results required .....	36
11.7	Brown-out test .....	36
11.7.1	Method of measurement .....	36
11.7.2	Results required .....	36
11.8	UTC handling check .....	36
11.8.1	Method of measurement .....	37
11.8.2	Results required .....	37
12	Miscellaneous tests .....	37
12.1	Spurious emissions .....	37
12.1.1	Method of measurement .....	37
12.1.2	Results required .....	37
12.2	Equipment manuals – checks of the manufacturer's documentation .....	37
12.3	Marking and identification .....	37
Annex A (informative)	Block diagrams of NAVTEX systems .....	39
Annex B (normative)	Definition of satisfactory reception of a message .....	41
Annex C (informative)	IEC 61162 sentences for NAVTEX operation .....	42
Annex D (normative)	Manufacturer's declarations/equipment manual .....	45
Figure A.1	– EUT with an integral printing device .....	39
Figure A.2	– EUT with an integral display device .....	39
Figure A.3	– EUT black box receiver .....	40
Table 1	– Alarm conditions signaled using the ALR sentence formatter .....	14
Table 2	– Extreme power supply variation .....	21
Table 3	– Unwanted signal levels .....	28
Table 4	– Intermodulation frequency pairs .....	29

## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**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)**

## FOREWORD

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**This Consolidated version is not an official IEC Standard and has been prepared for user convenience. Only the current versions of the standard and its amendment(s) are to be considered the official documents.**

**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 *Ibis*, 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 distress 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*

## FINAL VERSION

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**Global maritime distress and safety system (GMDSS) –  
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## CONTENTS

FOREWORD.....	6
INTRODUCTION.....	8
INTRODUCTION to Amendment 1 .....	8
INTRODUCTION to Amendment 2 .....	8
1 Scope.....	9
2 Normative references .....	9
3 Definitions and abbreviations.....	10
3.1 Definitions .....	10
3.2 Abbreviations .....	10
4 Performance requirements .....	11
4.1 General.....	11
4.2 General characteristics.....	11
4.3 Specific characteristics.....	12
4.3.1 $B_1$ and $B_2$ characters .....	12
4.3.2 $B_3$ and $B_4$ characters .....	12
4.3.3 Preamble.....	12
4.3.4 Repetition of printing/display .....	12
4.3.5 Mandatory printing/display.....	13
4.3.6 Reception of messages with character errors .....	13
4.3.7 Controls and indicators.....	13
4.3.8 Programmable control memories .....	13
4.3.9 Alarms.....	13
4.3.10 Test facilities .....	14
4.4 Interfaces .....	15
4.5 Receiver.....	15
4.5.1 Number of receivers .....	15
4.5.2 Receive frequencies .....	15
4.5.3 Sensitivity.....	16
4.6 Display.....	16
4.6.1 General .....	16
4.7 Integral printer.....	17
4.7.1 General .....	17
4.8 NAVTEX message memory .....	18
4.8.1 Equipment without integral printers.....	18
4.8.2 Equipment with integral printer .....	18
4.9 Power supplies.....	19
4.10 Source of UTC .....	19
5 Test conditions .....	19
5.1 General.....	19
5.2 Performance test.....	20
5.3 Performance check.....	20
5.4 Normal and extreme conditions .....	20
5.4.1 Normal test conditions .....	20
5.4.2 Extreme test conditions .....	20
5.4.3 Excessive test conditions.....	21

5.5	Standard test signal .....	21
5.6	Standard test file .....	22
5.7	Arrangement for test signal applied to the receiver input .....	22
5.8	Artificial antennas.....	22
5.9	Measurement uncertainty .....	23
5.10	Interpretations of measurement results.....	23
5.11	Conducted and radiated RF immunity tests exclusion bands.....	23
5.11.1	Exclusion bands for receivers .....	23
5.12	Narrow band responses on receivers.....	23
6	Environmental tests required .....	24
7	Serial interface tests.....	24
7.1	INS input electrical tests.....	24
7.1.1	Method of test .....	24
7.1.2	Required results .....	24
7.2	INS input performance tests .....	24
7.2.1	Method of measurement .....	24
7.2.2	Required results .....	24
7.3	INS output electrical tests.....	24
7.3.1	Method of test .....	24
7.3.2	Required results .....	24
7.4	INS output performance tests .....	24
7.4.1	Method of measurement .....	24
7.4.2	Required results .....	25
7.5	Printer output electrical tests .....	25
7.5.1	Method of test .....	25
7.5.2	Required results .....	25
7.6	Printer output performance tests .....	25
7.6.1	Method of measurement .....	25
7.6.2	Required results .....	25
7.7	BAM interface performance tests.....	25
7.7.1	Method of measurement .....	25
7.7.2	Required results .....	25
8	General and signal processing tests .....	26
8.1	Exclusion of stations .....	26
8.1.1	Method of measurement .....	26
8.1.2	Results required .....	26
8.2	Exclusion of message categories.....	26
8.2.1	Method of measurement .....	26
8.2.2	Results required .....	26
8.3	Receiver test facility .....	26
8.3.1	Method of measurement .....	26
8.3.2	Results required .....	26
8.4	Search and rescue (SAR) alarm provision and reset.....	26
8.4.1	Method of measurement .....	26
8.4.2	Results required .....	27
8.5	Additional alarms.....	27
8.5.1	Method of measurement .....	27
8.5.2	Results required .....	27

9	Receiver tests .....	27
9.1	Call sensitivity .....	27
9.1.1	Definition .....	27
9.1.2	Method of measurement .....	27
9.1.3	Results required .....	27
9.2	Interference rejection and blocking immunity .....	27
9.2.1	Definition .....	27
9.2.2	Method of measurement .....	28
9.2.3	Results required .....	28
9.3	Co-channel rejection .....	28
9.3.1	Definition .....	28
9.3.2	Method of measurement .....	28
9.3.3	Results required .....	28
9.4	Intermodulation .....	28
9.4.1	Definition .....	28
9.4.2	Method of measurement .....	29
9.4.3	Results required .....	29
9.5	Off-frequency transmitter .....	29
9.5.1	Definition .....	29
9.5.2	Method of measurement .....	29
9.5.3	Results required .....	29
9.6	Simultaneous operation on several receive frequencies.....	29
9.6.1	Definition .....	29
9.6.2	Method of measurement .....	30
9.6.3	Results required .....	30
9.7	Protection of input circuits .....	30
9.7.1	Method of measurement .....	30
9.7.2	Results required .....	30
10	Printer tests.....	30
10.1	Basic requirements.....	30
10.1.1	Method of measurement .....	30
10.1.2	Results required .....	30
10.2	Paper roll end alarm and storage inhibition.....	30
10.2.1	Method of measurement .....	30
10.2.2	Results required .....	31
10.3	Automatic line feed indication and paper feed .....	31
10.3.1	Method of measurement .....	31
10.3.2	Results required .....	31
10.4	Mutilated character indication.....	31
10.4.1	Method of measurement .....	31
10.4.2	Results required .....	31
10.5	Tests of technical characteristics (ITU-R Recommendation M.540).....	31
10.5.1	$B_1/B_2$ characters selection .....	31
10.5.2	Printer activation/error-free preamble $B_1-B_4$ .....	31
10.5.3	Non-repetitive printing of a message .....	32
10.5.4	Message with $B_3B_4 = 00$ .....	32
11	Memory tests.....	32
11.1	Internal storage, message tagging and erasure of oldest message identifications .....	32

11.1.1	Method of measurement .....	32
11.1.2	Results required .....	33
11.2	Erasure of message identifications/storage time .....	34
11.2.1	Method of measurement .....	34
11.2.2	Results required .....	34
11.3	Storage of message identifications .....	34
11.3.1	Method of measurement .....	34
11.3.2	Results required .....	35
11.4	Reception of messages with character errors .....	35
11.4.1	Method of measurement .....	35
11.4.2	Results required .....	35
11.5	Unsatisfactory reception .....	35
11.5.1	Method of measurement .....	35
11.5.2	Results required .....	35
11.6	Power-off check .....	36
11.6.1	Method of measurement .....	36
11.6.2	Results required .....	36
11.7	Brown-out test .....	36
11.7.1	Method of measurement .....	36
11.7.2	Results required .....	36
11.8	UTC handling check .....	36
11.8.1	Method of measurement .....	37
11.8.2	Results required .....	37
12	Miscellaneous tests .....	37
12.1	Spurious emissions .....	37
12.1.1	Method of measurement .....	37
12.1.2	Results required .....	37
12.2	Equipment manuals – checks of the manufacturer's documentation .....	37
12.3	Marking and identification .....	37
Annex A (informative)	Block diagrams of NAVTEX systems .....	39
Annex B (normative)	Definition of satisfactory reception of a message .....	41
Annex C (informative)	IEC 61162 sentences for NAVTEX operation .....	42
Annex D (normative)	Manufacturer's declarations/equipment manual .....	43
Figure A.1	– EUT with an integral printing device .....	39
Figure A.2	– EUT with an integral display device .....	39
Figure A.3	– EUT black box receiver .....	40
Table 1	– Alarm conditions signaled using the ALR sentence formatter .....	14
Table 2	– Extreme power supply variation .....	21
Table 3	– Unwanted signal levels .....	28
Table 4	– Intermodulation frequency pairs .....	29



## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**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 Final version does not show where the technical content is modified by amendments 1 and 2. A separate Redline version with all changes highlighted 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.

## 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 *Ibis*, 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 distress 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*