ANNEX 10

RESOLUTION MSC.148(77)
(adopted on 3 June 2003)

ADOPTION OF THE REVISED PERFORMANCE STANDARDS FOR NARROW-BAND DIRECT-PRINTING TELEGRAPH EQUIPMENT FOR THE RECEPTION OF NAVIGATIONAL AND METEOROLOGICAL WARNINGS AND URGENT INFORMATION TO SHIPS (NAVTEX)

THE MARITIME SAFETY COMMITTEE,

RECALLING Article 28(b) of the Convention on the International Maritime Organization concerning the functions of the Committee,

RECALLING ALSO resolution A.886(21), by which the Assembly resolved that the functions of adopting performance standards for radio and navigational equipment, as well as amendments thereto, shall be performed by the Maritime Safety Committee on behalf of the Organization,

NOTING the carriage requirement in SOLAS chapter IV/7.1.4 for a receiver capable of receiving International NAVTEX narrow-band direct-printing (NBDP) broadcasts for the promulgation of navigational and meteorological warnings to shipping,

NOTING FURTHER the success of the International NAVTEX service in the promulgation of Maritime Safety Information (MSI),

NOTING ALSO with regard to the enhanced storage, processing and display possibilities offered by recent technical advances,

CONSIDERING that further growth in information promulgated to ships will be constrained by the capacity of the International NAVTEX service and the increasing importance of National NAVTEX services,

HAVING CONSIDERED the recommendations on the revision of resolution A.525(13) made by the Sub-Committee on Radiocommunications and Search and Rescue at its seventh session,

1. ADOPTS the revised Recommendation on Performance Standards for Narrow-Band Direct-Printing Telegraph Equipment for the Reception of Navigational and Meteorological Warnings and Urgent Information to Ships (NAVTEX), set out in the Annex to the present resolution;

2. RECOMMENDS Governments to ensure that NAVTEX receiver equipment:

(a) if installed on or after 1 July 2005, conforms to performance standards not inferior to those specified in the Annex to the present resolution;

(b) if installed before 1 July 2005, conforms to performance standards not inferior to those specified in the Annex to resolution A.525(13).

ANNEX

REVISED RECOMMENDATION ON PERFORMANCE STANDARDS FOR NARROW-BAND DIRECT-PRINTING TELEGRAPH EQUIPMENT FOR THE RECEPTION OF NAVIGATIONAL AND METEOROLOGICAL WARNINGS AND URGENT INFORMATION TO SHIPS (NAVTEX)

1 INTRODUCTION

1.1 The equipment, in addition to meeting the requirements of the Radio Regulations, the provisions of Recommendation ITU-R M.540 applicable to shipborne equipment and the general requirements set out in resolution A.694(17), should comply with the following performance standards.

2 GENERAL

2.1 The equipment should comprise radio receivers, a signal processor and:

either

.1 an integrated printing device; or

.2 a dedicated display device[1], printer output port and a non-volatile message memory; or

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

3 CONTROLS AND INDICATORS

3.1 Details of the coverage areas and message categories which have been excluded by the operator from reception and/or display should be readily available.

4 RECEIVERS

4.1 The equipment should contain one receiver operating on the frequency prescribed by the Radio Regulations for the International NAVTEX System. The equipment should contain a second receiver capable of working at the same time as the first one on at least two other frequencies recognised for the transmission of NAVTEX information. The first receiver should have priority in the display or printing of received information. Printing or displaying of messages from one receiver should not prevent reception by the other receiver.

4.2 The receiver sensitivity should be such that for a source with an e.m.f. of 2μV in series with a non-reactive impedance of 50 Ω, the character error rate is below 4%.

[1] Where there is no printer, the dedicated display device should be located in the position from which the ship is normally navigated.

5 DISPLAY DEVICE AND PRINTER

5.1 The display device and/or printer should be able to display a minimum of 32 characters per line.

5.2 If a dedicated display device is used, the following requirements should be met:

.1 an indication of newly received unsuppressed messages should be immediately displayed until acknowledged or until 24 hours after receipt; and

.2 newly received unsuppressed messages should also be displayed.

5.3 The display device should be able to display at least 16 lines of message text.

5.4 The design and size of the display device should be such that displayed information is easily read under all conditions by observers at normal working distances and viewing angles.

5.5 If automatic line feed entails division of a word, this should be indicated in the displayed/printed text.

5.6 When displaying received messages on a display device, a clear indication of the end of a message should be given by automatically adding line feeds after the message or including some other form of delineation. The printer or printer output should automatically insert line feeds after completing print of the received message.

5.7 The equipment should display/print an asterisk if the character is received corrupted.

5.8 Where the printer is not integrated, it should be possible to select the following data to be output to a printer:

.1 all messages as they are received;

.2 all messages stored in the message memory;

.3 all messages received on specified frequencies, from specified locations or having specified message designators;

.4 all messages currently displayed; and

.5 individual messages selected from those appearing on the display.

6 STORAGE

6.1 Non-volatile message memory

6.1.1 For each receiver fitted it should be possible to record at least 200 messages of average length 500 characters (printable and non-printable) in non-volatile message memory. It should not be possible for the user to erase messages from memory. When the memory is full, the oldest messages should be overwritten by new messages.

6.1.2 The user should be able to tag individual messages for permanent retention. These messages may occupy up to 25% of the available memory and should not be overwritten by new messages. When no longer required, the user should be able to remove the tag on these messages which may then be overwritten in normal course.

6.2 Message identifications

6.2.1 The equipment should be capable of internally storing at least 200 message identifications for each receiver provided.

6.2.2 After between 60 h and 72 h, a message identification should automatically be erased from the store. If the number of received message identifications exceeds the capacity of the store, the oldest message identification should be erased.

6.2.3 Only message identifications which have been satisfactorily received should be stored; a message is satisfactorily received if the error rate is below 4%.

6.3 Programmable control memories

6.3.1 Information for location (B1)[2] and message (B2)[2] designators in programmable memories should not be erased by interruptions in the power supply of less than 6 h.

7 ALARMS

7.1 The receipt of search and rescue information (B2 = D) should give an alarm at the position from which the ship is normally navigated. It should only be possible to reset this alarm manually.

8 TEST FACILITIES

8.1 The equipment should be provided with a facility to test that the radio receiver, the display device/printer and non-volatile message memory are functioning correctly.

9 INTERFACES

9.1 The equipment should include at least one interface for the transfer of received data to other navigation or communication equipment.

9.2 All interfaces provided for communication with other navigation or communication equipment should comply with the relevant international standards.[3]

9.3 If there is no integrated printer, the equipment should include a standard printer interface.

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[2] Refer Recommendation ITU-R M.540-2.
[3] Refer to IEC 61162.

ANNEX 11

RESOLUTION MSC.149(77)
(adopted on 3 June 2003)

ADOPTION OF THE REVISED PERFORMANCE STANDARDS FOR SURVIVAL CRAFT PORTABLE TWO-WAY VHF RADIOTELEPHONE APPARATUS

THE MARITIME SAFETY COMMITTEE,

RECALLING Article 28(b) of the Convention on the International Maritime Organization concerning the functions of the Committee,

RECALLING ALSO resolution A.886(21), by which the Assembly resolved that the functions of adopting performance standards for radio and navigational equipment, as well as amendments thereto, shall be performed by the Maritime Safety Committee on behalf of the Organization,

NOTING regulation III/6.2.1 of the 1988 amendments to the International Convention for the Safety of Life at Sea (SOLAS), 1974, concerning radiocommunications for the Global Maritime Distress and Safety System (GMDSS), which requires that ships be provided with survival craft two-way VHF radiotelephone apparatus and that such apparatus shall conform to appropriate performance standards not inferior to those adopted by the Organization,

RECOGNIZING the need to improve the previously adopted, by resolution A.809(19), annex 1, performance standards for survival craft portable two-way VHF radiotelephone apparatus,

HAVING CONSIDERED the recommendations on the revision of annex 1 to resolution A.809(19) made by the Sub-Committee on Radiocommunications and Search and Rescue at its seventh session,

1. ADOPTS the Revised Recommendation on Performance Standards for Survival Craft Portable Two-Way VHF Radiotelephone Apparatus, set out in the Annex to the present resolution;

2. RECOMMENDS Governments to ensure that survival craft portable two-way VHF radiotelephone apparatus:

(a) if installed on or after 1 July 2005, conform to performance standards not inferior to those specified in the Annex to the present resolution;

(b) if installed before 1 July 2005, conform to performance standards not inferior to those specified in annex 1 to resolution A.809(19).

ANNEX

REVISED RECOMMENDATION ON PERFORMANCE STANDARDS FOR SURVIVAL CRAFT PORTABLE TWO-WAY VHF RADIOTELEPHONE APPARATUS

1 INTRODUCTION

1.1 The survival craft portable two-way VHF radiotelephone, in addition to meeting the requirements of the Radio Regulations, the relevant ITU-R Recommendations and the general requirements set out in resolution A.694(17), should comply with the following performance standards.

2 GENERAL

2.1 The equipment should be portable and capable of being used for on-scene communication between survival craft, between survival craft and ship and between survival craft and rescue unit. It may also be used for on-board communications when capable of operating on appropriate frequencies.

2.2 The equipment should comprise at least:

.1 an integral transmitter/receiver including antenna and battery;

.2 an integral control unit including a press-to-transmit switch; and

.3 an internal microphone and loudspeaker.

2.3 The equipment should:

.1 be capable of being operated by unskilled personnel;

.2 be capable of being operated by personnel wearing gloves as specified for immersion suits in regulation 32.3 of chapter III of 1974 SOLAS Convention, as amended;

.3 be capable of single-handed operation except for channel selection;

.4 withstand drops on to a hard surface from a height of 1 m;

.5 be watertight to a depth of 1 m for at least 5 min;

.6 maintain watertightness when subjected to a thermal shock of 45°C under conditions of immersion;

.7 not be unduly affected by seawater, or oil, or both;

.8 have no sharp projections which could damage survival craft;

.9 be of small size and light weight;

.10 be capable of operating in the ambient noise level likely to be encountered on board ships or in survival craft;

.11 have provisions for its attachment to the clothing of the user and also be provided with a wrist or neck strap. For safety reasons, the strap should include a suitable weak link to prevent the bearer from being ensnared;

.12 be resistant to deterioration by prolonged exposure to sunlight; and

.13 be either of a highly visible yellow/orange colour or marked with a surrounding yellow/orange marking strip.

3 CLASS OF EMISSION, FREQUENCY BANDS AND CHANNELS

3.1 The two-way radiotelephone should be capable of operation on the frequency 156.800 MHz (VHF channel 16) and on at least one additional channel.

3.2 All channels fitted should be for single-frequency voice communication only.

3.3 The class of emission should comply with Recommendation ITU-RM.489-2.

4 CONTROLS AND INDICATORS

4.1 An on/off switch should be provided with a positive visual indication that the radiotelephone is switched on.

4.2 The receiver should be provided with a manual volume control by which the audio output may be varied.

4.3 A squelch (mute) control and a channel selection switch should be provided.

4.4 Channel selection should be easily performed and the channels should be clearly discernible.

4.5 Channel indication should be in accordance with Appendix 18 of the Radio Regulations.

4.6 It should be possible to determine that channel 16 has been selected in all ambient light conditions.

5 PERMISSIBLE WARMING-UP PERIOD

5.1 The equipment should be operational within 5 s of switching on.

6 SAFETY PRECAUTIONS

6.1 The equipment should not be damaged by the effects of open-circuiting or short-circuiting the antenna.

7 TRANSMITTER POWER

7.1 The effective radiated power should be a minimum of 0.25 W. Where the effective radiated power exceeds 1 W, a power reduction switch to reduce the power to 1 W or less is required. When this equipment provides for on-board communications, the output power should not exceed 1 W on these frequencies.

8 RECEIVER PARAMETERS

8.1 The sensitivity of the receiver should be equal to or better than 2 μV e.m.f. for a SINAD ratio of 12 dB at the output.

8.2 The immunity to interference of the receiver should be such that the wanted signal is not seriously affected by unwanted signals.

9 ANTENNA

9.1 The antenna should be vertically polarized and, as far as practicable, be omnidirectional in the horizontal plane. The antenna should be suitable for efficient radiation and reception of signals at the operating frequency.

10 RECEIVER OUTPUT

10.1 The audio output should be sufficient to be heard in the ambient noise level likely to be encountered on board ships or in a survival craft.

10.2 In the transmit condition, the output of the receiver should be muted.

11 ENVIRONMENTAL CONDITIONS

11.1 The equipment should be so designed as to operate over the temperature range -20°C to +55°C. It should not be damaged in stowage throughout the temperature range -30°C to +70°C.

12 POWER SUPPLY

12.1 The source of energy should be integrated in the equipment and may be replaceable by the user. In addition, provision may be made to operate the equipment using an external source of electrical energy.

12.2 Equipment for which the source of energy is intended to be user-replaceable should be provided with a dedicated primary battery for use in the event of a distress situation. This battery should be equipped with a non-replaceable seal to indicate that it has not been used.

12.3 Equipment for which the source of energy is intended to be non-user-replaceable should be provided with a primary battery. The portable two-way radiotelephone equipment should be fitted with a non-replaceable seal to indicate that it has not been used.

12.4 The primary battery should have sufficient capacity to ensure 8-hour operation at its highest rated power with a duty cycle of 1:9. This duty cycle is defined as 6-second transmission, 6-second reception above squelch opening level and 48-second reception below squelch opening level.

12.5 Primary batteries should have a shelf life of at least 2 years, and if identified to be user-replaceable should be of a colour or marking as defined in 2.3.13.

12.6 Batteries not intended for use in the event of a distress situation should be of a colour or marking such that they cannot be confused with batteries intended for such use.

13 LABELLING

13.1 In addition to the general requirements specified in resolution A.694(17), the following should be clearly indicated on the exterior of the equipment:

.1 brief operating instructions; and

.2 expiry date for the primary batteries.

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